

CHECKLIST ENVIRONMENTAL ASSESSMENT  
December 18, 1996

Project Name: Bokma site  
Proponent: Riverside Contracting, Inc.

Proposed Implementation Date: 1/6/97

Type and Purpose of Action: The applicant proposes to mine, crush, stockpile and transport 15,000 cubic yards of sand and gravel from a 4 acre pit located 6½ miles northwest of the town of Conrad. The estimated start-up date is January 1, 1997 and will result in a pit no deeper than 12 feet. The pit will be reclaimed to grassland after grading the slopes to at least a 3:1, replacing all topsoil, and re-seeding.

Location: SW¼SE¼ Sec. 32, T29N, R3W

County: Pondera

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. <b>GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b> 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 on a hummocky glacial outwash plain left from the last retreating glacier around 10,000 years ago. The deposit consists of stratified layers of alluvium and glacial outwash sand, gravel and cobbles that cover the deeper fossiliferous 60 to 80 million year old Cretaceous mudstones and sandstones. The billion year old Precambrian rock of the Belt Series sandstone, mudstone and limestone rocks form the deposit to the west in towering walls sculpted by alpine glaciers. The dramatic Sawtooth Range to the west forms glacier National Park and the Bob Marshall Wilderness, while the vast expanse to the east begins the Great Plains.</p> <p>Up to 12 inches of fairly well drained, sandy gravelly loam topsoil overlies the glacial sands and gravels. The subsoils are gravelly with caliche, and vary from zero to 18 inches. Local terrace slopes demonstrate reasonable stability, and ripping after activities are complete should alleviate soil compaction. All soil material will be salvaged and stockpiled away from the affected land. Topsoil has been lost in areas where previous mining has occurred. Following mining, grading and ripping, the overburden (if any) and soils will be replaced, disced and seeded to stabilize the soil and prevent erosion. Microbes are expected to successfully re-colonize the soil due to the relatively short time that soils will be in stockpiles.</p>

<p>2. <b>WATER QUALITY, QUANTITY AND DISTRIBUTION:</b> 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>[N] The nearest pre-mining surface water is the Dry Fork of the Marias River located ¼ mile to the northeast which will not be impacted directly by mining.</p> <p>The site will be mined to a depth of 12 feet which is well above the local groundwater.</p> <p>Special precautions will be taken to minimize possible contamination of the groundwater. All fuel and bulk lubricants will be kept out of the pit or within a lined, earthen-bermed fueling location. 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>3. <b>AIR QUALITY:</b> 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. Crushers, screens and trucking equipment typically cause dusty conditions in disturbed soil sites. Water bars, road watering and other dust controls will be used as necessary.</p> <p>Applicable federal regulations for air quality which are implemented by the state are the Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart OOO (Nonmetallic Mineral Processing Plants). Subpart OOO sets an opacity limitation on fugitive dust emissions from the gravel crushing and handling operations.</p> <p>Cumulative Impacts - There may be two crushers, various screens and other equipment operating simultaneously in this pit and the one across the road. If wind is from the southeast, those residences could notice odors, dust and noise.</p>
<p>4. <b>VEGETATION COVER, QUANTITY AND QUALITY:</b> 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. No mining will be done within 100 feet of any live stream, riparian or isolated wetland habitat areas. Native vegetation consists of fescue, foxtail, blue gramma and sweetclover grasses which lie on a level. Vegetation covers 100% of the ground where un-mined and will be removed and planted with species compatible with the proposed reclaimed use. Some native seed will remain viable in the salvaged topsoil and will re-generate. Because of the short time frames, plant seeds and roots will remain viable in the soils. Under ideal conditions, native species from undisturbed, adjacent land will re-invade the site. There is a moderate infestation of spotted knapweed, a legally defined noxious weed.</p>

<p>5. <b>TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b> Is there substantial use of the area by important wildlife, birds or fish?</p>	<p><b>[N] Although the area is used primarily for grazing, it also supports populations of mule deer, mountain lion, rodents, song birds, coyotes, foxes, insects and various other animal species. Population numbers for these species is not known. Seed head gall flies have been introduced to the tract to provide biological control of noxious weeds.</b></p>
<p>6. <b>UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</b> Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p><b>[N] The Natural Heritage Program and site evaluations have not revealed any endangered or threatened plant or animal species that would be directly affected.</b></p>
<p>7. <b>HISTORICAL AND ARCHAEOLOGICAL SITES:</b> Are any historical, archaeological or paleontological resources present?</p>	<p><b>[N] Although there are important cultural values in the general area, much of 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.</b></p>

<p>8. <b>AESTHETICS:</b> 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><b>[Y]</b> 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>There is and has been an alteration of the viewshed as a result of this existing and other current and historical sand and gravel mines. The site is visible by traffic along Road where gravel pits are now common. Floodlights from dark period operations increase visibility and awareness of the operation, but there would not be any change from the current operation due to this expansion. However, reclamation will return the area to a visually acceptable landscape.</p> <p>Noise will not increase from present levels when equipment is active. 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>Because the crusher and other noise generating equipment would be located in the bottom of the excavation which is 12 feet below the county road to the south, and noise buffers will be placed along the road, effects from noise and light would be reduced. There is also noise from truck traffic hauling to various projects. These impacts are intermittent and of relatively short duration. There is a temporary deterioration of aesthetics while the operation is under way. However, reclamation will return the area to a visually acceptable landscape. The site is located along an isolated stretch of county road where gravel pits are common. Traffic along the road will be able to see the operation, as it has for many years.</p>
<p>9. <b>DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:</b> Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?</p>	<p><b>[N]</b></p>
<p>10. <b>IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:</b> Are there other studies, plans or projects on this tract?</p>	<p><b>[N]</b></p>

<b>IMPACTS ON THE HUMAN POPULATION</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
11. <b>HUMAN HEALTH AND SAFETY:</b> Will this project add to health and safety risks in the area?	<b>[Y]</b> Heavy equipment and facilities including trucks, loaders, crushers, asphalt and wash plants will create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator will employ proper precautions to avoid accidents.
12. <b>INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:</b> Will the project add to or alter these activities?	<b>[Y]</b> 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.
13. <b>QUANTITY AND DISTRIBUTION OF EMPLOYMENT:</b> Will the project create, move or eliminate jobs? If so, estimated number.	<b>[N]</b>
14. <b>LOCAL AND STATE TAX BASE AND TAX REVENUES:</b> Will the project create or eliminate tax revenue?	<b>[N]</b>
15. <b>DEMAND FOR GOVERNMENT SERVICES:</b> Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	<b>[Y]</b> 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.  <b>Cumulative Impacts -</b> The potential for two concurrent projects requiring pit run, processed gravel or asphalt, and both hauling on the county road exists. Signing and flagpersons would be useful in regulating traffic patterns.
16. <b>LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:</b> Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	<b>[Y]</b> City/County zoning clearance has been obtained.
17. <b>ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:</b> Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	<b>[N]</b>
18. <b>DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:</b> Will the project add to the population and require additional housing?	<b>[N]</b>
19. <b>SOCIAL STRUCTURES AND MORES:</b> Is some disruption of native or traditional lifestyles or communities possible?	<b>[N]</b>

