

ENVIRONMENTAL ASSESSMENT

Project Name: Valley West

Proposed Implementation Date: Spring 1998

Proponent: Bate's Pit, LLC

Type and Purpose of Action: Bate's Pit, LLC proposes to mine and transport a total of 130,000 cu.yds of sand and gravel. Of the 130,000 cubic yards of material, 120,000 cubic yards would be used as pit run and 10,000 cubic yards of the material would be crushed to be used in conjunction with the construction intra-structure of the Valley West addition and related projects). Bates would salvage soils, dewater the site using dewatering wells, mine gravel, recontour, creating a 10-acre pond up to 12 feet + deep that would be utilized for fish habitat and recreation. The slopes above the highwater line and the 8.75 acres of hardstand areas, crusher site, and mineral stockpile locations would be topsoiled and seeded. The site would be reclaimed to a fish and wildlife pond surrounded by residences. Final reclamation would be accomplished by December of 2000.

Location: NW¼, Sec. 9, T2N, R5E **County:** Gallatin

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 site lies on a relatively level portion of the Bozeman Alluvial Fan. This area, in general, is valley fill consisting of silt, sand, and gravel; includes some terrace deposits and glacial drift of Pleistocene age in some areas; locally includes hot springs tufa; the older part of the alluvium, where present is probably of Pliocene age.</p> <p>Soils are classified as Lamoose silt loam and Meadowcreek loam. The Lamoose soil has 18-27% clay and the A & B horizons are generally 27 inches deep. The Meadowcreek soil has 18-25% clay and the A & B horizons are generally 25 inches deep. The A & B horizons of both soils would be salvaged prior to mining and replaced on the pond shorelines, crusher site, hardstand areas, and mineral stockpile sites following recontouring. The operation has a short life span and microbes would recolonize the disturbed soils. The majority of the site has been previously stripped for other construction activities within the development. Sufficient soil will be left to assure the reclamation of the pond shoreline and facility and stockpile area.</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?

[Y] Depth of water surface to the low water table is 4.91 feet recorded August 15, 1996 and the depth of water from the surface to the high water table is 0.83 feet recorded March 26, 1997. On February 25 through 26, 1998 a constant rate pumping test was conducted in a test well array at the site for providing a measure of the hydraulic properties of the aquifer proposed for dewatering. The aquifer was tested with a screen in the 10-20 foot depth interval at 87 gallons for 24 hours. Although the static water level was 4.15 feet below the land surface, drilling of the well did not yield water until a depth of 10-12 feet due to the fines in the matrix of the uppermost gravel.

Values of transmissivity of 11,106 square feet per day and 11,899 square feet per day were observed in observation wells 38.3 and 76 feet distant from the pumped well. The test provided hydraulic conductivity values of 1,111 feet per day and 1190 feet per day. Storage coefficients at 38.3 and 76.0 feet were 0.007 and 0.002. The aquifer response evidenced a negative boundary effect after 30 minutes pumping time which is attributed to thinning of the alluvial aquifer over a clay bed in the southern portion of the proposed gravel pit site.

An observation well on the Nollmeyer property, approximately 800 feet north of the pumped well did not show response within the resolution of the measurements. Drawdown-distance projections compiled from the aquifer response, as affected by the negative boundary condition, predict that drawdown would be unmeasurable at 800 feet after pumping 24 hours at 87 gpm. Time-distance response during the test suggests that the cumulative drawdown effects of 20-30 dewatering wells pumped around the perimeter of the proposed gravel pit will have only a small effect, less than two feet, on groundwater levels 800 feet from the subject test well location during the duration of proposed pit operation. An agreement with Dr. Nollmeyer, who has the nearest and only well which would be impacted, has signed an agreement with the proponent to replace his domestic well if drawdown response is detected at the monitoring well on his property.

Dr. Nollmeyer also has a water right pertaining to the borrow ditch along the south side of Durstan Road in the NW¹/₄NW¹/₄ of Section 9, which is just north and west of the proposed action. Any diminution of that water right will be offset by the diversion of dewatering effluent to the said ditch, as needed for irrigation purposes.

On the south and east sides, it is conjectured that the site would be dewatered using dewatering wells spaced 200 feet apart, but it may be necessary to add intermediate dewatering wells at 100 foot spacings or less. Dewatering wells along the west and north sides of the pit area would be started at 100 foot spacings. The dewatering well spacing would be a trial and error affair

<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] There will be an increase in airborne particulates while the soil is being salvaged, the gravel being crushed and hauled, and soil replaced. However soils will be moist during stripping, so increases will be minimal. The applicant must secure an Air Quality Permit from the Montana Dept. of Environmental Quality. The proponent must comply with the provisions of the Air Quality Permit (re: opacity from the crusher and fugitive emissions from haul roads, work area and all stockpiles). The gravel will be wet when it is mined and this will help meet air quality standards. There is no asphalt plant involved with the operation. All of the sand and gravel will be used to build the intra-structure of the Valley West Addition and related projects.</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] Existing vegetation would be removed with the soil. Some roots may remain viable in the soil stockpile and regenerate upon replacement. The applicant will seed all affected land to species compatible with the post mine land use. The site has been planted with tame species and no rare or threatened plants are present. The proponent is required to obtain a weed management plan from the Gallatin County Weed Management Board and to implement the plan.</p> <p>Groundwater computer modeling and a water well drawdown test have shown that there should be no impact to any of the subirrigated land to the north. A survey of vegetation, across Durstan Road, revealed grasses composed primarily of orchard grass and timothy (both introduced species) and Baltic rush. If dewatering of this area did occur it should not adversely impact the vegetation composition on Dr. Nollmeyer's property.</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] The location of the proposed operation precludes the significant use of wildlife, although it would be expected to receive transient use by various avian species and some rodents.</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 Montana Natural Heritage Program has not identified any threatened or endangered plant or animal species present on this site, but has identified three species (two plant species and one insect) as in the immediate area. The site was inspected for the present of any threatened and endangered species and none of the plant species were present on the site. The insect, a stonefly, could be present in Aajker Creek, but since the creek will not be impacted by the proposed operation, except for additional clean well water being discharged into it from the dewatering operation, the stonefly, if present, should not be impacted. It was also noted that the site has been cultivated in the past and introduced grass and legumes populate the site. There are wetlands identified as present in the immediate area, but these wetlands will not be impacted by the proposed operation.</p>

<p>7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p>[N] A field reconnaissance survey and a literature search were done and neither revealed the presence of any archaeological nor historic values.</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] During the mining phase, the site will be visually impacted, however, following reclamation, a well designed, natural looking pond, suitable for fish habitat will be in place.</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>[Y] The site is currently under review to be subdivided.</p>

IMPACTS ON THE HUMAN POPULATION

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>[Y] The use of heavy mining and hauling equipment will increase the risk of accidents. However, the applicant must comply with OSHA and MSHA regulations and it is expected that safety considerations will be given the utmost attention. The proponent will have to abide by all traffic laws. The haul route would run from the gravel pit site east parallel to Durston Road. The haul routes will be confined to the interior of the Valley west and immediate area projects. Hauling hours from the pit would be limited to reduce truck hauling during peak traffic hours and be restricted by the Bozeman City-County Planning Office from 8:45 a.m. to 4:45 p.m. Monday through Saturday. The hours of operation for crushing would be limited to be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. No load limit restrictions have been placed by the county on the public roads. There will be additional noise generated by backup alarms on the equipment, crusher, and hauling. The topsoil stockpiles will be strategically placed in the directions of residences to mitigate, as much as feasible, noise generated by the proposed operation.</p>

<p>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>[Y] 10 acres will be removed from agricultural use (grazing) where the pond will be created. The pond will be used for fishery habitat and recreation. The remaining 8.75 acres will be seeded with grasses and may eventually be subdivided for home sites.</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]</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>[N] The site will require periodic site evaluations by DEQ staff, however they would generally be conducted in conjunction with other regional sites.</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>[N] Bozeman City-County Zoning Clearance has been obtained. A special temporary use permit has been granted to the proponent.</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>

21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]
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22. Alternatives Considered: Denial. The owner of the gravel resource would be denied full utilization of his property at this time.

23. Public Involvement, Agencies, Groups or Individuals contacted: Montana Natural Heritage Program, Montana Dept. of Transportation, Gallatin Co. Weed Board and Road Department, and Bozeman City-County Planning Office, Donna Lovell of Wetlands, Inc. and Dan Erbes. In addition, all nearby residents were offered the opportunity by way of Resident Notification Forms to indicate objections or concerns.

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed: Bozeman City-County Planning Office for Zoning Compliance, Montana Dept. Of Environmental Quality for air quality and storm water permits, and MSHA and OSHA for safety permits.

25. Magnitude and Significance of Potential Impacts: Not applicable. A finding of significance is relevant only to the requirement to prepare an EIS under MEPA. However, the statutory time constraints of the Opencut Mining Act preclude preparation of an EIS. Therefore, no such finding is necessary here.

26. Regulatory Impact on Private Property: The analysis conducted in response to the Private Property Assessment Act indicates no impact.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

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