

DRAFT ENVIRONMENTAL ASSESSMENT

Project Name: Valley Drive **Proposed Implementation Date:** November 2002

Proponent: Big Sky Ready Mix, Inc.

Type and Purpose of Action: The proponent has applied for a Mined Land Reclamation Contract that if approved would result in the mining, washing, crushing, stockpiling and transporting of 2.5 million yards of sand and gravel to supply the local market with various products. Initially, one acre at mine level disturbance and three acres of road construction would be bonded at calculated reclamation costs and the remaining 76 acres would be bonded at associated level. Big Sky would salvage any available soils, mine the site with a dragline and/or hydraulic excavator, and recontour, creating a pond with a minimum of 20 feet of water at low water table that would be utilized for recreation and wildlife habitat. The slopes above the highwater line would be topsoiled and seeded after the site is recontoured. A crusher, washing plant, and concrete batch plant would be associated with the operation and be located at various sites within the proposed contracted area. The mining operation would be expanded to encompass a mining area totaling 40 acres of the total contracted acreage of 80. Reclamation would be concurrent with mining with final reclamation occurring in 2025. The reclaimed use would be a wildlife and recreation pond with either a public park or home sites around the pond.

Location: N½SW¼ & NW¼SE¼, Sec. 7, T10N, R2W **County:** Lewis & Clark

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
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:	<p>[N] The proposed gravel pit is located in the Helena Valley on valley fill estimated to be 6,000 feet thick. This valley fill is composed primarily of fine and coarse grained Tertiary sediments unconformably overlain by about 100 feet of Quaternary alluvium. The upper few hundred feet of valley fill is composed of complexly stratified lenses of cobbles, gravel, sand, silt and clay. The Quaternary valley fill forms a gently sloping alluvial plain in the Helena Valley that measures about 8 miles square. The alluvial plain is bounded by pediments and alluvial fans that descend from the Elkhorn Mountains and Boulder batholith to the south, the Scratchgravel Hills to the west, and the Big Belt Mountains to the North. A line of low, rolling hills composed of poorly consolidated fine-grained Tertiary sediments form the Spokane Bench on the east.</p> <p>Information from the Natural Resources Conservation Service (NRCS) classifies the soils as Nippt gravelly loam, Attewan-Nippt complex and Attawan loam. The soil is moderately permeable to a depth of 15 inches. Below this depth, the permeability becomes very rapid because of the extremely gravelly sand which eventually becomes gravel with 60 - 80% rock. The upper 12 inches of loamy material would be stripped and stockpiled. The proponent would utilize the material below 12 inches as a product. Upon regrading the slopes to 3:1 or flatter 12 inches of topsoil would be evenly placed on the slopes down to the high water mark of the proposed pond. The shorelines would be undulating to create a natural aesthetically pleasing appearance. Microbes should recolonize the soils when they have been replaced. The soils are not fragile or unstable and there are no unusual geologic features.</p>

<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION:</p>	<p>[Y] There is an irrigation ditch bordering the property to the west along with several small irrigation ditches which terminate on the proposed mine site. There are 64 water wells within 1 mile of the proposed operation according to information obtained from the Montana Bureau of Mines and Geology. Of the 64 wells sufficient data exist to plot 22 of them to within a ¼ section. The wells average 58 feet in depth with a maximum depth of 166 feet and a minimum depth of 24 feet. The wells are predominantly for domestic use with an average reported yield of 32 gallons per minute (G.P.M). One well reported a yield of 300 G.P.M. at 30 feet. The estimated depth to groundwater varies across the site and throughout the year. Extracts from a USGS report entitled <u>Hydrogeology of the Helena Valley-Fill Aquifer System, Water-Resources Investigation Report 92-4023</u>, concluded that the water level is lowest in the spring (15 - 20 feet below the surface) and rises during the irrigation season (3 - 11 feet below the surface), and falls during the fall and winter. There should be no effect on the wells as there will be no dewatering of the proposed operation and any fuel storage areas would be lined and bermed and be of sufficient size to contain any spill. Any accidental spills would be immediately cleaned up, and the contaminated material disposed of in an approved manner.</p> <p>The site would be mined to an estimated depth of 40 feet. The proponent has committed drilling four monitoring wells, two up-gradient along the south boundary of the proposed contract area and two down-gradient along the north boundary. Prior to mining within 3 feet of the high ground water table, the proponent will monitor the ground water for various physical and chemical properties for a period of two years (see Section 28).</p> <p>The operator would not dewater the site, but would use a hydraulic excavator and/or dragline to mine the site. The proponent has contacted the Montana Dept. of Environmental Quality Water Protection Bureau and Lewis and Clark County concerning the need for Stormwater Discharge Permits. Big Sky has proposed to install a wash plant at the site. Water for the wash plant would be obtained from a well or the irrigation ditch. The proponent must secure the necessary water rights from the Montana Dept. of Natural Resources. The proponent proposes a series of two settling ponds with water being recycled. Approximately 150 gallons per minute would be utilized in the operation of the wash plant. The wash plant would be operated approximately 10 hours a day, five days a week, from approximately early spring through mid-fall.</p>
<p>3. AIR QUALITY:</p>	<p>[Y] Equipment operation would emit exhaust. The haul and access road would be graveled and dust controlled on the road with water and/or magnesium chloride. Pit dust (materials transfer, pile forming, bulk loading) would be controlled by spraying with water from the settling ponds or the water well. The water would be used, as necessary, to maintain compliance with opacity requirements.</p> <p>Before any operations requiring air quality permits could begin, the operator would have to secure air quality permits to operate the crusher, concrete batch plant and associated equipment. Conditions would be placed in the air quality permit to ensure compliance with the air quality rules, air quality regulations, and any applicable ambient standards. The permit would further require the operator to apply best available control technology (BACT) to the process to achieve the emission limitations.</p> <p>All crushers would be equipped with spray bars. Eventually, the site would be mined into the water and the wet material would help meet air quality standards. Topsoil stockpiles would be seeded with the approved seed mixture and rate if they would be left for more than six months.</p>

4. VEGETATION COVER, QUANTITY AND QUALITY:	[N] Existing vegetation would be removed with the soil. Some roots may remain viable in the soil stockpile and regenerate upon replacement. The applicant would seed all affected land to species compatible with the post-mine land use. The site has been planted with non-native species and no rare or threatened plants are present. A literature search was done by the Montana Natural Heritage Program and no rare plants or cover types were identified as present in the area of the proposed operation. Due to the site being cultivated any rare plants or cover types would have been destroyed.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:	[N] Various species of birds, small and medium size mammals, and an occasional deer are seen in the area, but use is insignificant.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	[N] No threatened or endangered plant or animal species were identified as present during a ground search. There is no wetland present on the site. The site is a hayfield containing introduced grass species. A literature search was conducted by the Montana Natural Heritage Program and no endangered or threatened species or habitat types were noted as present on the proposed mine site.
7. HISTORICAL AND ARCHAEOLOGICAL SITES:	[N] A field reconnaissance survey did not reveal the presence of any archaeological or historic values. Should significant archaeological or historical values be found, the operation would be routed around the site of discovery for a reasonable time until salvage can be made. The State Historical Preservation Office would be promptly notified.
8. AESTHETICS:	[Y] During the mining phase, the site would be visually deteriorating; however, following reclamation, a well designed, natural looking pond would be in place. The proponent would place a 12-foot or higher berm of topsoil to the south and north to act as a noise barrier and screen the operation from the homes in those directions. These soil piles would be added to and subtracted from as reclamation occurs and the mining area is expanded. Reclamation would be concurrent with mining. The berms would be rounded and seeded with various species of grasses and wildflowers.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:	[Y] No limited resources would be expected to be used. The operator proposes to pump water from the proposed pit for supplying various aspects of the operation with water. Water rights for that water supply would be regulated by the Department of Natural Resources and Conservation. The operator anticipates pumping 150 g.p.m. from a well or the irrigation ditch during operational hours (10 hours daily, five days a week from approximately early spring through mid-fall)
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:	[N]

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY:	<p>[Y] It is anticipated that trucks would complete approximately 30 round trips per day during the peak of the construction season, not significantly different from the present situation at the current operation on Canyon Ferry Road. The number of trucks per day could change depending on the economy of the area at the time the proposed operation would begin. The access and haul road would be constructed to give good site distance for traffic entering Valley Drive from the pit and for vehicles traveling Valley Drive past the proposed operation. Air pollutants would be kept to a minimum through limitations on the duration of activity and the use of best available control technology as described in part 3 above.</p> <p>The use of heavy mining and hauling equipment increases the risk of accidents. However, the applicant must comply with OSHA and MSHA regulations and it is expected that safety considerations would be given the utmost attention.</p>

12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:	<p>[Y] Eventually, 80 acres would be permanently removed from agricultural activities where the pond and related recreational activity sites would be created. However, a pond would be created for recreation, waterfowl and fishery habitat.</p>
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:	<p>[N]</p>
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	<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. However, presence of water front property may increase the desirability after reclamation.</p>
15. DEMAND FOR GOVERNMENT SERVICES:	<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>
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	<p>[N] There is no zoning on the site.</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>[N]</p>
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	<p>[N]</p>
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	<p>[N]</p>
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	<p>[N]</p>
21. REGULATORY RESTRICTIONS ANALYSIS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If so, no further analysis is required.	<p>[Y] The proposed gravel mine would be regulated under the Opencut Mining Act (Title 82, Chapter 4, Part 4, MCA).</p>
22. REGULATORY RESTRICTIONS ANALYSIS: Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required.	<p>[N] There are no conditions imposed that are not required by the act or not agreed to by the applicant. Therefore, no further analysis is required.</p>
23. PRIVATE PROPERTY IMPACTS: Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives.	<p>[N/A]</p>

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

[N] Sections 11 through 23 above, address the social economic issues raised relative to this project.

25. ALTERNATIVES CONSIDERED:

No Action: The proposed mine would not be permitted.

Approval: The gravel mine operation would be permitted; however, the Plan of Operation would be reviewed and modified, if necessary, upon the department receiving two years of data from the groundwater monitoring wells. See Section 28.

26. PUBLIC INVOLVEMENT: The availability of this EA was advertised in the Helena Independent Record newspaper. Copies were sent to interested parties for public review and comment. Five completed Resident Notification forms were received and any comments noted by the department.

27. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION: Montana Department of Environmental Quality for Air Quality Permits; Mine Safety and Health Administration for safety permit; Montana Department of Labor & Industry, Bureau of Safety for safety permit; Montana Department of Natural Resources and Conservation for the water right for the production water well. The State Fire Marshal's Office was consulted regarding proper fuel storage and handling.

28. MAGNITUDE AND SIGNIFICANCE OF POTENTIAL IMPACTS: No significant impacts associated with the proposed operation are anticipated. Impacts are unlikely to be significant because reclamation would be conducted concurrent with mining. Foreseeable impacts and mitigation associated with groundwater quantity, quality and distribution, and reclamation to a final pit pond are as follows: (1) There is no site-specific information concerning the water quality and fluctuation between the low and high groundwater elevations. Therefore, the proponent has committed to installing monitoring wells near the four corners of the site and monitor water-levels and quality for a period of two years. After that two-year period the Department will reevaluate the original plan, and if necessary, require that the applicant amend the permit to change projected mining depths that relate to the actual water table elevation measurements recorded during monitoring at the site. (2) The relatively permeable and unconfined nature of the valley fill aquifer system leaves it susceptible to potential contamination from surface or near-surface sources. The proposed fuel storage area must comply with applicable state and federal regulations. Annually, groundwater samples would be taken and analyzed for gasoline and diesel range organics. (3) The operator's monitoring plan must be approved by the Department, and any changes in monitoring frequency must be approved by the Department.

29. CUMULATIVE EFFECTS: The proponent and Maronick Construction both presently operate gravel mines near each other two miles or so west of this proposed mine site along Canyon Ferry Road. Maronick Construction has also applied to open a new mine (south of Canyon Ferry Road and east of Lake Helena Drive) approximately one mile southeast of Big Sky Ready Mix's proposed mine, and Maronick Construction proposes to begin to operate its proposed operation at about the same time as Big Sky Ready Mix. Both of the present mines would be closing when the two new mines are being opened. The new mines would have employment levels, mining rates, and truck traffic similar to the present mines. The effect of the two proposals would be to move existing mining impacts to a different location in the same general area of the Helena Valley with little or no net change in impacts.

Reclamation would be concurrent with mining. The proposed operation would locally add to the existing disturbance of wildlife, wildlife habitat, and aesthetics caused by rural residential development, roads and traffic, and other human activities. However, the total mining impact for this part of the Helena Valley would not change appreciably. Up to 80 acres used for farming and livestock grazing would be eliminated, and in its place would be a wildlife pond with either a public park or homes sites around the pond. The other forms of human disturbance will remain and are likely to increase in the future as the land is further subdivided and more people move into the area.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

EA Checklist Prepared By: Greg Hallsten, Permitting and Compliance Division, Dan Erbes, Chris Yde, and Jerry Burke, Industrial & Energy Minerals Bureau

Approved By: Steve Welch, Chief, Industrial & Energy Minerals Bureau

Signature

Date