CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: City Pit **Proposed Implementation Date:** 4/17/96
Proponent: City of Troy
Type and Purpose of Action: The applicant proposes to amend their existing permit to mine, crush, stockpile and transport an additional 40,000 cubic yards of sand and gravel from a 2 acre addition to the pit located 1¼ miles east of the town of Troy. The estimated start-up date is April 17, 1996 and will result in a cut no deeper than 25 feet. The pit will be reclaimed to grassland after grading the slopes to at least a 3:1, re-grading and replacing all topsoil.
Location: Section 18, T31N, R33W **County:** Lincoln

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: Are fragile, compactible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?	[Y] The existing mine and proposed expansion is located on a relatively level glacial outwash terrace 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 bedrock. The 600 million to 1.2 billion year old Precambrian Belt Series sandstone and mudstone rocks surround the deposit in towering mountains. The Cabinet Range to the southwest and the Percell Range to the northeast border this flat-lying valley river valley that contains the Kootenai River Up to ten inches of fairly well drained, dark sandy loam topsoil overlies the glacial sands and gravels. Local terrace slopes demonstrate reasonably good stability, and ripping after activities are complete should alleviate soil compaction. All soil material will be salvaged and stockpiled away from the affected land. Following mining, grading and ripping, the overburden (if any) and soils will be replaced, disked and seeded to stabilize the soil and prevent erosion. Microbes are expected to re-colonize the soil.
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?	[N] The nearest pre-mining surface water is the Kootenai River located ¼ mile to the northeast which will not be impacted by mining. The site will be mined to a depth of 25 feet which will be substantially above the high groundwater level. Groundwater is fairly shallow in the area, and the sands and gravels display high permeability. There are 4 water wells in section 18 that range from 24 to 40 feet in depth and have a yield of 15 to 20 gallons per minute.

3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[Y] Air quality will not be degraded any further as there will not be an increase in particulate matter due to the proposed expansion. Crushers, screens and trucking equipment typically cause dusty conditions in disturbed soil sites and this expansion of an existing permit will not necessarily cause an increase in equipment and machinery use. Water bars, road watering and other dust controls will be used as necessary. 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. Cumulative Impacts - There may be a crusher, various screens and mobile equipment operating simultaneously in this pit, and the county Solid Waste Transfer site is located adjacent and east of this site.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?	[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 ponderosa pine, douglas fir and pinegrass which lie on a southeast facing slope. Vegetation covers 100% of the ground 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 timeframes, 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.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] The area is used primarily by wildlife. It supports populations of deer, elk, moose, black bear, mountain lion, rodents, song birds, coyotes, insects and various other animal species. Population numbers for these species is not known. Human use of the area has intensified in the past two decades with the increase in commercial activity. The proposed increase in this mine is not expected to significantly degrade wildlife populations. Seed head gall flies have been introduced to the tract to provide biological control of noxious weeds.

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?	[N] Bald eagles are known to range all along the Kootanai 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.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] 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.
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?	[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. There is and has been an alteration of the viewshed as a result of this sand and gravel mine. The site is visible to traffic along Highway 2. 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. 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. 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.
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?	[N]
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?	[N]

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	**[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES**
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[Y] Heavy equipment and facilities including trucks, loaders and crushers will create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator will employ proper precautions to avoid accidents. The approval of this amendment would have little effect on the rate or volumes of traffic or the equipment used already existing under the current plan. Approval of this amendment will increase the volume of legally extractable mineral and will therefore increase the life of the mine in years. An increase in the rate of extraction resulting from marketing and increased demand for product could have a shortening effect on the life of the mine as well. The operator currently complies with all MSHA and OSHA regulations regarding heavy equipment and facilities including crushers, hot plants, trucks and loaders.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[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.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N]
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] To this date it has not been shown that the current operation has resulted in a reduction in taxable value of property and it is not anticipated that this expansion would alter past assessments.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	[Y] The operation will require periodic site evaluations by DSL 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. Cumulative Impacts - The potential for two concurrent road projects requiring pit run, processed gravel or sand, and both hauling on Highway 2 exists. Signing and flagpersons would be useful in regulating traffic patterns.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N]

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?	[N]
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N]
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N]
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]

22. Alternatives Considered:

1. Denial: 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.
2. Approval of the amendment: The small increase in area will not change impacts or the existing Plan of Operations.

23. Public Involvement, Agencies, Groups or Individuals contacted:
City of Troy.

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed:
Montana Department of Environmental Quality for Air Quality Permit; Mine Safety and Health Administration for safety permit; Montana Department of Labor & Industry, Bureau of Safety for safety permit.

25. Magnitude and Significance of Potential Impacts: Impacts are unlikely to be significant because the increase in acreage will not require an increase in equipment and/or activity, and the lack of unique wildlife and habitat. The resulting reclaimed area will be slightly larger. The cumulative effect of the gravel operation and the solid waste transfer site in this area will likewise not be increased.

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 [X] No Further Analysis

EA Checklist Prepared By: Rod Samdahl (Name) Reclamation Specialist (Title)

Approved By: _____ (Name) _____ (Title)

_____ _____

Signature **Date**

Opencut **Revised, 2/25/92**

Montana Bureau of Mines and Geology 05/09/1996
Water Well Log Data

Location: 31N 33W 18 BC
Site Name: MALLY JOE
Depth: 24.0
Yield: 20.0
Static Water Level: 16.00
Pumping Water Level: 0.0

Casing: Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
0.00	0.00	3.00	

Year drilled: 1950

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Location: 31N 33W 18 CC
Site Name: HARDIN CARL
Depth: 0.0
Yield: 1.0
Static Water Level: 35.00
Pumping Water Level: 0.0

Casing: Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
0.00	0.00	0.00	

Year drilled: 1958

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Location: 31N 33W 18 CCAA
Site Name: CHAMPION INT.
Depth: 46.0
Yield: 18.0
Static Water Level: 18.00
Pumping Water Level: 19.0

Casing: Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
0.00	45.00	6.00	

Year drilled: 1977

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Location: 31N 33W 18 D
Site Name: MENIZES
Depth: 40.0
Yield: 15.0
Static Water Level: 20.00
Pumping Water Level: 22.0

Casing: Top (ft.)	Bottom (ft.)	Diameter (in.)	Type
-1.00	40.00	6.00	

Year drilled: 1984