

**ENVIRONMENTAL ASSESSMENT**

**RECEIVED**

APR 28 1992

APPLICANT: Sletten Construction Co., Inc.

TYPE OF OPERATION: Opencut Mining - Sand and Gravel

**ENVIRONMENTAL  
QUALITY COUNCIL**

LOCATION: NW¼NE¼ Sec. 17, T12S, R5E

COUNTY: Gallatin

PERSON PREPARING E.A.: Steve Welch

APPLICATION COMPLETE: April 13, 1992  
Date

E.A. COMPLETE: April 17, 1992  
Date

	POTENTIAL IMPACTS					
	A	B	C	LONG TERM	SHORT TERM	AMPLIFICATION
<b>PHYSICAL ENVIRONMENT</b>						
1. <u>TOPOGRAPHY</u>			x	x		x
2. <u>GEOLOGY</u> ; Stability			x			
3. <u>SOILS</u> ; Quality, Distribution			x		x	x
4. <u>WATER</u> ; Quality; Quantity; Distribution			x			
5. <u>AIR</u> ; Quality			x		x	x
6. <u>UNIQUE, ENDANGERED, FRAGILE, or LIMITED</u> environmental resources			x			
<b>BIOLOGICAL ENVIRONMENT</b>						
1. <u>TERRESTRIAL, AVIAN, and AQUATIC</u> ; species and habitats			x		x	x
2. <u>VEGETATION</u> ; quantity, quality, species			x		x	x
3. <u>AGRICULTURE</u> ; grazing, crops production			x			
<b>HUMAN ENVIRONMENT</b>						
1. <u>SOCIAL</u> ; structures and mores			x			
2. <u>CULTURAL</u> uniqueness, diversity			x			
3. <u>POPULATION</u> ; quantity and diversity			x			
4. <u>HOUSING</u> ; quantity and distribution			x			
5. <u>HUMAN HEALTH &amp; SAFETY</u>			x		x	x

	A	B	C	POTENTIAL IMPACTS		
				LONG TERM	SHORT TERM	AMPLIFICATION
6. <u>COMMUNITY &amp; PERSONAL INCOME</u>			x			
7. <u>EMPLOYMENT</u> ; quantity and distribution			x			
8. <u>TAX BASE</u> ; local and state tax revenue			x			x
9. <u>GOVERNMENT SERVICES</u> ; demand			x			
10. <u>INDUSTRIAL, COMMERCIAL</u> and <u>AGRICULTURAL</u> activities			x			
11. <u>HISTORICAL</u> and <u>ARCHAEOLOGICAL</u>			x			
12. <u>AESTHETICS</u>			x		x	x
13. <u>ENVIRONMENTAL PLANS</u> and <u>GOALS</u> ; local and regional			x			x
14. <u>DEMANDS</u> on <u>ENVIRONMENTAL RESOURCES</u> of land, water, air and energy			x			x
15. <u>TRANSPORTATION</u> ; networks and traffic flows			x			

PUBLIC INVOLVEMENT: Public Meeting

ALTERNATIVES CONSIDERED: Denial

COMPLIANCE STATUS: Decision Pending

RECOMMENDATIONS CONCERNING PREPARATION OF AN EIS: Not necessary at this level of disturbance

OTHER GROUPS OR AGENCIES CONTACTED OR WHICH MAY HAVE OVERLAPPING JURISDICTION:

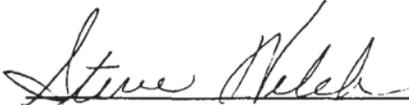
Air Quality Bureau DHES

INDIVIDUALS OR GROUPS CONTRIBUTING TO THIS EA: DSL Staff, DOT Biologist

A: Significant Unavoidable Impacts

B: Insignificant as a result of conditioned mitigation

C: Insignificant as proposed

  
Signature

# ENVIRONMENTAL ASSESSMENT

SLETTEN CONSTRUCTION CO.

Brogan Site

Prepared by:

Montana Department of State Lands

April 17, 1992



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## CHAPTER I - INTRODUCTION

### A. PURPOSE AND NEED

This Environmental Assessment (EA) has been prepared to evaluate impacts that would occur if the Department of State Lands (DSL) approves or denies the application to conduct opencut mining operations with attendant processing facilities.

### B. PROPOSED ACTION

Sletten Construction Co. (SCC) has submitted to the DSL an application for a Mined Land Reclamation Contract that if approved, would allow opencut mining operations for sand and gravel on an 8.8 acre tract of land approximately 10 miles northwest of West Yellowstone, Montana. Upon completion of the operation the site would be reclaimed to a post-mine land use compatible with wildlife habitat and grassland. (See Attachment A)

### C. BENEFITS

Materials produced as a result of the proposed action would be utilized for reconstruction of a portion of Highway 287, and the present "inactive" gravel pit would be reclaimed.

### D. AGENCY ROLES AND RESPONSIBILITIES

#### 1. Department of State Lands

The Commissioner of State Lands must decide whether to 1) approve SCC's application as submitted, 2) approve with modifications, or special mitigative stipulations, or 3) deny the application pursuant to Montana's Opencut Mining Act (OCMA) Title 82, Chapter 4, Part 4, MCA.

The DSL administers the OCMA. The purpose of the act is to preserve natural resources, to aid in the protection of wildlife and aquatic resources, to safeguard and reclaim through effective means and methods all agricultural, recreational, home, and industrial sites subjected to or which may be affected by opencut mineral mining to protect and perpetuate the taxable value of property, to protect scenic, scientific, historic, or other unique areas, and to promote the health, safety, and general welfare of the people of this state. The act and its rules and regulations (ARM 26.4.201 et seq.) set forth the steps to be taken in the issuance of a mined land reclamation contract and for the reclamation of the applicants proposed operation. This act applies to private, federal and state lands within Montana.

DSL's rules (ARM 26.2.601 et seq.) implementing the Montana Environmental Policy Act (MEPA) title 75, Chapter 1, MCA also require preparation of an environmental analysis. The Department has determined that an Environmental Assessment is appropriate for this project. This EA has several purposes:

- a. It serves to ensure that the agency uses the natural and social sciences in planning and decision making;
- b. It assists in the evaluation of reasonable alternatives and the development of conditions, stipulations or modifications to be made a part of the proposed action;
- c. It ensures the fullest appropriate opportunity for public review and comment on proposed actions, including alternatives and planned mitigation; and
- d. It examines and documents the effects of a proposed action on the quality of the human environment.

2. State Historic Preservation Office

The State Historic Preservation Office is responsible for cooperating with and advising DSL when potentially valuable historical, archaeological, or other cultural resources are located within a project area. Advice given to DSL may include comments on an applicant's plan for impact mitigation of sites eligible for nomination to the National Register of Historic Places. During mine operations DSL is responsible for monitoring compliance with the historic preservation plans.

3. Department of Health and Environmental Sciences

a. Air Quality Bureau (AQB)

The AQB administers the Clean Air Act of Montana (Title 75, Chapter 2, MCA). Any proposed project with potential to emit more than 25 tons per year of any pollutant must obtain an air quality permit prior to operating. The applicant must apply Best Available Control Technology (BACT) to each emission source. The applicant must also demonstrate that the project would not violate Montana or Federal Ambient Air Quality Standards. An Air Quality Permit has been applied for this operation.

## CHAPTER II - PROPOSED ACTION AND ALTERNATIVES

The proposed action and one alternative have been evaluated as a part of this analysis. The alternative is the Denial Alternative.

### A. PROPOSED ACTION

SCC is proposed to mine and process sand and gravel from an 8.8-acre tract of land that is currently an open, unreclaimed gravel pit surrounded by grassland to the north and west, a Highway Department mixing pad and stockpile to the east, and the highway to the south. Mining and processing would be preceded by the salvage and stockpiling of all available topsoil (where it has not been previously wasted) followed by removing gravel to a depth of 25 feet (current depth) on approximately 2.5 acres of the 8.8 using front-end loaders. The material would be stockpiled and a loader would be used to haul the material to a trap and conveyor which would feed the crusher. The crusher would process the material into different size fraction, and the end products would be stockpiled to the east and west. The crusher would operate for approximately 6 weeks, and the asphalt plant, located on the west side, utilizing some of the processed materials, would operate for approximately 6 weeks.

Reclamation would be concurrent with mining and consist of reducing affected slopes to a 3:1 or flatter, ripping compacted areas, retopsoiling, and seeding all affected land to a mix compatible with the post-mine land use of grassland and wildlife habitat.

### B. ALTERNATIVE 1 - DENIAL

This alternative would not alter the present state of open highwalls and weed sink and source. Materials for the planned road reconstruction would be mined from another source.

## CHAPTER III - EXISTING ENVIRONMENT

### A. TOPOGRAPHY

The proposed mine site is located on a relatively level stream terrace approximately 200 feet south and east of Grayling Creek.

### B. GEOLOGY

Geologically, the area is identified a flood plain alluvium of Quaternary geologic age.

### C. SOILS

The soils in the undisturbed portion of land to be affected have a gravelly to gravelly silt loam texture that ranges in depth from 6 to 12 inches, further defined as sandy-skeletal mixed Alfic Cryorthents, formed in alluvial deposits.

### D. WATER

The nearest surface water is Grayling Creek, approximately 200 feet to the north and west of the proposed operation. The Grayling Arm of Hebgen Lake is approximately 1 mile to the southwest.

### E. AIR QUALITY

Baseline air quality in the project area is assumed to be typical of natural background levels for western Montana. There are no significant pollutant sources in the general area. Minor sources include vehicle traffic on unpaved roads, logging activities, home heating, and occasion operation of the nearby sand and gravel site.

### F. UNIQUE, ENDANGERED, FRAGILE, OR LIMITED RESOURCES

None of the above resources were noted on site, and plants listed in the Natural Heritage Program were not present.

### G. TERRESTRIAL, AVIAN, AND AQUATIC SPECIES AND HABITAT

Occasional elk, deer, song birds, and rodents have been observed on or near the proposed operation. Various species of waterfowl have been observed on the creek nearby. Although Grizzly Bear, Eagles, and Peregrine Falcon inhabit nearby areas, the proposed site does not contain critical habitat for those species.

### H. VEGETATION

The existing vegetation on unmined, but disturbed areas consists primarily of smooth brome, big sagebrush, and spotted knapweed. A climax community at this location would be expected

to support rough fescue, Columbia needlegrass, Richardson needlegrass, mountain brome, bearded wheatgrass, slender wheatgrass, basin wildrye, Idaho fescue, lupine, sticky geranium, prairie smoke, tall larkspur, big sage, spike fescue, spike trisetum, purple oniongrass, nodding brome, quaking aspen, and American bistort.

#### I. AGRICULTURE

The proposed mine site is currently an inactive, open, sand and gravel mine.

#### J. EXISTING HUMAN HEALTH AND SAFETY FACTORS

The proposed mine site currently exhibits some safety concerns because of the existing highwalls that could cause injury to motorcyclists, bicyclists, or unsuspecting walkers.

#### K. AESTHETICS

The current visual perception of the proposed site are quite unappealing due to the gravel pit's unreclaimed status. Surrounding areas offer magnificent views of natural landscape, and views of man-made modifiers such as roads, homes, and sand and gravel operations.

#### L. NOISE

Current noise levels at this location vary with highway traffic and industrial (sand and gravel) operations.

#### M. ENVIRONMENTAL PLANS AND GOALS

The proposed operation is within the Hebgen Lake Zoning District. It was zoned commercial and given a conditional use permit in 1979 to operate a gravel pit.

CHAPTER IV - ENVIRONMENTAL IMPACTS-CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVE

A. TOPOGRAPHY

Proposed Action

The proposed operation would affect the existing topography by expanding the current mined area.

1. Mitigation

The proposed post-mine contours would meet the requirements of the Opencut Mining Act. All slopes would be reduced to 3:1 or flatter and blend with the surrounding topography.

Alternative

The existing topography would not be altered from its present state of highwalls.

B. SOILS

Proposed Action

Soil structure and horizonation on undisturbed portions would be altered to a certain extent as a result of soil salvage and redistribution activities. Soil compaction may result from stockpiling, and there may be a deterioration of soil quality due to a reduction in beneficial soil microfauna and microflora.

1. Mitigation

The operator would be required, and has committed to evenly replacing all available soils over the affected area. All compacted areas would be ripped, and soil microbes would reinvade and colonize the replaced soils.

Alternative

Soils would not be altered, and replacement over the current disturbed areas would not occur.

C. WATER

Proposed Action

As with any operation using petroleum based fuels in areas of high groundwater, the potential exists for fuel spills and leaks. In addition, the asphalt plant's wet scrubber pond would contain hydro carbons that could enter the water.

## 1. Mitigation

The operator could line with plastic and construct berms, around all fueling and storage areas. Petroleum and other toxic products would be taken off-site and disposed of in an approved manner. The operator would be required to allow the scrubber pond to evaporate and then remove any oil based residues, or skim oil residues from the water surface, and dispose in an approved location.

### Alternative

Groundwater would not be impacted above current levels.

## D. AIR QUALITY

All gravel operations produce fugitive dust and other particulate matter from the excavating, crushing, soil and gravel stockpiles, haul roads, and asphalt plant. Smaller amounts of volatile organic compounds would be emitted from asphalt handling and heating activities. Other gaseous pollutants (nitrogen oxides and carbon monoxide) would also be emitted from combustion sources associated with the asphalt plant and vehicle exhaust from mobile equipment.

## 1. Mitigation

The operator must secure an air quality permit from the Montana Air Quality Bureau to verify compliance with local, state, and federal air quality requirements. Applicable federal regulations which are implemented by the state, are the Standard of Performance for New Stationary Sources, 40 CFR, Part 60, Subpart I (Asphalt, and Concrete Plants) and Subpart 000 (Nonmetallic Mineral Processing Plants). Subpart I sets particulate and opacity limitations on emissions from the asphalt plant. The particulate limitation must be verified by performance (stack) testing. Subpart 000 sets an opacity limitation on fugitive dust emissions from the gravel crushing and handling operations.

Typical measures used to minimize air pollutant emissions include:

- 1) fabric filtration (baghouse) systems, or wet scrubbers to control particulate emissions from the asphalt plant;
- 2) water spray bars on the crusher;
- 3) watering of haul roads and work areas with a water truck; and,
- 4) the establishment of a cover crop on topsoil stockpiles to control wind erosion.

### Alternative

The air quality would not be further degraded at this location, but would most likely come from an alternate site.

E. TERRESTRIAL, AVIAN, AND AQUATIC SPECIES AND HABITATS

Proposed Action

The proposed operation would disrupt just about all normal patterns of species utilizing this land. As reported in Attachment C, the Department of Transportation's biologist in conjunction with the U.S. Forest Service, have found the three species on the threatened or endangered list "not likely to be adversely effected".

1. Mitigation

The Department of Transportation will require that "associated project activities, such as borrow sources, crusher activities, staging areas, and batch plants will not be allowed within 0.5 miles of an active eagle nest site. Any of these activities within a 2.5 mile radius will require coordination and clearance from an Montana Department of Transportation Biologist.", and furthermore, to avoid enticement of Grizzly bears, "the fish and Wildlife Service requires garbage removal every day from the construction site and on-site food storage must be in solid containers."

Alternative

Current species would continue utilizing the area.

F. VEGETATION

Proposed Action

Vegetation on the land to be affected would be destroyed as soil is salvaged.

1. Mitigation

The operator has proposed, and would be required to, revegetate the entire affected area. Species compatible with the post-mine land use would be planted. Reclamation bond would not be released until that cover had established and was capable of reproducing. It is likely that because this is such a short term operation being proposed, that roots in the salvaged stockpile would remain viable and initiate growth with substantial survival.

Alternative

Vegetative cover would remain as is; weeds continuing to dominate, with eventual repopulation to desirable species where soil is available. The current pit floor and highwall would never produce the climax species expected in this area.

## G. HUMAN HEALTH AND SAFETY

### Proposed Action

The workers at the site would be protected by various state and federal laws which require protective equipment for workers and certain safety requirements on machinery. Upon completion of reclamation the existing highwalls would be reduced to slopes gentle enough to preclude accidental injury. Anyone wandering into the operation where heavy equipment is operating would be at risk of injury.

#### 1. Mitigation

The operator could assign personnel to keep watch and warn people of the equipment dangers.

### Alternative

Highwalls would remain a safety hazard, but equipment dangers would not be present.

## H. AESTHETICS

The proposed operation would introduce visual perception of industrial activity until machinery is no longer necessary.

#### 1. Mitigation

The operator could place stockpiled topsoil between the operation and highway to reduce some of the visual impact. Upon completion of reclamation the affected land would be sloped to appear more natural than exists, and all areas would be revegetated to an appealing condition.

### Alternative

The site would remain an eyesore.

## I. NOISE

### Proposed Action

The operation would generate additional noise. The crusher and screens, excavating equipment, back-up sirens, and trucks would be responsible for the majority of noise created. Table 1 compares a typical operation with other noise levels.

#### 1. Mitigation

The operator could restrict his hours of operation such that additional noise generated would cause the least discomfort to those impacted.

J. TAX BASE: LOCAL AND STATE TAX REVENUE

Proposed Action

There is no evidence that this operation would affect the taxable value of property. Taxable value would be modified only upon successful appeal to the State Tax Appeal Board. To this date, taxes have not been lowered in Montana as a result of a nearby sand and gravel operation.

1. Mitigation

Assurances that the land to be affected will be reclaimed to a productive use, and requiring the affected area to be reseeded within one year of operation cessation would be in place.

Alternative

No change from the present is expected.

K. ENVIRONMENTAL PLANS AND GOALS: LOCAL AND REGIONAL

Proposed Action

The area proposed for operation is currently under a conditional use permit to mine sand and gravel.

1. Mitigation

None.

Alternative

No changes.

L. DEMANDS ON ENERGY

Proposed Action

Mining of this site will require the expenditure of energies in the form of fuels.

1. Mitigation

None.

Alternative

The denial of this application would result in the materials being mined and processed from another source which could result in greater hauling distances from the project, and therefore consume greater amounts fuel.

M. TRANSPORTATION: NETWORKS AND FLOWS

Trucks hauling from the gravel pit could cause additional wear and tear of the road, but must abide by posted weight restrictions and obey all traffic laws. However, it is felt that because this project would be used in direct conjunction to the highway reconstruction that is immediately adjacent to the source, little impact will be noticed.

1. Mitigation

None.

Alternative

Another source could be found for the sand and gravel, however none would be any closer to the construction project.

N. CUMULATIVE IMPACTS

Proposed Action

Cumulative impacts on the biological environment from this proposal are considered to be insignificant because of the size and projected duration of the operation. Even though vegetation, soils, terrestrial, and avian species will be temporarily displaced, reclamation will be concurrent with mining, and those impacts will be reversed. Air quality would be maintained as per state standards, and water quality would not be impacted.

Alternative

No cumulative impacts from the denial.

## CHAPTER V - SUMMARY AND CONCLUSIONS

The principle areas of concern for this application are: noise, water quality, visual impacts, and air quality.

Analysis of the aforementioned has resulted in the following conclusions:

1. Additional noise will be created as a result of the proposed operation. However, limiting the hours of operation and together with the short duration of the project, and the adjacent highway construction, impacts will be limited.

2. The groundwater will most likely not be affected due to precautions such as impermeable fueling and fuel storage areas, lined scrubber ponds, and short duration of the project.

3. There will be a visual impact from equipment on site, but once the project is completed, the affected area will be reclaimed to a better condition than currently exists.

4. There will be a decrease in air quality, but it would be minimized by the stipulations placed on the operator and their equipment by the Air Quality Bureau.

## CHAPTER VI - RECOMMENDATIONS

The Department has concluded that the proposed operation with mitigation measures enforced by contract stipulations would not seriously impact the human and biological environment, and an Environmental Impact Statement is not warranted for this level of disturbance.

# ATTACHMENT A

## SLETTEN CONSTRUCTION, INC.

P.O. Box 2467  
Great Falls, Mt. 69403

Phone: 406-761-7920  
FAX: 406-761-0923

### PLAN OF OPERATION

for

W. Brogan Pit

NW 1/4, NE 1/4, Sec. 17, T12S, R5E

Gallatin County

### SECTION I - PREMINING CONDITIONS

- 1) The site is located on an alluvial terrace approximately 150 feet in elevation above the maintained level of Hebgen Lake.
- 2) The present use of the area is an existing, unreclaimed gravel pit and wildlife habitat. There are two(2) existing pits on site.
- 3) The estimated depth to the water table is greater than 25 feet.
- 4) Hebgen Lake is located about 1 mile to the southwest of the site.
- 5) There are no water wells on or near the immediate site.
- 6) The soil type to be disturbed is a sandy loam that ranges in depth, from 6 inches to 1 foot. The overburden or subsoil is minimal to nil throughout the entire area.
- 7) The vegetation consists of western wheatgrass, needle-and-thread grass, a sparse growth of knapweed, and sagebrush, around the perimeter and undisturbed sections of the area.
- 8) Use by wildlife consists of deer, elk, bison, bear, and upland bird.

### SECTION II - MINING and RECLAMATION PLAN

- 1) **POSTMINING LAND USE:** Uses of the site will be for aggregate source and for wildlife habitat;
- 2) **SOIL AND OVERBURDEN HANDLING:** All available soil material will be stripped from the mine and stockpile area; 6 inches of topsoil and any overburden will be stripped, salvaged, and placed in stockpiles with a dozer and loader. A dozer and loader will be used to strip 6 inches of soil from all other areas of disturbance, including the access road, plant and stockpile area, as well as the overburden stockpile site. Soil materials will be salvaged and stockpiled separately from overburden, and stockpiled where they will not be lost to erosion or disturbed by mining activities;
- 3) **ROAD CONSTRUCTION:** An existing road will be upgraded and used to access the site. The road will not be relocated; but will be maintained in a manner that will control erosion. The road will be about 20 feet wide and will be surfaced with gravel;
- 4) **WATER MANAGEMENT:** No sediment control or water containment structures, water treatment, drainage systems, or diversions are proposed. If it is determined that a structure, system, or diversion is needed; a description and diagram will be submitted for approval, then the structure, system, or diversion will be constructed;
- 5) **WATER PROTECTION:** Surface and groundwater will be given appropriate protection from deterioration of water quality and quantity that could be caused by mining and reclamation activities. All mining activities will be at least 1500 feet from the nearest drainage.

- 6) GRADING: A dozer and loader will be used to grade the pit. Slopes and the pit floor will be graded to leave some surface variation. All of the overburden will be spread evenly over the graded pit with a dozer and loader. All surfaces will be graded to conform, as closely as possible, to the surrounding topography; including drainageways to be graded 3:1 or flatter. The pit floor will be at least 3 feet above the seasonal high water table;
- 7) ROAD RECLAMATION: Upon abandonment, the road surfacing material will remain on the existing roadway. The road will be graded to conform to the surrounding topography, including drainageways.
- 8) REFUSE DISPOSAL: To the extent possible, refuse will not be placed where it could be encountered by future mining operations; refuse not conducive to plant growth, including the facility, and stockpile area surface waste, will be buried under at least three(3) feet of overburden or other suitable material; any reject, oversize and excess overburden, not utilized, will not be placed on sideslopes or in drainageways, unless a plan for such disposal is approved by the Department; petroleum and other toxic materials will be disposed of in a manner that will not cause water pollution.
- 9) MINERAL STOCKPILES: All gravel should be used; however, if excess gravel remains, it will be consolidated in similarly graded stockpiles and left in a common area close to a primary access point; any reject material remaining stockpiled will be graded to 4:1 or flatter and sufficient stockpiled soil will be left, shaped and seeded, for the future reclamation of remaining stockpile-sites.
- 10) REVEGETATION: Affected areas will be revegetated by: (a) ripping all compacted areas with patrol shanks or scarification to a depth of 12 inches, (b) replacing all salvaged soil to appropriate depths, with a dozer and loader, (c) broadcasting a fertilizer mix that yields 30 pounds of nitrogen and 30 pounds of P<sub>2</sub>O<sub>5</sub> per acre, (d) incorporating the fertilizer and preparing the seedbed by discing, (e) drill seeding the site on the contour, between October 25 and May 15, to the following mix:

SPECIES	POUND Pure Live Seed/Acre
Smooth Brome	6
Timothy	10
Tall Fescue	10

and (f) manually spreading mulch on all 3:1 slopes at a rate of 1.5 tons per acre and crimping it into the soil with a disc, this option may not be necessary since soil depth and type at this site as well as the normally higher moisture conditions of the area should insure very little problem in revegetation of this site:

- 11) WEED CONTROL: All seed will be weed free and noxious weeds will be controlled as specified in the county weed management plan during the first growing season when the weeds are high enough to compete with the seeded species;
- 12) SITE PROTECTION AND MANAGEMENT: The site is currently fenced on two sides, to keep livestock out of the area. No further fencing will be required to keep all livestock off of the seeded area;

13) CONCURRENT AND FINAL RECLAMATION: Reclamation will be concurrent with mining, and all grading, topsoiling, and revegetation work will be completed within 1 year after the cessation of mining and related activities on any area of significant size. Final reclamation will be completed on all affected areas within 3 years after the operation begins;

14) RECLAMATION COST: The estimated, on-site, per acre costs of reclamation are:

	Acreage	Topsoil Depth	Overburd. Depth	PIT Depth
MINE LEVEL ( Pit )	3.5	0.5	0.35	25
Yardage ( CY )		2823	1976	141167
FACILITY LEVEL ( Plant & Stockpiles )	6	0.5	0	0
Yardage ( CY )		4840	0	0

OPERATION	Quantity	Unit	Rate	MINE LEVEL	FACILITY LEVEL
Stripping:	2823	CY	0.30	847.00	
	4840	CY	0.30		1452.00
Grading:	77	Hours	75.00	5752.04	
	9	Hours	75.00		690.24
Overburden Handle:	1976	CY	0.50	988.17	
	0	CY	0.50		0.00
Ripping:	25%	2 Hours	75.00	135.35	
	25%	3 Hours	75.00		232.03
Topsoiling:	2823	CY	0.50	1411.67	
	4840	CY	0.50		2420.00
Revegetation:	3.50	Acre	150.00	525.00	
	6.00	Acre	150.00		900.00
Site Protection:	0	LF	1.50	0.00	
	0	LF	1.50		0.00
MINE/FACILITY COSTS:				<u>8812.22</u>	<u>4242.28</u>
TOTAL COSTS:					<u><u>13054.50</u></u>
TOTAL ACRES:	9.5	Acre			
TOTAL COST PER ACRE:				927.60	446.56

The estimated total cost of reclamation is: \$1,374.16 per acre

SECTION III - FIRE PREVENTION, ARCHAEOLOGICAL and HISTORICAL VALUE PROTECTION, ANNUAL REPORTS, FIELD PERSONNAL and SUBCONT-RACTORS:

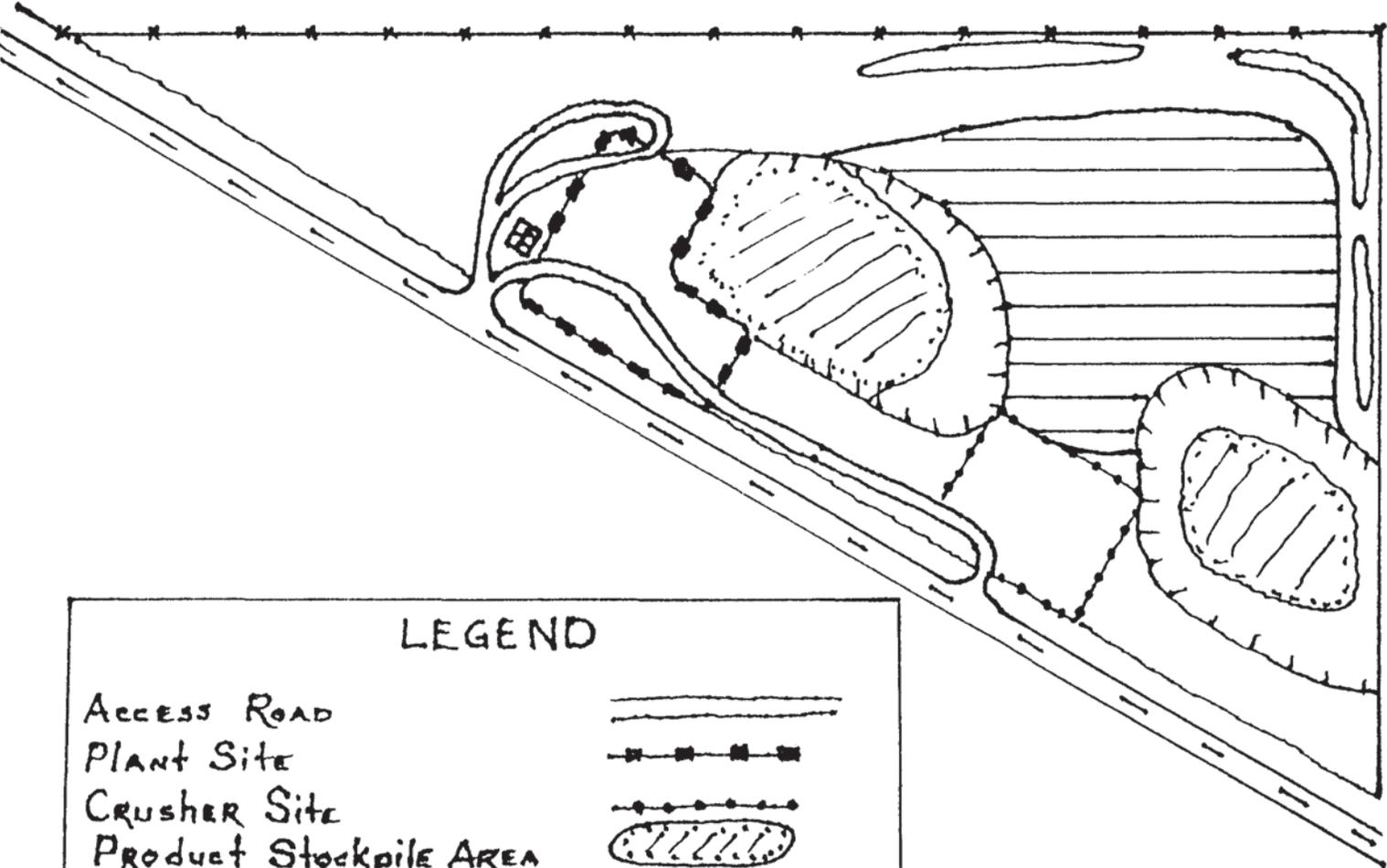
- 1) Proper care will be taken to prevent wildfires;
- 2) Archaeological and Historical values in the affected area will be given appropriate protection. Should significant archaeological or historical value be found, the operation will be routed around the site of discovery for a reasonable time until salvage can be made. The State Historic Preservation Office will be promptly notified;
- 3) Annual Progress Reports will be submitted as required by ARM 26.4.206;
- 4) All on-site workers will be familiar with the specifics of the Mining and Reclamation Plan.

I CERTIFY THAT THE STATEMENTS AND INFORMATION GIVEN APPLY TO THE W. BROGAN SITE. THIS PLAN WILL BE FOLLOWED UNLESS OFFICIALLY MODIFIED BY THE OPERATOR OR THE DEPARTMENT.

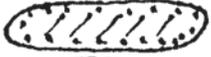
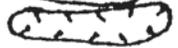
*David J. Sutton*  
Signature

4-11-92  
Date

W. BROGAN SITE  
QUAKE LAKE PROJ.  
NW 1/4, NE 1/4, SEC 17, T12S, R5E  
GALLATIN COUNTY



LEGEND

- Access Road 
- Plant Site 
- Crusher Site 
- Product Stockpile Area 
- New Mine Area 
- Old Pit Areas 
- Topsoil/OB Stockpiles 
- Existing Building 

Scale: 1" = 200'



State of Montana  
**COUNTY OF GALLATIN**

◆  
Bozeman

**RECEIVED**

APR 17 1992

STATE LANDS

February 13, 1979

Welch E. Brogan  
Corwin Springs, MT 59021

Dear Mr. Brogan:

On February 9, 1979, the Hebgen Lake Planning and Zoning Commission, after hearing public testimony, considered and granted your request for a zone change and conditional use permit. The members of the Commission voted unanimously to rezone the 19.61 acres from R-20 to commercial and to grant a conditional use permit for the gravel pit operation, subject to the following conditions:

1. That at the end of the life of the gravel pit, the Zoning Commission will initiate an amendment to rezone the area to the original R-20 designation.
2. That the rules and regulations of the Montana Open Cut or Strip Mining Reclamation Act are adhered to.
3. That access to Highway 287 be limited to one entrance-exit location.
4. That the old buildings and machinery are removed from the property.
5. That the conditional use permit is granted until commercial extraction of gravel is no longer feasible or economical.
6. That precautions are taken to prevent sediment from being introduced into Grayling Creek by either the mining activity or related activities.

It appeared to the Commission that there was a demonstrated need and that the request was in the public interest.

Sincerely,

Robert H. Babb, Chairman  
Hebgen Lake Planning and  
Zoning Commission

dla

ZONING COMPLIANCE FORM

OPENCUT SAND AND GRAVEL MINING  
COMPLIANCE WITH LOCAL ZONING REGULATIONS  
TITLE 76, CHAPTER 2, AND TITLE 84, CHAPTER 4

I/We, herby declare that Fisher Industries (applicant) has notified me/us that Applicant is proposing to conduct opencut sand and gravel mining operations in the NW $\frac{1}{4}$  NE $\frac{1}{4}$ , Section 17 Township 12S, Range 5E, Gallatin County. The proposed operation complies with Gallatin county City' (s) approved zoning regulations, and is not located within an area zoned for residential use.

Mary Kay Beck  
SIGNATURE  
Planning Director  
TITLE

4-7-92  
DATE

This document must accompany all applications for a Mined Land Reclamation Contract where the mineral to be mined is Sand and Gravel.

*This property is within the Heber Lake zoning District. It was zoned commercial and given a conditional use permit in 1979 to operate a gravel pit. A copy of the letter of approval is attached.*

# ATTACHMENT C

BIOLOGICAL EVALUATION  
FEBRUARY 7, 1992  
QUAKE LAKE ROAD  
F 87-1(4)0  
CONTROL NO. 1260

## Introduction

Under Section 7 of the Endangered Species Act of 1973, as amended, activities authorized, funded, or conducted by federal agencies must be reviewed for their effects on federally listed threatened or endangered species. A Programmatic Categorical Exclusion has been prepared under the auspices of the National Environmental Policy Act (NEPA).

## Description of Proposed Project

This project is located on Federal Aid Primary Route 87 along Quake and Hebgen Lakes in Madison and Gallatin Counties. The project begins at the junction with FAP 13, Milepost 0.0, and extends easterly for 22.4 miles to the junction with FAP 50.

The project will provide seal and cover only, full width, for the first 6.7 miles. A 0.15 to 0.30-foot thick overlay with 4:1 or flatter surfacing inslopes will provide finished top widths of 30 feet and, in areas with turning, passing, acceleration, or deceleration lanes, 58 feet to match the existing pavement widths for the remainder of the project. Minor shoulder widening will be required to accommodate the overlay. The paved turnouts for points of interest and for information will be overlaid, county road approaches will be paved to the right-of-way or a 50-foot maximum, multiple-use approaches will be paved for 25 feet, and field and other approaches will be paved with a 12-foot landing. Cold milling will be provided at the beginning and ending connections and at bridge ends. Near Milepost 7 in the immediate vicinity of Beaver Creek, a digout and grade raise will be performed to eliminate grade stability problems associated with the existing saturated subgrade. At the request of the Forest Service, this grade will also be widened to allow for a safe wildlife viewing pullout area at the site. This will involve the filling of approximately 0.36 acres of wetlands. To mitigate for this wetland impact, a cost share agreement between MDT and the Forest Service has been reached to allow the Forest Service to create several on-site ponds with a cumulative water surface area of 0.5-1.0 acres. The ponds will be constructed using blasting and/or earth damming techniques. (Refer to the attached wetland finding for addition information.)

### Biological Evaluation

Contact with the Federal Fish and Wildlife Service indicated that three threatened or endangered species may occur within the project area: the Bald Eagle (Haliaeetus Leucocephalus), the Peregrine Falcon (Falco Peregrinus), and the Grizzly Bear (Ursus Urctos Horribilis). A biological evaluation was completed on these species and the findings follow:

#### Grizzly Bear

Approximately the eastern two-thirds of this project are within or adjacent to a Grizzly Bear recovery zone. The wetland impact and mitigation site is not within the zone. Occasional Grizzly Bear use does occur in the spring, summer, and fall. Since some construction activities may involve overnight camping at staging areas, a special provision will be incorporated in the construction contract to prohibit on-site storage of garbage and restrict food storage on-site.

#### Bald Eagle

Bald Eagles do breed and forage in the Hebgen Lake Basin and are fairly common in the general area. Summer, spring and fall transient birds are also common in the vicinity of the basin. A number of active and inactive nest sites traverse the entire length of the project. The two active nest sites closest to the road project are located on the south shore of Earth Quake Lake (see attached map). The closest nest is about 0.5 miles from the road and across the lake. This nest is visible, with a spotting scope, from the road. The other nest site is across the lake too, about a mile from the road but is not visible. Both of these nests are also about one mile south of the proposed mitigation site. A prominent ridge separates the site from the nests (Trochta, Pers. Comm).

A number of other active and inactive nests are near the project. The closest are shown on the attached map. The moonlight nest on the south shore of Hebgen Lake lies approximately  $\frac{1}{4}$  mile from Highway 287. The nest site at Whits Ridge, near Whits Lakes, is currently inactive but could be reoccupied soon (Flath, Pers. Comm). This nest, if reoccupied, could receive the most impacts if an associated project activity such as: borrow source, crusher, staging area, or batch plant were conducted nearby. To eliminate this potential impact, a special provision will be incorporated in the construction contract to prohibit any of these activities within a 0.5 mile radius of an active nest site. Also, any of these activities from 0.5-2.5 miles in radius would not be allowed without previous clearance and coordination from the Hebgen Lake Ranger District, a Forest

Service Biologist, or the Montana Department of Transportation Biologist.

#### Peregrine Falcon

The endangered Peregrine Falcon may occur in or near the project area. The open nature of the landscape and rock cliffs provide suitable nesting and foraging opportunities for the Peregrine Falcon. An historic eyrie, located in T11S, R2E, Sec. 35, is 2.0 miles east of the beginning of the project near the Madison Slide Visitor Center. Surveys of the site indicate that Peregrines are not currently present (Flath, Pers. Comm.).

The proposed project will not physically alter Peregrine Falcon habitat or its prey base. If reoccupation of historic eyrie occurs, disturbance from the construction would be unlikely but possible. As with the Bald Eagle, the associated work activities, such as gravel crushers, etc., could pose threats to the Peregrine Falcon if improperly located. Coordination measures restricting associated activities from occurring within an influence zone around the eyrie will be imposed should it be indicated that Peregrines are likely to reoccupy the eyrie.

#### Sensitive Species

The following species are listed as sensitive in Region I, USDA Forest Service and on the Gallatin National Forest: Westslope Cutthroat Trout, Yellowstone Cutthroat Trout, Trumpeter Swan, Harlequin Duck, Boreal Owl, Western Big-eared Bat, Ferruginous Hawk, Lynx, Flammulated Owl, Black-backed Woodpecker, Jackson's Hole Thistle, Yellow Springbeauty, Jove's Buttercup, Barratt Willow, Wolf's Willow, Pink Agoseris, Halls Rush, Large-leaved Balsamroot, and Slender Paintbrush.

There are no sensitive species known to occur in the project area. Suitable habitat for sensitive species does not exist; and therefore, they are not likely to occur. Trumpeter Swans use open water at the South Fork Bay and the Madison Arm during the winter period.

Based on conversations with Dan Trochta, Forest Service Wildlife Biologist - Hebgen Lake, who is familiar with a Montana Power Company conducted plant survey in the vicinity of Hebgen Lake during 1988 and the Montana Natural Heritage Program lists of known sites of threatened, endangered and sensitive plants and animals on the Hebgen Lake Ranger District, no threatened or endangered plant species will be impacted by the proposed project.

## Analysis of Effect

### Grizzly Bear

Management Situation 1 is an area that contains grizzly population centers (areas key to the survival of grizzlies where seasonal or yearlong grizzly activity, under the natural free-ranging conditions, is common) and habitat components needed for the survival and recovery of the species or a segment of its population.

Management Situation 2 is an area that lacks distinct grizzly population centers; highly suitable habitat does not generally occur, although some grizzly habitat components exist and grizzlies may be present occasionally.

Highway 287 receives heavy recreational activity from May through October. Grizzly Bears generally avoid roads and road activity.

The most direct form of road-related mortality involves Grizzly Bears killed by vehicles. The number of vehicles using Highway 287 and their rate-of-travel may increase due to the upgrading of the road surface. This could result in an increase in road-related mortality for the Grizzly Bear and also big game animals that use the area.

This is not anticipated though, because the primary reason for the road project is to improve the skid resistance of the existing surface. This will improve stopping distances and should offset higher traffic counts which might have involved greater vehicular/animal collisions.

The mortality risk to Grizzly Bears may increase when humans possess food or garbage in Grizzly country. Much of Highway 287 is within a "day use" area. To ensure that human food will not be available to Grizzly Bears, contractors staying overnight must store food and garbage properly. As previously noted, this will be assured by special contract provisions.

### Bald Eagle & Peregrine Falcons

The construction activities proposed are relatively short duration and low impact disturbances. These activities are similar to the normal, relatively busy recreational vehicular traffic which ordinarily traverses the highway. Due to the strict, relatively high air temperature requirements for the chip-seal and overlay work, most of these activities will probably occur after fledging has occurred, after July 15. The blasting proposed at the wetland mitigation site will be well buffered topographically from the active nest sites. If this appears to be a problem, the blasting can be postponed until August.

Overall, the raptors local to the area have adapted to the noises and disturbance associated with the highway. The disturbances associated with the short duration construction activities should pose no additional adaptation problems.

Cumulative Effect:

Other road maintenance activities and eventual highway upgrades will occur in subsequent years. Timber sales and recreational activities can expect to continue in the general area.

Determination of Effect:

Grizzly Bear

A "not likely to adversely effect" determination for the Grizzly Bear is based on the following:

1. Grizzly Bear habitat will not be affected.
2. Grizzly Bears avoid the area adjacent to the highway.
3. Habitat of equal value and amount as in the Highway Influence Zone is available in surrounding areas for Grizzly Bears to use during reconstruction activities.
4. The mortality risk to Grizzly Bears will not increase.
5. Past human activities in the area have not precluded Grizzly Bear use.

Bald Eagle, Peregrine Falcon

A "not likely to adversely effect" for the Peregrine Falcon and Bald Eagle is based on the following:

1. Foraging habitat will be maintained.
2. Associated construction activities will not be allowed near active nest sites that would detrimentally affect the nesting activity.
3. Potential nesting habitat will be maintained.
4. Wintering Bald Eagles will not be disturbed.
5. The quality and availability of the prey base will not be degraded.

### Coordination Measures

Potential adverse impacts from the proposed highway and wetland mitigation activities will be avoided with the adoption of the following measures:

1. No associated work activities will occur within a 0.5 mile radius of active Bald Eagle nest sites.
2. Associated activities between a 0.5 and 2.5-mile radius of nest sites will require review and clearance by a MDT or Forest Service Biologist.
3. Associated work activities proposed within a 1.0-mile radius of the historic Peregrine Falcon eyrie will require review and clearance by a MDT Biologist or Forest Service Biologist. Timing coordination of construction or additional coordination of work activities within a zone of influence may be necessary should re-establishment or attempts at re-establishment of the Peregrine Falcon eyrie occur.
4. The active nest territories nearest the proposed wetland mitigation sites will be monitored during the proposed pond blasting. If disturbances are evident, the blasting will be stopped.
5. Proposed blasting at the wetland mitigation site should not be conducted until after Bald Eagle Fledging has occurred in the area.
6. Food storage and garbage removal clauses will be placed in the construction contract to minimize the potential for human/bear interactions.
7. The road construction contract will provide for immediate temporary modification or if needed, the suspension or cancellation of any or all contract activities when such action is necessary in order to prevent conflict within Bald Eagle and Peregrine Falcon foraging, potential nesting and new nesting habitat.

### Contacts

Scott Jackson (U.S. Fish and Wildlife Service) was contacted on February 10, 1992 to discuss the project. Scott was

informed of the proposed action and agreed with the threatened and endangered species present. Scott's main concern involved the proposed blasting associated with the wetland mitigation site. His preference for this activity involved blasting after the fledgling, no sooner than August. He would consider blasting if the active nests were closely monitored and blasting stopped if disturbances were evident. Scott also suggested special contract provisions be incorporated in the construction contract to include food storage and garbage removal restrictions. Enforcement of these provisions will minimize potential bear/human interactions. Scott did not request further consultation. Since this contact, the USFWS, through further informal consultation, has suggested and concurs with a "not likely to adversely effect" opinion on the threatened endangered species associated with the project.

Dennis Flath (Non-Game Biologist/Montana Department of Fish, Wildlife and Parks) was contacted on February 10, 1992 to discuss "potential habitat" management and timing of construction activities. Dennis shared Scott Jackson's concern about the purposed wetland mitigation site blasting. His preference was post fledgling blasting, but he would consider it sooner with proper nest monitoring combined with low impact blasting techniques. He also indicated that the Peregrine Falcon population dynamics are improving and that Peregrine Falcon use at the historic eyrie will become much more probable in the near future. Overall, Dennis didn't anticipate any project-related impacts to threatened and endangered species if the special contract provision relating to associated construction activities are adhered to.

Wade Fredenberg (Fish Biologist/Montana Department of Fish, Wildlife and Parks) was contacted on January 31, 1992 to discuss the proposal. He had no concerns with threatened and endangered species. His only concerns involved possible sedimentation/turbidity problems associated with culvert placement at Red Canyon Creek if placement is attempted during high flows.

Dan Trochta (Wildlife Biologist - Hebgen Lake Ranger District) was contacted on numerous occasions in February 1992. Dan provided much of the information used in this evaluation and was extremely helpful in evaluating threatened and endangered species impact concerns. Overall, Dan does not anticipate any project-related impacts to threatened and endangered species.

Summary

Providing that the above coordination measures are implemented effectively, it is determined that this project will have a "not likely to adversely effect" on the Bald Eagle, Peregrine Falcon and Grizzly Bear.

Prepared by: Jeff Ryan, Biologist, MDT

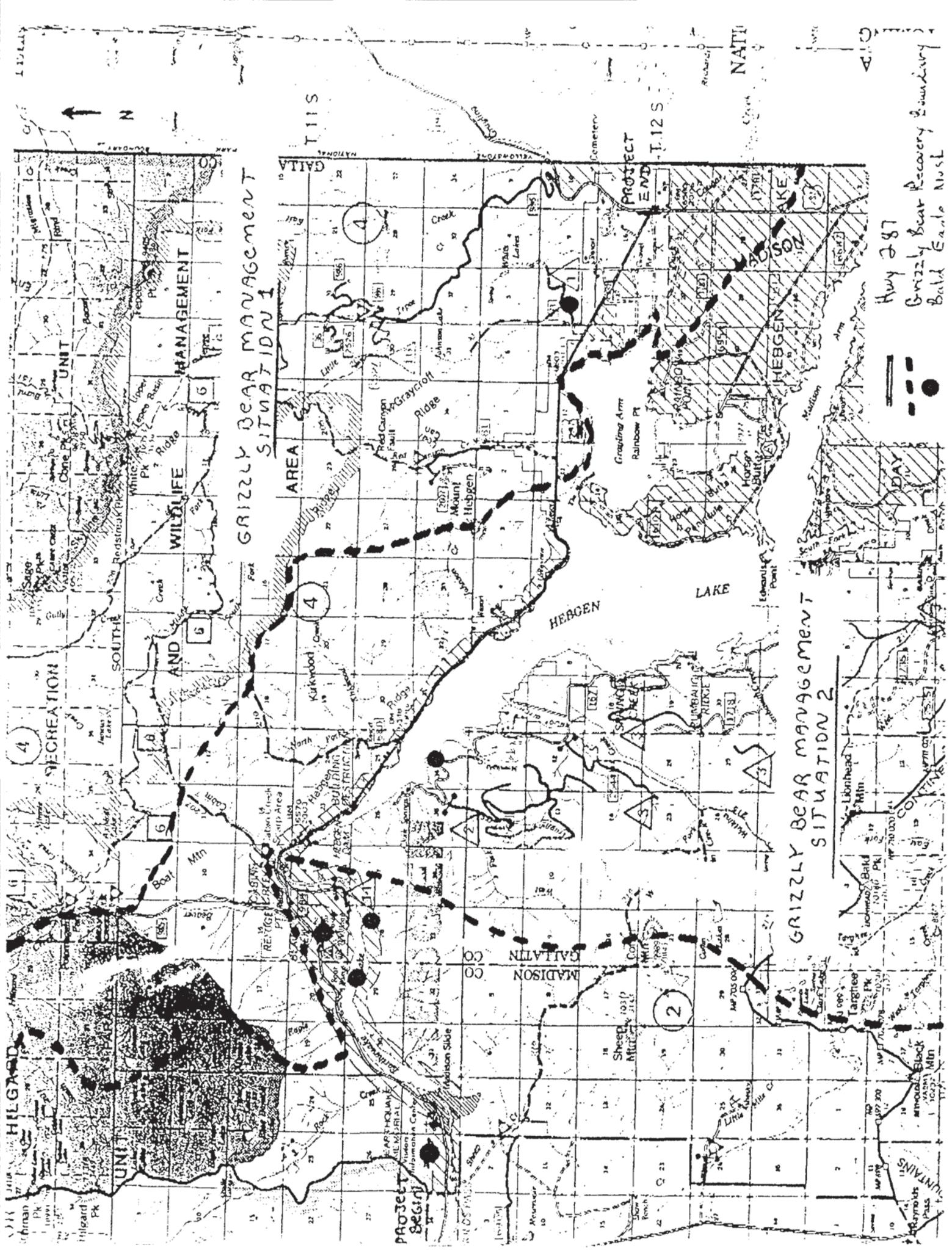
Dan Trochta, Biologist - Hebgen Lake Ranger District

JR:Q:ENV:kmc:8.dlw

Attachments

## REFERENCES

- Flath, Dennis. personal communication - 2/10/92
- Fredenberg, Wade. personal communication - 1/31/92
- Jackson, Scott. personal communication - 2/10/92
- Montana Bald Eagle Working Group, 1986. Montana Bald Eagle Management Plan. USDI, BLM, Billings, MT. BLM rpt: BLM-MT-GI-88-001-4352. 61 pp.
- Trochta, Daniel. numerous personal communications - 2/92
- Trochta, D., 1990. Hebgen Lake Ranger District Madison Arm Road Capital Investment Project-Biological Evaluation.
- JR:Q:ENV:8.dlw/8



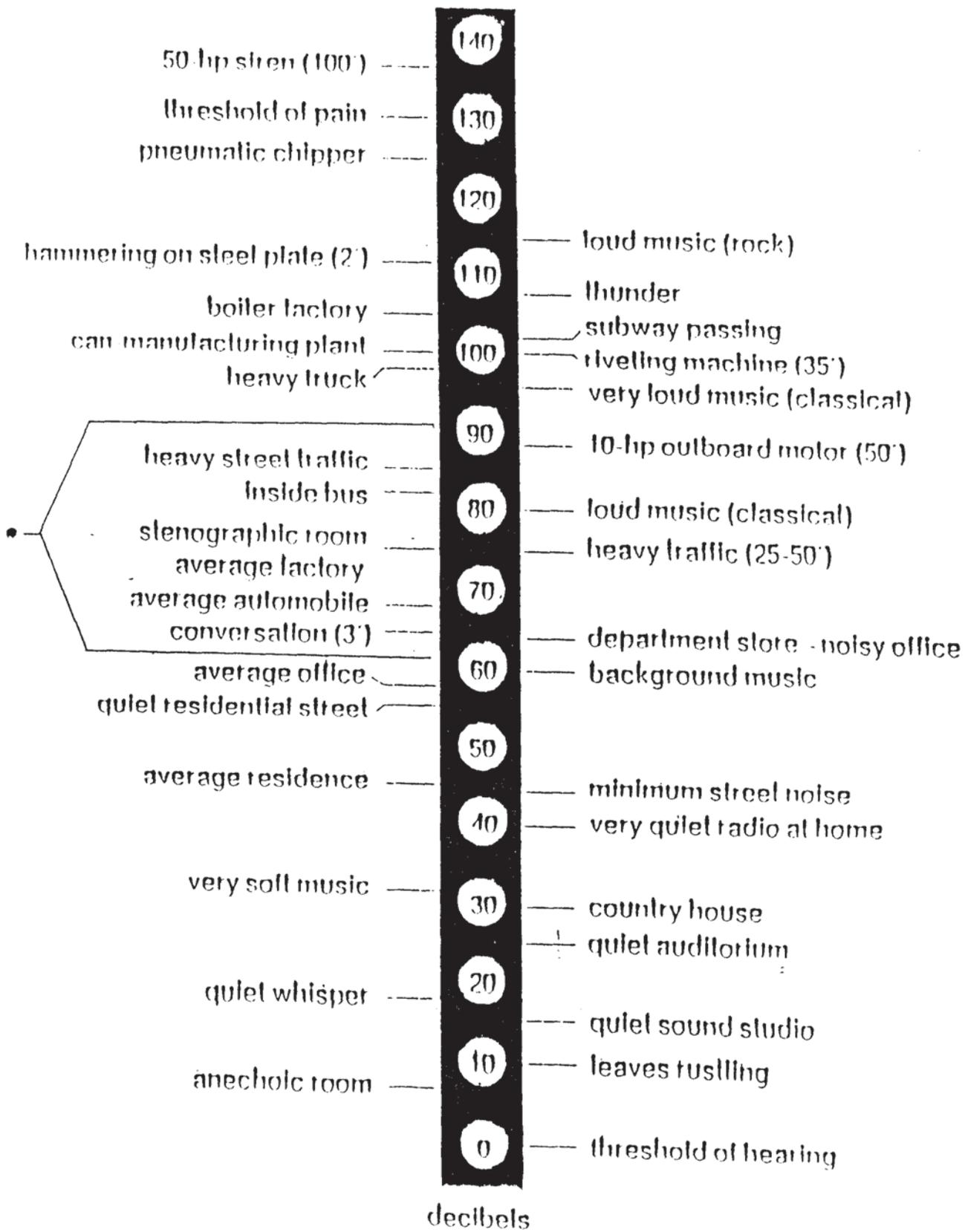
GRIZZLY BEAR MANAGEMENT SITUATION 1

GRIZZLY BEAR MANAGEMENT SITUATION 2

May 287

Grizzly Bear Recovery Boundary  
Bald Eagle Nest





● GRAVEL PIT IN FULL OPERATION MEASURED ONSITE

TABLE 1