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ENVIRONMENTAL ASSESSMENT
BOZEMAN WEST HIGHWAY
PROJECT NO. F-50-2(4)79

MAY, 1981

5/16/81

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ENGINEERING CONSULTANTS
GREAT FALLS-BOZEMAN-KALISPELL
MONTANA



MONTANA PROJECT F 50-2(4)79
Bozeman West

Finding of No Significant Impact

We have reviewed the Environmental Assessment submitted with your May 8, 1981 letter for the Bozeman West project. Based upon the studies done by the consultant and the responses by the public and others to the informational letter, it is our finding that this project will have no significant impact on the environment.

Please attach a copy of this finding to your copies of the May 1981 Environmental Assessment.


Federal Highway Administration
June 26, 1981



ENVIRONMENTAL ASSESSMENT

BOZEMAN WEST HIGHWAY, PROJECT NO. F-50-2(4)79

I. PROJECT AND AREA DESCRIPTION

This project is located on Federal Aid Primary Route 50 west of Bozeman, Montana in Gallatin County. This project involves the design and construction of a four lane highway from the intersection of US 191 and State Highway 289 (Four Corners) to the existing four lane section on West Main Street in Bozeman a distance of approximately 5.9 miles. The attached location map illustrates the project area. The project merely widens an existing two lane highway into a four lane highway and constitutes only an improvement on an existing highway rather than construction of a new route or highway system.

The project passes through an area that is noted for its fine agricultural land. Much of the area is now being subdivided as the Bozeman-Gallatin Valley area undergoes a population explosion. The natural beauty of the Gallatin Valley with its rivers and spectacular surrounding mountains is attracting many new people to the area that wish to live in a rural setting and commute to Bozeman for work. This large influx of people into the Gallatin Valley west of Bozeman is causing the existing highway system to become inadequate and a new highway is now necessary.

II. ALTERNATIVES

The probable need for an improved highway from Four Corners to Bozeman was becoming apparent in the early 1970's. Rural



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subdivisions were rapidly developing in the valley and traffic and safety problems were becoming worse. In 1975 the Department of Highways notified various government agencies and officials of their intent to construct a four lane road. Comments from the agencies and the Department's Impact Evaluation Group indicated a desire to retain the existing two lane highway as a means of limiting land use conversion from agricultural to residential or commercial use. The no-build alternative was selected and the project was delayed for two years, but rapid growth of commercial and residential development along the highway continued despite the status of the two lane highway. Between Four Corners and Bozeman in 1977, there were 5,110 ADT and there is a projection for 13,850 ADT by the year 2,000 for the project highway. The project was presented again at an informational meeting in August, 1977. Approximately 50 people attended the meeting and generally supported the concept of a four lane highway to Four Corners, although opposition was still expressed to a four lane highway south from Four Corners through Gallatin Canyon. The no-build alternative was obviously failing and a decision was made to begin the planning and design for construction of an improved highway.

There were four alternatives studied for location of this new highway. The first alternative proposed centering the new highway section on the existing roadway centerline which would require the acquisition of approximately 25 additional feet of right-of-way on either side of the existing right-of-way. The



second alternative proposed expansion of the right-of-way, approximately 50 feet to the north with no acquisition on the south side of the existing right-of-way. This alternative appears to be the most economical in terms of right-of-way acquisition and will cause the least displacement of people and buildings. The third alternative proposed expanding the right-of-way 50 feet to the south with no additional right-of-way taking to the north. The southerly side of the existing highway is more heavily developed than the northerly side and this alternative is projected to be more expensive than the second alternative and will displace more people and buildings. The fourth alternative used a combination of alternatives one through three to minimize the impact on homes and/or high voltage power lines and to reduce right-of-way acquisitions. This alternative is the one selected for this project. It will require the removal of two houses and miscellaneous smaller items such as signing.

The proposed highway centerline will generally follow the existing highway centerline with the exception of one stretch between approximate stations 168+50 and 258+71 where the alignment will shift 24 feet to the north.

The improvements to be constructed under this project include an asphaltic overlay and widening of the existing pavement, areas of concrete curb and gutter, drainage improvements, storm drainage improvements in curbed areas, widening of the Middle Creek bridge, an area of pedestrian pathway, signing and signalization.

The existing pavement width is approximately 36 feet from shoulder to shoulder. The proposed pavement width is 78 feet from shoulder to shoulder and 78 feet from face of curb to face of curb in curbed areas. This allows an eight foot combination emergency parking and bicycle path and two 12 foot lanes on each side of a 14 foot painted median with two-way left turns. Concrete curb and gutter will be placed on both sides of the roadway from Station 0+00 to 5+00 and Station 308+70 + to the end of the project at Station 358+00.

Areas without concrete curb and gutter will have a 15 foot wide errant vehicle recovery area with a 6:1 slope beginning at the edge of pavement on each side of the roadway. The remainder of the inslope beyond the errant vehicle recovery area will vary with depth to slope stake. These slopes will be: 0'-5'/4:1, 5'-10'/3:1 and 10'+/2:1.

Cut areas from Station 55+00 to Station 75+00 will have a 21 foot wide 6:1 inslope and a ten foot ditch with a 20:1 inslope before daylighting with a 2:1 backslope with slope rounding. Cut areas other than at these stations will be similar but will not have the ten foot side ditch bottom used for snow removal storage.

There will be a paved pedestrian path provided on the north (left) side from Station 0+00 to approximately Station 55+00 +. This will be a 4.5 foot wide concrete sidewalk located adjacent to the back of curb from Station 0+00 to Station 5+00. Then it will transition to a five foot wide paved path with 15 feet of separation from the edge of pavement.

This project will also include rebuilding the intersection at Station 0+00 (Four Corners). New curb and gutter, roadway widening, signalization, signing and marking will be installed. These improvements will extend south 300 feet and west and north 200 feet.

III. PROBABLE PROJECT IMPACTS

Natural Resources

The existing highway right-of-way is generally 100 feet wide, although it varies in some sections along the route. This project will require widening the right-of-way approximately 50 feet. As such, this 50 foot wide strip of land will be removed from other potential uses such as agricultural production of commercial or residential building sites.

The highway crosses Slough Creek, Middle Creek, Baxter Creek, Dry Creek, McDonald Creek, and Aajker Creek, plus a number of irrigation ditches and, therefore, does cross floodplains. The new highway, however, will not alter existing floodplain patterns other than to possibly improve some problems with irrigation ditches and flooding which may have been created by the last reconstruction of this highway in 1956. The new highway will not have any negative impact on the existing floodplains. There are no land forms along the proposed project which are considered wet lands and, as such, this project will not impact any wet lands.

As previously mentioned, the highway will cross numerous creeks and irrigation ditches. The existing highway currently

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has a bridge only over Middle Creek. The other streams pass beneath the highway in culverts. The U.S. Department of Interior Fish and Wildlife service has requested a clear span bridge over Middle Creek. All the streams have some sport fishing potential for rainbow, brown and eastern brook trout. A few suckers are also found in these streams. Special precautions must be taken at all stream crossings during construction to prevent siltation or introduction of any debris into the stream channel during the construction phase.

Stormwater flowing from the highway section may contain some greases, oils, fuels, grit, and sand, but those stormwaters passing freely off the shoulder of the road will pass through carefully reconstructed vegetation which will help remove many of the contaminants and permit percolation of much of the stormwater down into the ground. A portion of the stormwater will flow along the highway drainage ditches and eventually reach an existing stream or the irrigation ditch in the area. The impact of the stormwater over most of the project length will be minimal, however, special attention will be given storm drainage from those sections of the highway with curb and gutter. The drainage patterns from the highway will be compatible with existing development and storm drainage and treatment systems. Treatment of stormwater flowing from highway sections is not currently required since the Department of Health & Environmental Sciences has not established a discharge permit program

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for treatment of stormwater from highway systems. A study of stormwater impact on streams in the Bozeman urban area has been proposed by the Department of Health and Environmental Sciences, which may result in some recommendations on stormwater treatment in the urban area. This study has not yet been undertaken and actions related to the results of that study are several years away.

The widening of the existing highway removes some potential wildlife habitat. Large game animals do not normally frequent this area, but white tail deer cross the highway and are occasionally observed in the area. Development in general has kept large game animals from the immediate vicinity of the highway. The same can be said for game birds, although a few pheasants undoubtedly use or pass through the highway area. Small songbirds and terrestrial animals such as mice and gophers live in the expanded right-of-way area and will be at least temporarily displaced. Other small fur-bearing animals such as mink, weasels, raccoons, also occasionally pass through the areas. Hawks and owls are also observed hunting in the area, but the small widening of the existing highway will not have any significant impact on the existing wildlife. Mice and gophers will live in the expanded right-of-way area and will continue to be hunted by birds of prey. There are no endangered plant or animal species in the project area, other than an occasional bald eagle, which may be hunting in the area.

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The project should have no adverse effects on air quality since it merely facilitates the better movement of traffic. The traffic use will be there regardless of status of this project. Precautions will be taken during the construction phase in order to control dust which could adversely affect people living in the area.

The project will have some impact on noise levels in the area. There will be a significant temporary increase during the construction phase due to construction equipment, but this will only be temporary and is of little overall importance. The overall noise level along the highway will gradually increase in the future as the traffic volume steadily increases. The traffic volume and noise level will increase whether or not this project is constructed. The proposed four lane does bring the traffic close to different houses and this increases the potential noise level for various structures along the road. A noise analysis was made to determine potential noise levels along the highway. The following design assumptions were made:

1. 5,110 ADT in the year 1979
2. 13,850 AD in the year 2000
3. MHV = 1740 - 1800
4. D = 55% - 45%
5. Design Speed = 50 MPH (81 KMH)
6. Trucks = 9% of total traffic flow. Trucks were all conservatively assumed to be heavy trucks since field data did not differentiate between heavy and medium trucks.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The text also mentions the need for regular audits and the role of independent auditors in ensuring the reliability of financial statements.

2. The second part of the document focuses on the role of the central bank in maintaining the stability of the financial system. It discusses the central bank's responsibilities, including the issuance of currency, the regulation of banks, and the management of the country's foreign reserves. The text also highlights the central bank's role in providing liquidity to the financial system and in acting as a lender of last resort.

3. The third part of the document discusses the importance of maintaining a strong and sound financial system. It emphasizes the need for a robust legal and regulatory framework, as well as the importance of transparency and accountability in financial reporting. The text also mentions the need for ongoing monitoring and evaluation of the financial system to identify and address any potential risks or weaknesses.

4. The fourth part of the document discusses the role of the government in maintaining the stability of the financial system. It discusses the government's responsibilities, including the regulation of banks, the management of the country's foreign reserves, and the provision of liquidity to the financial system. The text also highlights the government's role in providing a sound legal and regulatory framework for the financial system.

5. The fifth part of the document discusses the importance of maintaining a strong and sound financial system. It emphasizes the need for a robust legal and regulatory framework, as well as the importance of transparency and accountability in financial reporting. The text also mentions the need for ongoing monitoring and evaluation of the financial system to identify and address any potential risks or weaknesses.

7. Space between the highway and structure was acoustically soft unless specifically designated otherwise.
8. Noise analysis based on peak hourly traffic flow in the year 2005.

A projected noise analysis was made utilizing "FHWA Traffic Noise Prediction Model" by the U.S. Department of Transportation, Federal Highway Administration - December, 1977. Most of the buildings along the highway have nearly infinite exposure to sound along the highway since the highway is generally straight and the ground relatively flat.

Equivalent hourly noise levels under 70 dB during peak hourly traffic periods are considered acceptable for residential and recreational land and levels under 75 dB are considered acceptable for commercial land. The analysis concluded that in the year 2005, a building with a nearly infinite road exposure and no intervening structures or modifying vegetation has to be located at least 112 - 117 feet (depending on the median width) from the new highway centerline for a maximum equivalent hourly noise level of 70 dB or less.

A study of the project route indicated approximately 30 homes will have potential noise problems in the future.

In general, the projected noise levels are only slightly over the maximum designated level of 70 dB and abatement measures such as plantings or walls may suffice to bring noise levels below.

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A few homes along the road receive shielding benefits from vegetation or other buildings and one home was analyzed to determine the potential impact of a dense tree and shrub line on the west side of the house on noise level. This house is located on Baxter Creek 125 feet north of the existing road centerline. The tree line reduced projected noise levels approximately 0.5 dB. Once final alignment is selected, potential problem homes can be isolated and noise reduction measures included in final design if regulatory agencies feel the measures are required.

Sociological and Cultural Concerns

Strip type commercial and residential development is occurring along the existing highway. The proposed highway is proposed as a limited access facility which will help control the inefficient and poor land use type of strip development found along many highways and will improve the safety of the transportation system. There were 221 traffic accidents along this highway from 1972 to 1977. This is a very poor safety record which is induced to a large extent by uncontrolled access and the inability to make turning movements out of the main traffic lane. The new highway will facilitate turning movements without interfering with normal traffic flow. A number of approaches will be eliminated through consolidation and the use of frontage roads. Some approaches will be relocated to provide for safer traffic flow.

The highway will have little impact on the growth of Bozeman. The community is already experiencing rapid growth and is projected to continue to do so regardless of the highway situation. The highway will merely improve traffic flow and safety for vehicles going to and from Bozeman and through the outer city limits. The highway may have some influence on the growth rate and pattern to the west of Bozeman but this will be slight. Past experience in the area has indicated that the passive non-construction alternative will not prevent continued development along the roadway. A controlled access highway will provide a rather formidable physical division between the north and south sides of Bozeman as the community expands westward. Traffic access points and pedestrian crossings will be restricted by control points and the width of the roadway. The new highway section within the city limits will assume a character similar to the four lane section on West Main Street that is currently in that district. The added convenience and safety of the new highway, however, will more than compensate for any inconvenience to pedestrians or motorists wishing to cross the highway.

The proposed project will have a positive impact on the economy of the area. The money expended for the construction phase of the project will have a temporary benefit to the economy of Bozeman and the improved highway system will reduce auto accidents which will result in significant savings to private individuals and insurance companies in the area. The improved highway will permit the safe passage of larger volumes of people to and from the Bozeman business area.

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The proposed project does not pass through any public parks, nor is it close to any existing hospitals. From Station 150+00 to Station 174+00 the existing roadway will be reconstructed at a lower grade and the left inslope will be increased to 3:1 to eliminate any encroachment on site integrity at two sites deemed eligible for inclusion on the National Register of Historic Places.

The project as designed will not have an adverse impact on any known historical, archaeological or palentological sites. The Montana State Historical Preservation Officer was contacted as well as the National Park Service. The Montana Historical Society indicated that they have a record of a bison drive in the same township and range as part of the project, but away from the project area. They requested an archaeological and historical survey since the bison drive indicated aboriginal use of the area. The National Park Service also recommended advance surveys of the area. An archaeological survey of the project area will be performed by the Department of Highways. A historical survey was performed and submitted by the consultant. This survey resulted in the finding that both the REA School (Station 156+00 RT.) and the Huffine residence (Station 167+75 RT.) were eligible for inclusion on the National Register of Historic Places. Normal construction contract provisions for the protection and preservation of historic and archaeological property appear adequate for this project.

IV. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Some resources will be irreversibly and irretrievably committed to this project. The highway will permanently remove some land from beneficial agricultural production and construction materials, such as sand, gravel, asphalt, cement and steel will be permanently and irretrievably committed to use on the project. Also fuels, oils, and rubber tires will be consumed and irretrievably lost during the construction phase. A few trees will be removed during the construction phase but they are few in number and are not of a type that is unique or endangered. The commitment of money, labor, fuels and road building materials are justified by the improved transportation facility the project will provide. The project traverses an area of tertiary and quaternary lake beds and alluvial terrace deposits of sand and gravel. These terrace deposits may be prospective locations for placer gold deposits similar to those worked at nearby Gallatin Gateway. There is, therefore, some possibility of the permanent loss of gold along with the sand and gravel used for highway materials.

V. PROBABLY ADVERSE IMPACTS WHICH CANNOT BE AVOIDED.

Some air and noise pollution may occur during the construction process. This will be minimized in accordance with federal, state and local regulations. Normal traffic flow may be disrupted for short periods during the construction phase and traffic will be required to pass through construction zones which may at

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times be in an unimproved condition. Dust control measures will be required at all times and flagmen will control vehicular traffic and protect the public safety in the construction areas.

Construction of the project will require consumption of fuels, oils, equipment, and the permanent commitment of construction materials to the project. A few trees must also be removed along the project route.

The project will result in the permanent displacement of some people and buildings as described in the alternative section of this report and some agricultural land will be permanently lost from production. The project will have a slight impact on the habitat for small animals and birds, particularly during the construction phase.

VI. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed project is compatible with both short-term uses of the environment and the maintenance and enhancement of long-term productivity of the area. A safe and efficient transportation facility is needed in the immediate as well as the long-term future. The existing roadway has safety problems and is rapidly becoming inadequate for existing traffic flow. Negative environmental impacts during the construction phase are insignificant compared to the needs for a safe, efficient transportation facility in the near and long-term future. The overall long-term productivity will be enhanced by this facility.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations. The second part of the document provides a detailed breakdown of the company's revenue for the quarter. It shows that sales have increased by 15% compared to the previous quarter, primarily due to the launch of a new product line. The third part of the document outlines the budget for the next quarter, highlighting areas where cost-cutting measures can be implemented without compromising the quality of the products. Finally, the document concludes with a summary of the overall financial performance and a forecast for the upcoming year.

VII. PUBLIC PARTICIPATION

In 1975, the Department of Highways notified various government agencies and individuals of their intent to construct a four lane road. As a result of subsequent comments, the project was delayed for two years. In August of 1977, an informational public meeting was held on the proposed project. This meeting was attended by approximately 50 people who generally supported the concept of a four lane highway between Bozeman and Four Corners. Opposition was still expressed at this meeting with respect to construction of a four lane highway south through Gallatin Canyon and people at the meeting spoke strongly in favor of bicycle lanes along the highway. Wide highway shoulders were considered acceptable for bicycle traffic in lieu of separate specially constructed lanes.

On March 18, 1980 a combined location and design public hearing was held on this project. The people present at this meeting generally supported the location and design of this project. Questions asked at the meeting concerned such things as access, irrigation-drainage problems, and safety of school children. No comments opposing the project were received at the meeting and only one letter opposing the project was received by the Department following the meeting.

VIII. COORDINATION WITH OTHER AGENCIES

An informational letter requesting comment on the proposed project was sent to 58 different governmental and private agencies

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations. The document further outlines the procedures for handling discrepancies and the role of the accounting department in providing timely reports to management.

In the second section, the focus is on budgeting and financial forecasting. It details how the budget is prepared based on historical data and market trends. The document explains the process of comparing actual performance against the budget and the steps taken to address any variances. It also discusses the use of financial ratios and indicators to assess the company's financial health and to make informed decisions about future investments and operations.

The third part of the document addresses the issue of cost control. It provides a comprehensive overview of the various cost centers and how they are monitored. The document describes the methods used to identify areas of high expenditure and the strategies implemented to reduce costs without compromising the quality of products or services. It also highlights the importance of regular communication and collaboration between different departments to achieve cost savings.

Finally, the document concludes with a summary of the key findings and recommendations. It reiterates the need for transparency, accuracy, and efficiency in all financial activities. It also suggests areas for further improvement and provides a clear path forward for the organization. The document is intended to serve as a guide for all employees involved in financial management and to ensure that the company's financial goals are consistently met.

and groups. The informational letter and the responses to that letter are included at the end of this report. No adverse comments to the project were identified in these responses.

Suggestions included the following:

1. Comment - Contact the ditch companies affected by the project.

Response - Meetings were held with the individual irrigation companies to determine their general type of operation.

2. Comment - Bridges should be of the clear span type.

Response - The only bridge on this project is of the clear span type. This bridge will be modified or reconstructed to accommodate the increased roadway width by the Department of Highways.

3. Comment - Arrange for an archaeological/historical survey of the area.

Response - A historical survey of this project was submitted and resulted in the finding that both the REA School (Station 156+00 RT.) and the Huffine residence (Station 167+75 RT.) were eligible for inclusion on the National Register of Historic Places. Plans have been submitted to the Department of Highways for their use in completing an archaeological survey of the project area.

4. Comment - Contact the Corps of Engineers to find out if stream permits will be required.

Response - The Corps of Engineers was contacted and supplied the criteria for stream permits. From this data it appears that no 404 stream crossing permit will be required. However, when final bridge plans are completed, a final determination on the need for a permit will have to be made.

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THE HISTORY OF THE
CITY OF BOSTON
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
BY
NATHANIEL BENTLEY
VOLUME I
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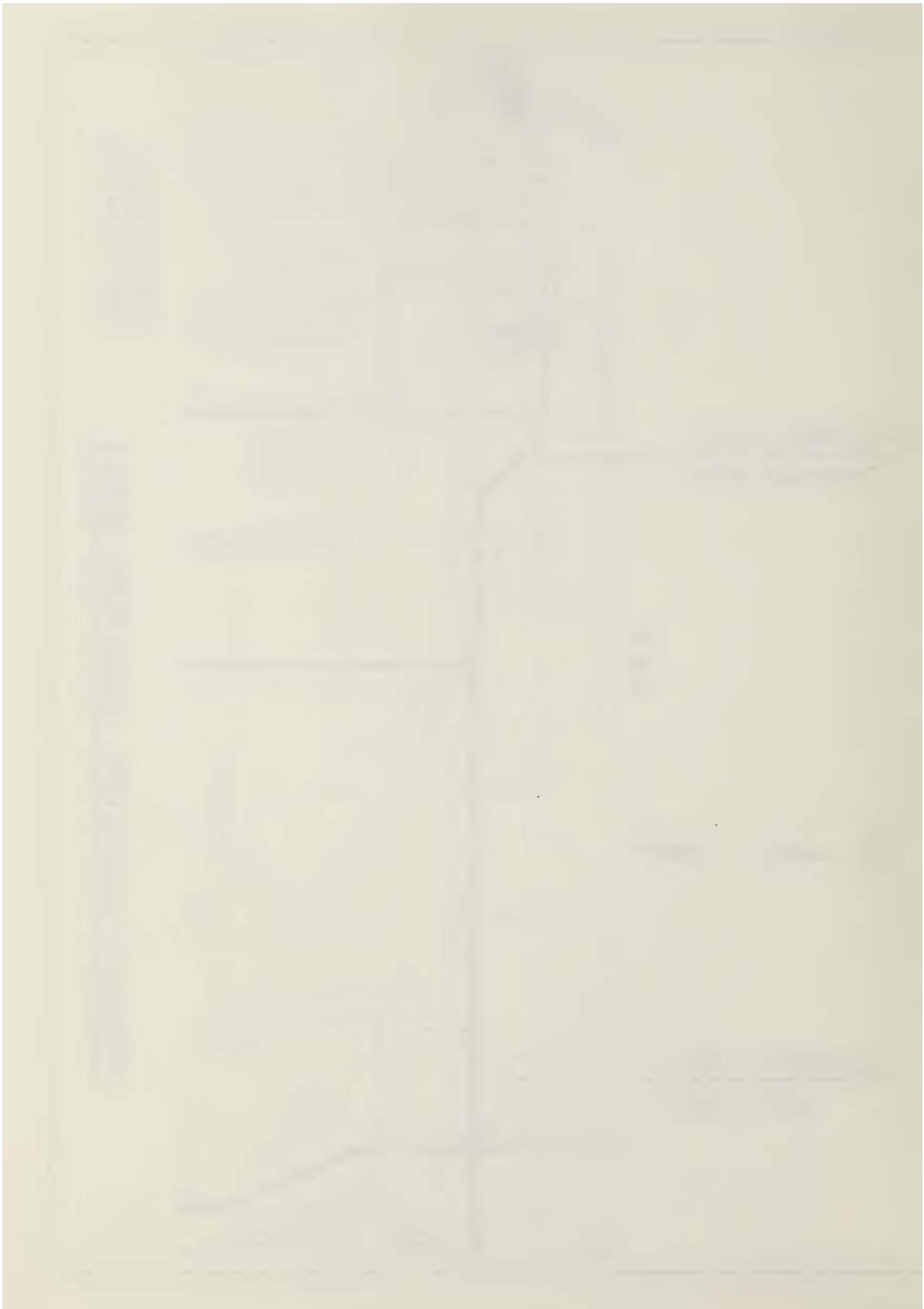
IX. BASIS FOR FINDING OF NO SIGNIFICANT IMPACT

Based on the foregoing, it is felt that the proposed project is large, of considerable importance, involves substantial planning, time, resources and expenditures and, therefore, should be considered a major Federal action. Adequate design measures are included to minimize impacts that are unavoidable to the extent that impacts will not significantly affect the environment. Consequently, based on this Environmental Assessment this project is appropriately classified as a Finding of No Significant Impact.

X. PROJECT COST

The estimated project cost for this new four lane highway is 4.7 million dollars. The cost is preliminary and subject to revision following completion of final design.

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THOMAS L JUDGE
GOVERNOR



STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

HELENA, MONTANA 59601

H J ANDERSON
DIRECTOR OF HIGHWAYS

October 7, 1975

IN REPLY REFER TO
F-203 (8)
Bozeman - West

Gentlemen:

The Montana Department of Highways is beginning reconnaissance for the possible eventual improvement of U.S. 191 west of Bozeman.

The proposed project would begin at the intersection of U.S. 191 and Oakwood Road, about 2 miles south of Four Corners and will extend approximately 8 miles north and east to the existing four-lane section on West Main Bozeman. A four-lane section will be considered at least from Four Corners, ending with limited access control.

Whereas the existing right-of-way will be utilized as much as possible additional width will be needed.

In addition to informing you of our intention to develop the project, we would also like to request your assistance in preparing our location studies and reports. Any information that you could furnish us regarding problems that this project could cause or eliminate, environmental matters, views or opinions for or against the project, or any other comments that you feel might be useful will certainly be appreciated. Also, if you know of anything existing or planned that could be affected by this project, we will appreciate your informing us accordingly.

When the project reaches an appropriate stage of development, a public hearing will be held to provide an opportunity for the public to voice their opinions.

Attached to this letter is a sketch map of the area, for orientation purposes and an autoscreen print showing the project vicinity.

GEORGE VUCANOVICH CHAIRMAN
HELENA

P L BACHELLER
BILLINGS

BAXTER LARSON
WOLF POINT

ESSNER VICE CHAIRMAN
DULLES

G R COONEY
DULLES

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zman - West

The following list indicates those agencies and people to which this letter is being sent. If you are aware of any other agencies, groups, or individuals who might be concerned and are not on this list, please let us know and we will contact them.

Defense Civil Preparedness Agency
Central Regional Center
Bell, Washington 98011

Friends of the Earth
P.O. Box 882
Billings, Montana 59103

Department of Community Affairs
Nautics Division
Box 1698
Helena, Montana 59601

Institute of Applied Research
Montana State University
Bozeman, Montana 59715

Department of Fish & Game
Administrator Recreation & Parks
W. Mitchell Building
Helena, Montana 59601

Montana Automobile Association
P.O. Box 1703
Helena, Montana 59601

Department of Fish & Game
Assistant Administrator
Environment & Information Div.
W. Mitchell Building
Helena, Montana 59601

Montana Wildlife Federation
Chairwoman, Highway Committee
1015 Peosta
Helena, Montana 59601

Department of State Lands
Commissioners Office
Capitol Station
Helena, Montana 59601

Mr. Clark Neilson
Dept. of Health & Environmental Sciences
Air Quality Bureau
Cogswell Building
Helena, Montana 59601

State Natural Resources & Conservation
Administrator Conservation District Div.
South Ewing
Helena, Montana 59601

Mr. Richard P. Graetz
P.O. Box 894
Helena, Montana 59601

Environmental Quality Council
Director
P.O. Box 215 Capitol Post Office
Helena, Montana 59601

Office of the Governor
Ms. Dorothy Eck
State-Local Coordinator
1424 9th Ave.
Helena, Montana 59601

Federal Housing Administration
Housing & Urban Development
Director
5 Helena Avenue
Helena, Montana 59601

Dr. Kenneth L. Quickenden
Dept. of Health & Environmental Sciences
Mosquito Abatement Advisory Council
Board of Health Building
Helena, Montana 59601

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ra Club
Missouri Group
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erroot Mission Group
Box 315
oula, Montana 59801

e Clearinghouse
ce of Budget & Program Planning
col Post Office
na, Montana 59601

Wilderness Society
East Evans Avenue
er, Colorado 80222

& Wildlife Service
onal Director, Region 6
S Dept. of the Interior
Box 25486, Denver Federal Center

onal Director, Rocky Mountain Region
onal Park Service
S Dept. of the Interior
Parfet Avenue, Box 25287
er, Colorado 80215

istrict Chief
ir Resources Division
S Geological Survey
S Dept. of the Interior
Box 1696
na, Montana

f, Western Field Operation Center
au of Mines
S Dept. of the Interior
315 Montgomery
ane, Washington 99207

onal Director, Mid-Continent Region
au of Outdoor Recreation
S Dept. of the Interior
., 41, Denver Federal Center

Chief, Environmental Impact
Assessment Program
U.S. Geological Survey; MS-104
U.S. Department of the Interior
Reston, Virginia 22092

State Director
Bureau of Land Management
U.S. Dept. of the Interior
Federal Building & U.S. Courthouse
316 N. 26th St.
Billings, Montana 59101

Regional Director, Region 6
Bureau of Reclamation
U.S. Dept. of the Interior
Federal Office Building
P.O. Box 2553
Billings, Montana 59103

Special Assistant to Secretary
Missouri Basin Region
U.S. Dept. of the Interior
Room 688, Building 67
Denver Federal Center
Denver, Colorado 80225

U.S. Dept. of Transportation
Federal Highway Administration
501 North Fee
Helena, Montana 59601

U.S. Coast Guard
Commander (oan)
Thirteenth Coast Guard District
618 Second Avenue
Seattle, Washington 98122

U.S. Dept. of Agriculture
State Conservationist
Soil Conservation Service
P.O. Box 970
Bozeman, Montana 59715

Environmental Coordinator
Bonneville Power Administration
U.S. Dept. of the Interior
Box 3621
Portland, Oregon 97208

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

RECEIVED
JANUARY 15, 1964

FROM
DR. J. H. GOLDSTEIN

TO
DR. R. W. WILSON

RE
POLYMERIZATION OF VINYL
ACRYLATE

ATTENTION
DR. R. W. WILSON

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS 60637

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UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS 60637

CHICAGO, ILLINOIS 60637

Dept. of Transportation
Federal Aviation Administration
Building, Room 2
Bozeman Airport
Bozeman, Montana 59601

Latin Conservation District
Bill Sime, Chairman
54
Route
Bozeman, Montana 59715

Board of County Commissioners
Latin County
Bozeman, Montana 59715

Bozeman Chamber of Commerce
Box B
Bozeman, Montana 59715

Bozeman City Manager
W. Main
Bozeman, Montana 59715

Bozeman Federal Credit Union
West Main St. Room 2
Bozeman, Montana 59715

Bozeman County Planning Board
President
113 City Hall
Bozeman, Montana 59715

Department of the Army
Bozeman District Corps of Engineers
U.S. Post Office & Courthouse
Bozeman, Nebraska 68102

Latin Equipment Co.
West Main St.
Bozeman, Montana 59715

Latin Veterinary Hospital
West Main St.
Bozeman, Montana 59715

Bozeman Mobile Homes
West Main St.
Bozeman, Montana 59715

Bozeman League of Women Voters
President
11 Spring Creek Drive
Bozeman, Montana 59715

Metropolitan Service
2631 West Main St. Room 7
Bozeman, Montana 59715

Mountain Bell Telephone Co.
441 North Park
Helena, Montana 59601

Mr. Ralph W. Zimmer
Dept. of Civil Engineering
Montana State University
Bozeman, Montana 59715

Mr. Lee Gilbert
2631 West Main St. Room 4
Bozeman, Montana 59715

Mr. R.W. Hawkins
2625 West Main St.
Bozeman, Montana 59715

Rosenthal Realty
2631 West Main St. Room 2

School District No. 7
Chairman
P.O. Box 520
Bozeman, Montana 59715

Sierra Life Insurance
2531 West Main St. Room 3
Bozeman, Montana 59715

The Montana Power Co.
40 East Broadway
Butte, Montana 59701

Town Pump
2607 West Main St.
Bozeman, Montana 59715

Van Dyken Hearing Aid
2631 West Main St. Room 1
Bozeman, Montana 59715

W.E. Construction Inc.
2415 West Main
Bozeman, Montana 59715

Village Motel
2307 West Main St.
Bozeman, Montana 59715

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It also covers the various methods used to collect and analyze data, including surveys and interviews.

3. The document then describes the different types of data that can be collected, such as quantitative and qualitative data.

4. Finally, it discusses the various ways in which data can be analyzed, including statistical analysis and content analysis.

5. The document concludes by emphasizing the importance of using data to make informed decisions and improve organizational performance.

6. It also discusses the various ways in which data can be used to identify trends and patterns in behavior.

7. The document then describes the different types of data that can be collected, such as quantitative and qualitative data.

8. Finally, it discusses the various ways in which data can be analyzed, including statistical analysis and content analysis.

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Map of the State of New York



PHILOSOPHY DEPARTMENT

PHILOSOPHY 101

LECTURE NOTES

PLATO

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

TO: [Name] [Address] [City] [State] [Zip]

FROM: [Name] [Address] [City] [State] [Zip]

RE: [Subject]

Enclosed are [Number] copies of [Title]

Very truly yours,
[Name]

[Faint, illegible text, possibly a signature or address block]

SPECIAL NOTE

It is noted that this project may involve work in or adjacent to one or several streams. Either under Section 10 of the River and Harbor Act of March 3, 1899 (30 Stat. 1151; 33 USC 403) under the provision of Section 404 of the Federal Water Pollution Control Act Amendment of 1972, a permit may be required from the Corps of Engineers prior to the start of construction. If you are not familiar with the permit regulations, additional information can be obtained from this office upon request.

Please write to:

District Engineer
U. S. Army Engineer District, Omaha
Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

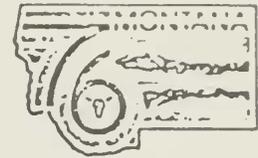
STATE OF MONTANA



DEPARTMENT OF FISH AND GAME

Helena, Montana 59601

January 16, 1978



Steve Kologi
Chief, Preconstruction Bureau
Montana Department of Highways
Helena, Montana 59601

Dear Steve:

I am in receipt of your letter requesting information relative to project
HSO-2 (4) 79, Bozeman West.

We operate our regional headquarters from offices located near the eastern
edge of the proposed project.

Will widening proposed encroach on Department lands?

The current approach to the regional headquarters creates a hazardous
situation due to traffic speed. Since we receive considerable use by the public,
we are concerned about the safety aspects of a four lane highway.

There is traffic generated to ponds located just behind the headquarters.
This area should remain accessible.

As Ron Aasheim has indicated previously, we are concerned about the future
impact of constructing a four lane as far as Gateway. We would like to be
involved in any decisions regarding such a four lane.

Thank you for the opportunity to comment, we look forward to discussing the
above project with you.

Date Recd. Preconst. 1/18/78

NO.	NAME	DATE	INITIALS
1	Holmes		
2	Ed GALE		

Sincerely,

Ron Holliday, Administrator
Parks Division

l:pr

THE UNIVERSITY OF CHICAGO

PH.D. THESIS

THE UNIVERSITY OF CHICAGO

014A
INTER-DEPARTMENTAL MEMORANDUM

DEPARTMENT OF HIGHWAYS

K. F. Skoog, P. E., Supervisor
Location & Road Design Section
m L. J. Ivanovitch, Manager
Environmental Unit

Date June 28, 1978

Subject F-50-2(4)79

Bozeman west

This project involves the conversion of the existing 2-lane roadway west of Bozeman to a 4-lane roadway. All three alternates follow the PTW and only involve the widening of the existing right-of-way.

Land use along the corridor is primarily residential, hay production, and cattle production. The vegetation is comprised of the various grasses found along the roadway.

This project will result in the loss of wildlife habitat. Since this area is well populated, there probably is not much use by the larger game animals. White-tailed deer are probably occasional users of the area along with ring-necked pheasants. Also many small mammals and song birds can be found in the vicinity of the project.

The proposed project will cross many small creeks and one large creek, Middle Creek. Care should be taken during construction to keep any disturbance of any of these streams to a minimum. An appropriate structure should be used to cross Middle Creek that will hinder fish passage in any way. Fish found in Middle Creek at this point are brook, brown, and rainbow trout.

There are no known threatened or endangered species residing in the immediate vicinity of the project and construction of the project will not interfere with any big game migration routes or winter ranges.

If normal siltation prevention and erosion control measures are adhered to, and additional PTW disturbance kept to a minimum, the construction of this project should not have a significant impact on fisheries and wildlife.

33-LJI/LRR/js

cc D. S. Johnson
L. R. Reichelt
R. W. Boland (Fish & Game)


L. J. Ivanovitch, Manager
Environmental Unit

1. The first part of the paper discusses the historical development of the concept of truth.

2. In the second part, we examine the various theories of truth that have been proposed.

3. The third part of the paper focuses on the relationship between truth and reality.

4. Finally, we conclude by discussing the implications of our findings for the philosophy of language.

5. The first section of the paper is devoted to a detailed analysis of the concept of truth.

6. We then turn to a discussion of the various theories of truth that have been proposed.

7. The third part of the paper focuses on the relationship between truth and reality.

8. Finally, we conclude by discussing the implications of our findings for the philosophy of language.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 351

LECTURE 1

1.1. Introduction

1.2. Kinematics

1.3. Dynamics

1.4. Energy

1.5. Angular momentum

1.6. Summary

1911-1912

1911-1912

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1911-1912

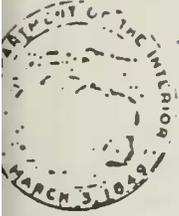
1911-1912

1911-1912

1911-1912

1911-1912

1911-1912



United States Department of the Interior

BUREAU OF MINES

EAST 315 MONTGOMERY AVENUE
SPOKANE, WASHINGTON 99207

Western Field Operation Center
October 22, 1975

Mr. Stephen C. Kologi, Chief
Preconstruction Bureau
State of Montana
Department of Highways
Helena, Montana 59601

Dear Mr. Kologi:

This is in response to your request for data on the environmental aspects of the proposed improvement of U. S. Highway 191, west of Bozeman [F-203(8)], in Gallatin County.

The proposed project, which is to follow the existing right-of-way, traverses an area of Tertiary to Quaternary lake beds and alluvial terrace deposits of sand and gravel. The terrace gravels may be prospective for placer gold deposits similar to those formerly worked near Gallatin Gateway, approximately 3 miles south of the southwestern terminus of the proposed project. The area also includes geothermal anomalies with a surface manifestation at Bozeman Hot Springs. This geothermal potential might, in the future, be developed as a source of electrical power or in the direct application of thermal energy.

Inasmuch as the proposed project route extends for only 8 miles and is to follow the existing right-of-way, we anticipate little or no adverse impact on mineral resources.

The alluvial terrace deposits of the area should contain abundant sand and gravel for construction materials. Nevertheless, the location of borrow areas and quantities of materials to be used for the project should be noted under "Irreversible and Irrecoverable Commitments of Resources" in the Environmental Impact Statement.

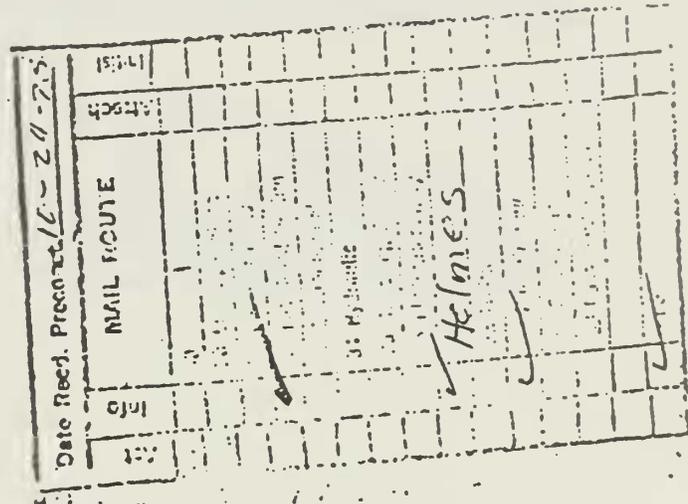




Fig. 1. Reaction scheme for the synthesis of the compound shown in the main text.

The first step in the synthesis of the compound is the reaction of the starting material with the reagent to form the intermediate product.

The intermediate product is then subjected to further reaction with the reagent to yield the final product. The reaction conditions are carefully controlled to ensure the highest yield and purity of the product.

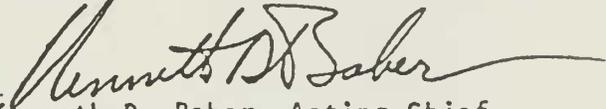
The final product is purified by the method described in the text and its structure is confirmed by the analysis of the infrared and ultraviolet spectra.

The authors are indebted to the National Science Foundation for the grant which supported this work. The authors also wish to thank the following individuals for their assistance in the course of this work.

More detailed information and bibliographic references on the geology and mineral resources of the area may be found in "Mines and Mineral Deposits (Except Fuels), Gallatin County, Montana", Missouri River Basin Studies Preliminary Report 46, U. S. Bureau of Mines, 1950. }

The foregoing comments should be considered as technical assistance and not as an official Department of the Interior or Bureau of Mines environmental review.

Sincerely yours,



Kenneth D. Baber, Acting Chief
Western Field Operation Center





United States Department of the Interior

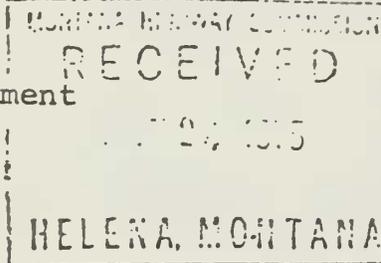
NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
655 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO:

L7621 (RMR)CS

2 2 OCT 1975

Mr. H. J. Anderson
Director of Highways
State of Montana Department
of Highways
Helena, Montana 59601



Dear Mr. Anderson:

Thank you for your letters of September 29 and October 7 concerning Project Numbers RS-132(7), Billings-South, Blue Creek Road, and F-203(8) Bozeman-West. In this connection, we offer the following comments:

If there are Federal funds involved in either of these projects, Section 4(f) of the Department of Transportation Act will apply. This requires that your planners make a determination that there is no prudent or feasible alternative to the route proposed and establish that all reasonable measures possible to minimize any possible adverse effect have been integrated into your proposal.

Archeological, historical, and paleontological studies in advance of construction should be completed. These should include recommendations and a statement of proposed actions resulting from professional surveys for use in making an assessment of project impacts upon the cultural and environmental values. Provision should also be made to halt construction should any unknown archeological resources be encountered, so as to permit their professional evaluation and further disposition as appropriate. The identification of any such resources of significance will necessarily require compliance with Executive Order 11593, Section 106 of the National Historic Preservation Act of 1966, and the Advisory Council on Historic Preservation "Procedures for the Protection of Historic and Cultural Properties."

Routing slip table with columns for department and various service areas like CENTRALIZED SERVICES, ACCOUNTING, DATA PROCESSING, etc.





THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 351



I have the honor to acknowledge the receipt of your letter of the 14th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

Very respectfully,
 [Signature]

The enclosed copy of the report of the committee on the subject of the proposed changes in the curriculum of the Department of Chemistry is herewith submitted for your information.

Sincerely,
 [Signature]

[Faint text, possibly a list or schedule, mostly illegible due to fading.]

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY

RESEARCH REPORT
NO. 1000

BY
J. H. GOLDSTEIN

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS
1955

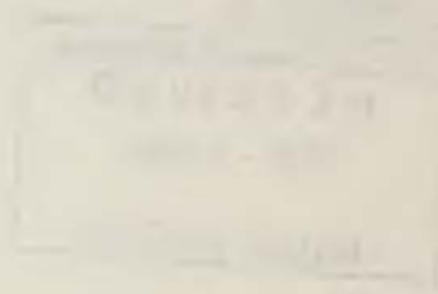
RESEARCH REPORT
NO. 1000

BY
J. H. GOLDSTEIN

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS
1955

STANDARD TABLE



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