### Title
EAU GALLE LAKE PROJECT, PIERCE AND ST. CROIX COUNTIES, WISCONSIN, EAU GALLE RIVER, Operation and Maintenance

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### Report Date
June 1975

### Number of Pages
19

### Distribution Statement (of this report)
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### Distribution Statement (of the abstract entered in Block 20, if different from Report)

### Supplementary Notes

### Security Classification (of this report)
Unclassified

### Declassification/Downgrading Schedule

### Keywords
Environmental assessment
Eau Galle Lake

### Abstract
The original project involved channel modifications and construction of a dam, lake, spillway, and recreational facilities. The dam is 127 feet high, 1600 feet long and contains over 2 million cubic yards of rolled earth and rock fill. Present Corps of Engineers activities at Eau Galle Lake consist of periodic inspection and maintenance of the dam, spillway and appurtenant works; mowing of seeded areas; upkeep of roadways; and maintenance of recreational areas and facilities. The lake and dam are designed for automatic flood control operations.
control operation. A campground is proposed for the area on the north side of Eau Galle Lake.
IN REPLY REFER TO
NCSED-ER

PUBLIC NOTICE

In accordance with the National Environmental Policy Act of 1969, the St. Paul District, Corps of Engineers, has assessed the environmental impacts of the following project:

OPERATION AND MAINTENANCE
EAU GALLE LAKE PROJECT
PIERCE AND ST. CROIX COUNTIES, WISCONSIN
EAU GALLE RIVER

The environmental review process indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared.

The attached finding of fact summarizes our environmental review. Those who have information which may alter this finding of fact and lead to a reversal of this decision should notify the District Engineer within 30 days.

20 June 1975
MAX W. NOAH
Colonel, Corps of Engineers
District Engineer
FINDING OF FACT
CONCERNING THE ENVIRONMENTAL ASPECTS OF
OPERATION AND MAINTENANCE
AT EAU GALLE LAKE PROJECT
PIERCE AND ST. CROIX COUNTIES, WISCONSIN
EAU GALLE RIVER

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U.S. POST OFFICE AND CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

JUNE 1975
FINDING OF FACT
CONCERNING THE ENVIRONMENTAL ASPECTS OF
OPERATION AND MAINTENANCE
AT EAU GALLE LAKE PROJECT
PIERCE AND ST. CROIX COUNTIES, WISCONSIN
EAU GALLE RIVER

General: To fulfill the requirements of Section 102 of the National Environmental Policy Act of 1969, the following was prepared in accordance with provisions in paragraph 4b(2) of Engineer Regulation 1105-2-507 (Preparation and Coordination of Environmental Statements) to document findings of fact concerning the environmental aspects of the proposed action discussed herein.

Introduction: The environmental impacts associated with continuation of the St. Paul District Corps of Engineers operation and maintenance of Eau Galle Dam and Lake and construction of the proposed campground have been reviewed. The review was based in part on an environmental report prepared by Don Vogtman Associates. Existing data on the dam and lake and pertinent Corps of Engineers reports were also utilized in the environmental review.

Project Location: Eau Galle Dam is located on the Eau Galle River, a tributary of the Chippewa River. It is situated about 1/2 mile upstream from Spring Valley, Wisconsin at 44° 51' 10" N latitude and 92° 14' 17" W longitude. The dam is located near the Pierce County line and the conservation pool extends about 3/4 mile into St. Croix County. (See exhibit 1, page A-1.)

Description of Action: The present Corps of Engineers activities at Eau Galle Lake consist of periodic inspection and maintenance of the dam, spillway and appurtenant works; mowing of seeded areas; upkeep of roadways; and maintenance of recreational areas and facilities. The lake and dam are designed for automatic flood control operation. The morning glory intake for the outlet works (see exhibit 1) maintains a permanent conservation pool at elevation 940 feet above mean sea level (msl), and low river flows are passed through an outlet conduit without significant regulation. The limited capacity of the uncontrolled intake and outlet conduit does not permit discharges greater than the downstream channel capacity during floods which are stored below the spillway crest at elevation 1019.53. The low-flow conduit functions as a precaution against zero flow.
A campground is proposed for the area on the north side of Eau Galle Lake (see exhibit 2). Alternative lake operations involving pool raises of 5 or 10 feet have also been proposed; however, there are no plans at present for raising the pool level. Should consideration be given to a pool level raise, a detailed environmental assessment report would be prepared to assess the resultant impacts.

The original project involved channel modifications and construction of a dam, lake, spillway, and recreational facilities. The dam is 127 feet high, 1,600 feet long and contains over 2 million cubic yards of rolled earth and rock fill. At conservation pool elevation, 940.0 feet msl, the lake covers approximately 150 surface acres. It has an average depth of 10 feet and a maximum depth of 35 feet; its shoreline totals about 5 1/2 miles. The morning glory intake structure to the dam has a weir diameter of 25 feet and maintains the lake near the 940.0 feet msl weir crest elevation throughout most of the year. There is an uncontrolled spillway, and a chute about 1,930 feet long. It is excavated 650 feet west of the dam's right abutment throughout most of its length in dolomite bedrock. A 100-foot long weir, comprised of a 5 by 5-foot concrete cross section, embedded in dolomite, forms the spillway crest. Spillway discharge is contained by the rock cut for a total distance of about 1,500 feet before being released into the Mines Creek watershed at a point about 2,000 feet southeast of the dam. Channel modifications include a 2,000-foot discharge channel from the outlet works to the mainstream Eau Galle River and a 1,300-foot connecting channel from the spillway to the river. In addition, Mines Creek, a tributary entering the Eau Galle River at Spring Valley, is channelized and straightened in the 1,450-foot sector adjacent to its mouth, and a 1,200-foot section is straightened 1,300 feet farther upstream from a point beginning at the Chicago and Northwestern Railway Bridge. The Eau Galle Lake project covers a land area of 562 acres. There is permanent flowage (flooding easements) on an additional 500 acres.

The existing recreational facilities include a day-use recreation area which provides a swimming beach, boat launch ramp and picnic area; a nature trail; and a scenic overlook. The campground proposed for the north end of Eau Galle Lake would be composed of 28 camping spurs with supporting water and sanitary facilities. Access to the campground would be via a hard-surfaced, double-lane road for vehicles (see exhibits 1, 2, and 3, pages A-1 - A-4).

Construction of the project began in 1965 and was completed in 1969. The project has been in operation since 1969. Operating statistics are given in exhibit 4, page A-5.

Potential Impacts of the Action: The following parameters relating to potential impacts of continued operation and maintenance activities have been reviewed and considered in arriving at the finding detailed below:

2
**Name of Parameter Considered**

**Natural Parameters**

a. Existing Vegetation  
b. Fishery Habitat  
c. Wildlife Habitat  
d. Soil Erosion  
e. Air Quality  
f. Surface Water  
g. Groundwater  
h. Floodplain Encroachment  
i. Endangered Species  
j. Unique Natural Feature(s)  
k. Lake Levels

**Cultural Parameters**

a. Existing/Potential Land Use  
b. Historic Values  
c. Recreation Opportunities  
d. Aesthetic Values  
e. Economic Development  
f. Sociological Development  
g. Residential Patterns  
h. Archaeological Values  
i. Noise Levels  
j. Flood Control  
k. Controversies Concerning the Project

**Discussion of Potential Impacts:** Unless discussed below, the environmental effects on the parameters evaluated above are considered to be minimal and could not be lessened by an alternative action, or the alternative action would result in other adverse environmental impacts.

**Existing Vegetation:** The completed project has resulted in the loss of about 150 acres in the conservation pool. The lake project has generated a substantial influx of off-road vehicles, including all-terrain vehicles, trail bikes, motorcycles and snowmobiles which further destroy and damage terrestrial vegetation. Snowmobiles are not permitted in the Eau Galle project area, however due to the lack of year-round personnel, unauthorized use does take place. The St. Paul District is conducting discussions with local snowmobile groups in order to reach a solution to the problem. Summer use by all-terrain vehicals is also prohibited and is controlled by a citation program whereby warnings and tickets can be issued for damaging government property. No trespassing signs have been placed near the dam and brochures are published explaining public use regulations.
The 60-acre area under consideration for the campground contains excellent ruffed grouse and white-tail deer habitat as well as a dense shrubby undergrowth and a variety of herbaceous vegetation. With this in mind the Corps has modified the original campground specifications to minimize adverse environmental impacts. An estimated 4 acres of land would be lost for the 7,500 feet of roadway necessary for the campground.

Fishery Habitat: Prior to the project, the Eau Galle River supported a high quality trout fishery, but warmwater fishes now appear to be slowly displacing the trout in the lake. There is, however, still a good trout, bass and panfish fishery in the lake and upstream and downstream on the Eau Galle River. Construction of a campground would have no effects on fishery habitat.

Wildlife Habitat: In winter, snowmobiles compress the snow reducing its insulating qualities and negatively influencing the small mammal populations. However efforts are being made to reduce snowmobile-related adverse impacts (see Existing Vegetation, above). Campground construction would reduce mammal populations found in dense shrub understory, and the carrying capacity of the wildlife habitat in the project area would be reduced. The lake has provided improved waterfowl habitat.

Soil Erosion: The damage to vegetation by snowmobiles and all-terrain vehicles is leading to some soil erosion, especially on the steeper terrain. The affected areas are filled and reseeded to prevent long term adverse effects. Temporary problems of erosion would occur with construction of the campground road which would be located on a steep hill.

Surface Water: The water of Eau Galle Lake is of good quality for water sports, fishing, and is also classified as potable. Use of motorized boats is prohibited, except for electric trolling motors. By providing minimum flows during dry periods, the dam helps alleviate potential problems involved with sewage treatment operations in Spring Valley. The low-flow conduit, by passing colder water from the lake bottom into the river downstream, serves to improve the downstream temperature for trout fishing. Water quality data are on file in the St. Paul District office.

Endangered Species: The osprey, officially listed as an endangered species, has been sighted in the project area. (A pair of osprey nested near the Eau Galle Lake headwaters in 1974, and fledglings were observed.) Though not officially designated rare or endangered, seven plant species found in the project area are considered rare or unusual in their distribution. The milk snake, also found in the project area, is likewise considered very uncommon, at least in this part of Wisconsin. These species may experience minor negative impacts from the proximity of the proposed campground.
Unique Natural Features: The access road to the campground would pass through a stand of climax maple, a very unusual forest type in this part of Wisconsin. Though the road would be routed around the trees, this area would suffer minor adverse effects from its proximity to the proposed campground.

Existing and Potential Land Use: The negative economic impact resulting from elimination of the several farming operations in the project area has been more than offset by the positive impact of the project in downstream areas, notably in Spring Valley. The relationship of this project to land use plans for the general area lies principally in the context of the project's impact on flooding of downstream agricultural lands and urban properties.

Recreation Opportunities: The conservation pool and the recreation facilities for public use along its margin afford excellent recreational opportunities. Public use at the project area was 6,000 in 1972, 60,300 in 1973, and 101,200 in 1974. The principal benefit of the proposed campground relates mainly to the expanded potential of the project to accommodate additional recreationists. Using the estimated 22 percent increase and using $1.50 per recreation day for a net benefit, a calculated $36,000 per year gross economic benefit would be assignable to the proposed campground.

Economic Development: Extensive renovation and expansion of business resulted after construction of the lake and dam. Moderate further growth is anticipated, assuming a long period of static conditions. Significant economic benefits are accruing to the Spring Valley community in the form of increased business from fishermen, boaters, sightseers and other outdoor recreationists attracted to the lake. The benefit-cost ratio of the project was determined to be 1.8 to 1. It is estimated that the lake would prevent urban flood damages at Spring Valley of about $3,280,000 if there were a recurrence of the September 1942 flood, which was the greatest flood of record.

Sociological Values: Enriched sociological values have resulted for over 1,000 people from the increased safety from flooding.

Archaeological Values (Cultural Resources) - During 1962 and 1964, archaeological surveys were conducted in the Eau Galle Lake area. Several archaeological sites were discovered and some of these are now under water. Additional surveys were conducted in the area proposed for the campground in June 1975, and no sites were identified. The upland areas around the lake, and some sites within the flood pool boundary, which have not been inundated, require further investigation. Further surveys will be conducted and sites will be determined for their eligibility for the National Register of Historic Places.
Controversies Concerning the Project: Operation and maintenance activities by the Corps of Engineers at Eau Galle Dam and Lake and construction of a proposed campground have not generated any controversy.

Conclusions: I conclude that the continued operation and maintenance of the Eau Galle project is important to the health, safety, and social well-being of the residents of the local area and other persons utilizing the Eau Galle Dam and Lake. Adverse impacts of campground construction are generally short-term in nature and the social benefits resulting from the project outweigh these short-term effects. Construction of the proposed campground will be done so as not to result in the loss of any known cultural, natural, historic or archaeological resources. The continued operation and maintenance activities by the Corps of Engineers will not result in the displacement of any persons or in the further loss of any known cultural, natural, historic or archaeological resources.

Finding: From the foregoing considerations, I find that the proposed action will not significantly affect the quality of the human environment. As a consequence, I have determined that an environmental impact statement is not required by the provisions of Section 102 of the National Environmental Policy Act, Public Law 91-190, and applicable Corps of Engineers regulations and guidance.

20 June 1975

MAX W. NOAH
Colonel, Corps of Engineers
District Engineer
Aerial View of Em Gille Lake and Dam
### OPERATING DATA

#### Lake Elevations, Areas, and Capacities

<table>
<thead>
<tr>
<th></th>
<th>Elevation (feet msl)</th>
<th>Area (acres)</th>
<th>Acre-feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>940.0</td>
<td>150</td>
<td>1,550</td>
</tr>
<tr>
<td>Design (standard project flood)</td>
<td>997.5</td>
<td>695</td>
<td>26,200</td>
</tr>
<tr>
<td>Spillway crest</td>
<td>1019.53</td>
<td>880</td>
<td>44,000</td>
</tr>
<tr>
<td>Maximum surcharge</td>
<td>1033.5</td>
<td>1,040</td>
<td>56,900</td>
</tr>
</tbody>
</table>

Flood control limits: 940-1019.53 feet msl
Surcharge limits: 1019.5-1033.5 feet msl

- Capacity for flood control: 42,450 acre-feet
- Capacity for flood control, including surcharge: 55,350 acre-feet

Discharge capacity for standard project flood pool: 3,700 cfs
Discharge capacity for spillway crest: 4,800 cfs

#### Contents and elevation for Water Year 1972 *

<table>
<thead>
<tr>
<th>Contents</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum (21 March 1972)</td>
<td>2,100 acre-feet</td>
</tr>
<tr>
<td>Minimum (January, 1972)</td>
<td>1,590 acre-feet</td>
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#### Contents and elevation for period of record (August 1969-September 1974)

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<th>Contents</th>
<th>Elevation</th>
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<tbody>
<tr>
<td>Maximum (30 May 1970)</td>
<td>2,500 acre-feet</td>
</tr>
<tr>
<td>Minimum (1 February 1974)</td>
<td>1,574 acre-feet</td>
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</tbody>
</table>

#### Discharge for Water Year 1972 *

<table>
<thead>
<tr>
<th>Discharge</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum (21 March 1972)</td>
<td>634 cfs</td>
</tr>
<tr>
<td>Minimum (10 November 1971)</td>
<td>5.6 cfs</td>
</tr>
<tr>
<td>Mean</td>
<td>25.7 cfs</td>
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</tbody>
</table>

* October 1971 to September 1972
OPERATING DATA (Continued)

Discharge for period of record (March 1944 - September 1972)

Maximum (15 April 1954) 7000 cfs
Minimum (11-15 August 1971) no flow

Minimum observed prior to dam construction period (25, 27, 28, 30, September 1949) 5.8 cfs
Mean (for 24 years: 1944-68) 25.9 cfs

Maximum floods of record
17 September 1942 33,000 cfs
September 1938 19,700 cfs

Flowage rights acquired to elevation of 1020 msl

Number of times upper operating limit has been exceeded Never
Number of times flowage limits have been exceeded Never
Maximum elevation attained Never

Lake in operation: 1969
July 16, 1974

Dr. Joan E. Freeman
State Archaeologist
State Historical Society of Wisconsin
816 State Street
Madison, Wisconsin 53706

Dear Dr. Freeman:

My firm is under contract with St. Paul District, Corps of Engineers, to conduct investigations leading to an Environmental Impact Assessment of the Eau Galle Reservoir Project in Pierce & St. Croix Counties, Wisconsin.

I need an official statement from your office regarding the historical and archaeological aspects of the project. I understand that your office has already conducted rather extensive studies of the area.

Would you please provide me with a summary paragraph of your findings, including the significance impoundment activities and inundation may have had upon the project area? Your assistance in this matter will be gratefully appreciated. If satisfactory to you, I would prefer to quote your input verbatim. Thank you kindly.

Sincerely yours,

Donald B. Vogtman
for DON VOIGTMAN ASSOCIATES
Mr. Donald B. Vogtman  
Don Vogtman Associates  
6309 France Avenue South  
Edina, Minnesota 55410  

Dear Mr. Vogtman:  

Archeological crews from the State Historical Society of Wisconsin worked in the Eau Galle Reservoir area in 1962, 1964, and 1965. Written reports of the findings have been made and are on file at the National Park Service, here at the Historical Society, and presumably with the St. Paul office of the Corps of Engineers. It seems to me that these reports should be included in your impact assessment. It would be difficult if not impossible to summarize all the work that has been done, including a list of sites found and now inundated, without reference to these reports.

I have no idea of what type of report you are preparing, nor can I quite understand why an assessment is being made of a project already completed. Is the Corps planning further work? At any rate, a full impact assessment should include all the written reports. I can send you copies of the reports, one is printed in the Wisconsin Archeologist, the other two are manuscript reports. We would have to charge you for the duplication of the two manuscript reports - about 100 pages that would be xeroxed. I can send a copy of the published report. I can then write a letter referring to these reports as the comment that you wish. Actually the letter would have to be signed by the Director of the Historical Society who is State Preservation Officer.

I would appreciate hearing from you on the above comments before I proceed with any statement.

Sincerely,

Dr. Joan E. Freeman  
State Archeologist

Exhibit 5
July 26, 1974

Dr. Joan E. Freeman
State Archaeologist
State Historical Society of Wisconsin
816 State Street
Madison, Wisconsin 53706

Dear Dr. Freeman:

Thank you for your July 17 letter regarding my recent request for information regarding Eau Galle Reservoir Project. My assessment is being prepared to provide the Corps with background information they need to develop their Environmental Impact Statement on this project next fall. The project is essentially complete, except for possible raises in the operating level of the conservation pool and some anticipated expansion of recreational facilities. Most completed Corps projects now require preparation of an EIS, generally with special attention to the operation and maintenance aspects.

Pressures are strong at Eau Galle for expanded recreational facilities and for an enlarged reservoir. A pool raise of ten feet (to elev. 950 msl) together with an extensive camping area on project lands along the hilltop just East of the reservoir are both being considered. Proposed campsite area is in NAD 83 of S.31, R.28, T.15. From the reference Archaeological Survey of the Eau Galle Reservoir, Spring Valley Wisconsin which you provided Mr. Vern Lang, Corps of Engineers, last May 19, 1972 it appears that several Indian campsites are situated in this area. The Corps has loaned me the cited reference, plus Archaeology of the Eau Galle River Valley, Dam Salvage Project by Hank Kerr which you also furnished Mr. Lang. If these are the two manuscript reports you referred to, I will not need to bother you for additional copies. However, I would appreciate a copy of the report from Wisconsin Archaeologist which you mentioned as being published.

If there are any over-riding reasons why the pool raise or expanded recreational facility should be dropped for archaeological or historical reasons I would greatly appreciate a position statement from your agency with the reasons for your position. Lacking such a statement from your agency I will assume that the conclusion reached by the National Park Service in their 1962 official report to St. Paul District, Corps of Engineers, is still valid regarding Eau Galle Reservoir Project. Thank you kindly for your assistance.

Sincerely yours,

Donald B. Vogtman
for DON VOGTMAN ASSOCIATES

A-9
Exhibit 5
August 19, 1974

Mr. Donald B. Vogtman  
Don Vogtman Associates  
6309 France Avenue South  
Edina, Minnesota 55410

Dear Mr. Vogtman:

This is in reply to your July 26, 1974 letter to Dr. Joan Freeman concerning the Eau Galle Reservoir Project.

Archaeological surveys of the Eau Galle Reservoir were conducted in 1962 and 1964 by personnel from the State Historical Society of Wisconsin under contract with the National Park Service. Surveys were limited to the flood pool area which in 1962 was stated to be at a maximum elevation of 1028.0 feet. Surveys were not conducted in the upland areas now used or proposed to be used for recreational purposes.

Reports of the surveys were filed with the National Park Service and the St. Paul District Corps of Engineers office. Archaeological Survey of the Eau Galle Reservoir, Spring Valley, Wisconsin covers the 1962 survey and Archaeology of the Eau Galle River Valley, Dam Salvage Project by Hank Kerr covers the 1964 survey and site testing. I understand that you have copies of these two reports which list all sites located and tested during these two field seasons. "Excavations at the Lamb 5 Site" by Jay Brandon in The Wisconsin Archaeologist, Vol. 49, No. 1, March 1968 is the report of excavation of one site within the reservoir. This report is included for your information.

The Lamb 5 site was the only prehistoric site within the reservoir which was excavated. Time did not permit testing or excavating other sites prior to flooding of the area even though other sites appeared to be worthy of such work. A number of sites located in 1962 and 1964 are now under water.

In your letter of July 26, 1974 you mentioned proposed recreational use in the N1/2, SE1/4, Section 31, T28N, R15W. Six archaeological sites were located in this area, specifically sites SC 14, SC 15, SC 20, SC 21, SC 23, and SC 28. All except SC 23 were recommended for further work which could not be done prior to flooding. All of these sites were located within the 1028 foot maximum flood pool.

Exhibit 5

A-10
Certainly before the pool is raised 10 feet to 950 feet and before any recreational development is started, funds for additional survey and testing sites should be provided. Only with this additional work can we evaluate accurately the importance of archeological remains and suggest ways of avoiding adverse effects upon the cultural environment of the area.

Sincerely,

James Morton Smith
State Historic Preservation Officer

JMS:owmc
Enclosure
cc: Mrs. Hugh F. Gwin, President
St. Croix County Historical Society

Mrs. Ursula Peterson, President
Pierce County Historical Society
Mr. Kenneth Krabbenhoft  
Regional Director  
Midwest Region, National Park Service  
1709 Jackson Street  
Omaha, Nebraska 68102  

Dear Mr. Krabbenhoft:

We are now in the process of assessing the environmental effects of continued operation and maintenance activities at the Eau Galle Lake flood control project on the Eau Galle River in Pierce and St. Croix Counties, Wisconsin.

The Corps of Engineers operates and maintains the Eau Galle project which consists of a dam, Eau Galle Lake, a spillway and appurtenant facilities. Construction of the project was completed in 1959 and involved necessary channel modification on the Eau Galle River and Mines Creek, a tributary to the Eau Galle River. In addition, a campground is proposed for the area just north of Eau Galle Lake.

During 1962 and 1964, surveys for historical and cultural resources were conducted in the Eau Galle Lake area. These were restricted to the pool area and to date no survey has been made in the upland area in which the proposed campground would be located. Several archaeological sites were discovered in the pool area, and a number of these sites are now under water. There are six known archaeological sites in the upland area and a survey of the site of the proposed campground is being made in June 1975.

In compliance with section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593, we are requesting your comments concerning the existence of any further historical, archaeological and paleontological resources in the Eau Galle project area.

The environmental review for this project is scheduled for completion in June 1975. You will be informed of the results of this review.

Exhibit 5
NCSED-ER
Mr. Kenneth Krabbenhoft

4 June 1975

If you have any questions, please do not hesitate to contact this office.

Sincerely yours,

[Signature]

1 Incl
Project Map

MAX W. JOHNS
Colonel, Corps of Engineers
District Engineer

A-13
Exhibit 5