ENVIRONMENTAL ASSESSMENT - RIPRAPH PLACEMENT AND TRAIL CONSTRUCTION ON ISLAND BELOW RED ROCK RESERVOIR MARION COUNTY IOWA (U) ARMY ENGINEER DISTRICT ROCK ISLAND IL

UNCLASSIFIED APR 87 F/G 13/2 NL
ENVIRONMENTAL ASSESSMENT

RIPRAP PLACEMENT
AND
TRAIL CONSTRUCTION
ON ISLAND BELOW
RED ROCK RESERVOIR
MARION COUNTY, IOWA

APRIL 1987

US Army Corps of Engineers
Rock Island District
ENVIRONMENTAL ASSESSMENT

RIPRAP PLACEMENT
AND
TRAIL CONSTRUCTION
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

APRIL 1987
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<tr>
<td>2</td>
<td>Riprap Cross Section</td>
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</table>

**ATTACHMENTS**

Finding of No Significant Impact (FONSI)

Pertinent Correspondence

Clean Water Act, Section 404(b)(1) Evaluation

**DISTRIBUTION LIST**
ENVIRONMENTAL ASSESSMENT

RIPRAP PLACEMENT
AND
TRAIL CONSTRUCTION
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

I. PURPOSE AND NEED FOR ACTION.

This Environmental Assessment (EA) addresses two projects proposed for construction on an island downstream of the Red Rock dam. These include the riprapping of its eastern or main channel shoreline and trail development around its perimeter.

The placement of riprap would provide erosion protection to the island. Since 1969, approximately 1.5 acres have eroded from its main channel side. Protection is needed to prevent the loss of future land.

Currently, the island is zoned for recreation low density use. The development of a trail would enhance this land use by providing access for activities such as nature viewing, hiking, and fishing.

II. PROJECT DESCRIPTION.

The project site, which is located approximately 1,350 feet downstream of Red Rock dam, is 4 miles southwest of the town of Pella, Iowa, in Marion County. Plate 1 shows the general location, as well as the riprap and trail alignments.

About 1,608 feet of shoreline on the eastern side of the island would be riprapped. The shoreline would be cut and filled and shaped to a 2.5 horizontal to a 1 vertical slope. Six (6) inches of bedding rock and 18 inches of riprap then would be placed on the slope. Plate 2 shows a typical cross section.

The larger, mature trees upon the bank to be riprapped would be avoided and left in place. Construction would not begin until after mid-June to avoid conflicts with the heavy fishing pressure of the area.

The trail would be approximately 4,000 feet long and would both bisect and follow the perimeter of the island. Of this, 2,300 feet would follow the alignment of existing footpaths and access trail used to place riprap in order to lessen disturbances to the area. The trail would be 6 feet wide and have a granular surface and would be routed to avoid dense vegetation.

EA-1
No large trees would be removed, although it is likely that some sapling-sized trees and shrubs, as well as the herbaceous vegetation, would be cleared. The trail and island would be closed to public use during the winter months to avoid impacts to bald eagles which use the area during this time.

III. ALTERNATIVES.

A. No Federal Action. Under this alternative, no action would take place. Without the riprapping, additional land would be lost to erosion. Without the trail, access would be more restricted and any foot traffic would not be concentrated onto hardened pathways. Because the island is zoned for low density recreation, both access and erosion protection are desired. For these reasons, "no action" is not the preferred alternative.

B. Riprap Emplacement and Trail Construction. This alternative is described previously under "Project Description" and is the preferred alternative.

C. Other Site Locations. While the emplacement of riprap is limited to the site of erosion and cannot be changed, the trail's location and length can vary. Other trail alignments could have been chosen, but would have similar or greater impacts than the preferred alternative without providing better access. Therefore, other site locations were not selected.

IV. AFFECTED ENVIRONMENT.

The project site is an island approximately 13.8 acres in size. The island was created during construction of the Red Rock dam when a straight outflow channel was cut through a meander in the Des Moines River. The island is bordered by the newer channel of the Des Moines River on the eastern side, and by a slough (the old river channel) on its remaining sides. Surrounding the island on both sides of the river are a number of intensively developed recreation areas that are used for camping, picnicking, and fishing. A man-made causeway connects the west side of the island to the main shoreline.

The majority of the island is covered by mature floodplain forest of silver maple (Acer saccharinum), cottonwood (Populus deltoides), willow (Salix sp.), box elder (Acer negundo), and mulberry (Morus sp.). A strip of open, grassy land disects the island from the causeway to the east side of the island. The strip averages 120 feet in width and is used as a footpath.
### TABLE EA-1

<table>
<thead>
<tr>
<th>Types of Resources</th>
<th>Authorities</th>
<th>Evaluation of Effects 1/</th>
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<td>Air quality</td>
<td>Clean Air Act, as amended (42 U.S.C. 1857h-7 et seq.)</td>
<td>No significant effect</td>
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<td>Endangered and threatened species critical habitat</td>
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<td>Fish and wildlife habitat</td>
<td>Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)</td>
<td>No significant effect</td>
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<tr>
<td>Floodplains</td>
<td>Executive Order 11968, Flood Plain Management</td>
<td>No significant effect</td>
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<tr>
<td>Historic and cultural properties</td>
<td>National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.)</td>
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<td>Prime and unique farmland</td>
<td>CEQ Memorandum of 1 August 1980; Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act</td>
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<tr>
<td>Water quality</td>
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<td>No significant effect</td>
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<td>Wild and scenic rivers</td>
<td>Wild and Scenic Rivers Act, as amended, (16 U.S.C. 1271 et seq.)</td>
<td>Not present in planning area</td>
</tr>
</tbody>
</table>

1/ If a type of resource is not present in the planning area, enter "Not present in the planning area." If a type of resource is not affected, enter "No effect."
The eastern shoreline, the area to be riprapped, has a vertical bank 14 feet high. The bank consists of alluvial deposits of sand layered with fine silts. A narrow strip of open land extends along half (800 feet) of the shoreline and consists of a 20- to 30-foot-wide section of grasses, forbs, and barren ground. The remaining half of the eastern shoreline is wooded.

Wildlife species common to the project area include small mammals such as mice, shrews, moles, cottontail rabbit, opossum, raccoon, and skunks. The combination of wooded island and adjacent slough provides a rich habitat for reptiles and amphibians. The mature forest provides good habitat for the northern flicker and woodpecker species, as well as nesting cavities for owls. Other birds that utilize perches along the shoreline include the belted kingfisher and turkey vulture. The bald eagle, a winter resident, also uses shoreline perches. Great blue herons and other wading birds use the slough as feeding stations.

Red Rock dam tends to concentrate migrating fish in this section of the Des Moines River, making it a popular fishing area. Important game species include walleye, northern pike, crappie, white bass, and channel and flathead catfish.

V. ENVIRONMENTAL CONSEQUENCES OF PREFERRED ACTION.

The effects of the preferred plan are summarized in table EA-1.

A. Noise. Minor noise levels would occur as a result of construction and transportation of materials. Users of nearby recreational sites may be temporarily affected. However, no homes, schools, or hospitals are near the project site, and no significant impacts should occur.

B. Displacement of People. No people would be displaced.

C. Aesthetic Values. Much of the shoreline above and below the island is already riprapped. The riprapping of the eastern side of the island would have little effect on aesthetic values. Trail construction would have a positive effect by concentrating foot traffic onto hardened pathways and is compatible with the surrounding recreation areas.

D. Community and Regional Growth. No significant short- or long-term impacts to the growth of the community would be realized as a result of the proposed trail construction and riprap placement. Further, no significant impacts to regional growth would result from the projects.
E. Community Cohesion. The project area is located in a rural surrounding, with limited residential development in the vicinity. Several recreation areas and campgrounds are located within the vicinity of the island, however. Due to the nature of the projects and their limited area of influence, no impacts to community cohesion would be noticed.

F. Property Values and Tax Revenues. The value of the island itself might increase slightly as a result of the proposed projects. This land is federally owned, so an increase in its value would not increase local tax revenues.

G. Public Facilities and Services. The project site is Federal property zoned for low density recreation. The proposed projects would positively impact public facilities by providing shoreline erosion protection at a public recreation site. The proposed trail construction would provide access for such activities as fishing, hiking, and nature viewing on the island. The trail construction would help fulfill a portion of the recreational needs of the general public within Marion County and outlying areas.

H. Employment and Labor Force. Construction of the proposed projects would slightly impact short-term employment in the project area. Based on the small scale of the project, few employees would be required; the surrounding communities have a labor pool of large enough size to absorb project needs with no noticeable impact. The projects would not affect the permanent employment or labor force in Marion County.

I. Business and Industrial Development. Changes in business and industrial activity during the construction of the projects would be minimal. The slight increase in business activity occurring from the projects would be absorbed into the area without noticeable effect.

J. Farm Displacement. No farms or farmlands would be displaced.

K. Man-Made Resources. No man-made resources would be significantly affected.

L. Natural Resources. Riprap construction would result in the loss of existing vegetation caused by the shaping of the slope, the placement of riprap, and access along the shoreline by construction equipment. However, because of active erosion the streambank contains little or no vegetation and the larger trees within the project alignment adjacent the bank would be avoided. Therefore, no significant impacts are anticipated.
Trail construction also would cause the loss of some herbaceous and saplingsized woody vegetation. The trail would be aligned to follow existing footpaths and disturbed rights-of-way of riprap construction, and no significant impacts are anticipated.

M. **Air Quality.** Minor, temporary impacts would occur from machinery exhaust and dust created by construction.

N. **Water Quality.** Minor, temporary increases in turbidity would occur during construction activities. The placement of riprap requires compliance with Section 404 of the Clean Water Act. A Section 404(b)(1) evaluation has been prepared and is attached to this document. Section 401 certification also has been applied for from the State of Iowa and will be obtained prior to construction.

O. **Endangered Species.** There are two federally listed threatened and endangered species listed for Marion County, Iowa: the bald eagle (*Haliaeetus leucocephalus*) and the Indiana bat (*Myotis sodalis*).

The bald eagles use large trees along the shoreline areas of the island during the winter months as resting and feeding perches. Riprapping would require the removal of a number of trees; however, the larger trees would be left. Use of the island and the trail would be restricted to times when the bald eagles are not present. Therefore, no significant impacts to the bald eagle are anticipated at this time.

The Indiana bat uses large trees with loose or peeling bark near small to medium-sized streams with an enclosed canopy during the summer, and it uses caves as winter hibernacula. Since neither habitat exists within the project site, no impacts to the Indiana bat are expected.

P. **Cultural Resources.** Rock Island District archeologists conducted a cultural resources reconnaissance survey of the proposed bank stabilization area on 2 October 1986. The entire length of the bank is severely eroded, creating a 5-meter-high cut bank with 100 percent visibility. A walkover survey along the bank, combined with trowel and shovel scraping, failed to identify any cultural artifacts, features, or buried soil horizons. The heavily banded stratigraphy observed suggests that this area was very active. Based on these field observations, it was determined that the proposed projects would have no impact on significant historic properties. By a letter dated 30 October 1986, the Iowa State Historic Preservation Officer concurred with this determination.

VI. **ENVIRONMENTAL IMPACTS OF NONPREFERRED ALTERNATIVES.**

With no Federal action, the temporary and immediate impacts of construction would not occur. However, without the riprapping, erosion of the island would continue. Alternatives to the preferred trail alignment are likely to have similar or greater impacts as the nonpreferred alternatives.
VII. **PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED.**

Exhaust and dust from construction equipment, the loss of vegetation, and temporary increases in turbidity cannot be avoided.

VIII. **ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IF THE PROPOSED ACTION SHOULD BE IMPLEMENTED.**

The purchase of materials and the commitment of man-hours, fuel, and machinery to perform the project are irretrievable.

IX. **RELATIONSHIP BETWEEN SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.**

Riprapping would cause an initial loss of shoreline vegetation but would provide for long-term erosion protection. Trail construction also would cause an initial loss of vegetation within its alignment while providing long-term accessibility around the island. Neither task is anticipated to have a noticeable effect on the area's long-term productivity.

X. **RELATIONSHIP OF THE PROPOSED PROJECTS TO LAND-USE PLANS.**

The proposed projects are designed to enhance or protect low-density recreational use on land zoned for that purpose.

XI. **COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES.**

A summary of compliance can be found in table EA-2.

A. **Endangered Species.** Two federally listed endangered species occur within Marion County, Iowa: the bald eagle (*Haliaeetus leucocephalus*) and the Indiana bat (*Myotis sodalis*). Coordination with the U.S. Fish and Wildlife Service (FWS) has indicated that there will be no effect to either species.

B. **Cultural Resources.** A cultural resources survey indicated that no sites are within the proposed project area and no impacts to significant historic properties are anticipated. By letter dated 30 October 1986, the Iowa State Historic Preservation Officer concurred with this determination. The project is therefore cleared for construction.
TABLE EA-2

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<td>Clean Air Act, as amended, 42 U.S.C. 1857h-7, et seq.</td>
<td>Full Compliance</td>
</tr>
<tr>
<td>Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.</td>
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<tr>
<td>Coastal Zone Management Act, 16 U.S.C. 1451, et seq.</td>
<td>Not Applicable</td>
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<tr>
<td>Endangered Species Act, 16 U.S.C. 1531, et seq.</td>
<td>Full Compliance</td>
</tr>
<tr>
<td>Estuary Protection Act, 16 U.S.C. 1221, et seq.</td>
<td>Not Applicable</td>
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<tr>
<td>Federal Water Project Recreation Act, 16 U.S.C. 460-1(12), et seq.</td>
<td>Full Compliance</td>
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<tr>
<td>Fish and Wildlife Coordination Act, 16 U.S.C. 611, et seq.</td>
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</tr>
<tr>
<td>National Environmental Policy Act, 42 U.S.C. 4321, et seq.</td>
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</tr>
<tr>
<td>National Historic Preservation Act, 16 U.S.C. 470a, et seq.</td>
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</tr>
<tr>
<td>Rivers and Harbors Act, 33 U.S.C. 403, et seq.</td>
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</tr>
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</table>

NOTES

a. **Full Compliance.** Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).

b. **Partial Compliance.** Not having met some of the requirements that normally are met in the current stage of planning. Partial compliance entries should be explained in appropriate places in the report and referenced in the table.

c. **Noncompliance.** Violation of a requirement of the statute. Noncompliance entries should be explained in appropriate places in the report and referenced in the table.

d. **Not Applicable.** No requirements for the statute required compliance for the current stage of planning.

EA-8
C. Federal Water Project Recreation Act. The proposed projects are intended to provide protection and access to recreational lands and are in compliance with this act.

D. Fish and Wildlife Coordination Act. Biologists from the FWS and the Iowa Department of Natural Resources were contacted during the preparation of this EA. Coordination indicated that there would be no significant impacts to fish and wildlife resources. In this regard, a number of recommendations were made, including that riprapping be done after mid-June when the fishing pressure on the area is not so great, and that public use of the island be restricted during the winter season so as not to affect bald eagle use during that time. Both suggestions have been incorporated into the project plans.

E. Executive Order 11998, Flood Plain Management. The project site is on Federal land and would not encourage development in the floodplain, with the exception of possible future low-density recreational facilities. Any such facilities, however, would be designed to meet the floodplain conditions.

F. Wild and Scenic Rivers. No wild or scenic rivers are present within the project area.

G. Executive Order 11990, Protection of Wetlands. No wetlands would be affected by the proposed projects.

H. Clean Water Act. A Section 404(b)(1) evaluation has been prepared for the proposed riprapping (attached), and Section 401 Certification from the State of Iowa has been applied for and will be received prior to any construction.

I. Clean Air Act. Minor, temporary impacts of increased dust and exhaust would occur during construction. No air quality standards should be violated.


XII. CONCLUSION.

The proposed projects would riprap 1,600 feet of shoreline and provide for 4,000 feet of trails. There would be an immediate loss of vegetation during construction, but a long-term gain through the prevention of gradual erosion. The trail would concentrate foot traffic onto hardened paths and provide additional recreational opportunities on public land at Lake Red Rock. No significant impacts are anticipated to result from the proposed projects.
FINDING OF NO SIGNIFICANT IMPACT
RIPRAP PLACEMENT
AND
TRAIL CONSTRUCTION
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

Having reviewed the information provided by this Environmental Assessment, along with data obtained from cooperating Federal, State, and local agencies and from the interested public, I find that the proposed riprapping and trail construction at Red Rock Reservoir will not significantly affect the quality of the environment. Therefore, it is my determination that an Environmental Impact Statement is not required. This determination will be reevaluated if warranted by later developments.

Alternatives considered along with the preferred action include:

a. No Federal action.

b. Other site locations.

Factors considered in making a determination that an Environmental Impact Statement was not required are as follows:

a. The action will provide erosion protection lands and access to public recreation lands.

b. Initial loss of vegetation during construction will be offset by the prevention of long-term losses by continued erosion.

c. Riprapping the shorelines will provide a stable substrate and increased habitat for benthos and other aquatic wildlife.

d. No significant social, economic, environmental, or cultural impacts are anticipated as a result of these actions.

__________________________
Neil A. Smart
Colonel, Corps of Engineers
District Engineer
LIST OF ADJACENT PROPERTY OWNERS

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PROJECT DESCRIPTION:
Trail and Riprap Alignment

LOCATION:
Lake Red Rock
Tailwater Area
Typical Section

Project Description:
Riprap Cross Section

Location:
Lake Red Rock
Tailwater Area
PERTINENT CORRESPONDENCE
SUBJECT OF CONVERSATION:
Reopen Placement of Trail Construction at Red Rock

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<td>PERSON CALLING</td>
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<tr>
<td>Ron Klump</td>
<td>IDNR</td>
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SUMMARY OF CONVERSATION:

I called Chuck Kakacs, Wildlife Biologist for the IDNR, to coordinate the above project. I explained that the project included upprapping 1600 feet of channel on the island side of Red Rock Dam and also constructing a hiking access trail across the islands perimeter.

Chuck Kakacs related he saw no problems with the upprapping but was concerned about development near the trail affecting bald eagle use of area during winter. He recommended limiting access to the island during winter months.

Ron Klump
1-1-6
**TELEPHONE OR VERBAL CONVERSATION RECORD**

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

**DATE**

13 March 1957

**SUBJECT OF CONVERSATION**

Reinset Placement and Hiking Trail Construction at Red Rock

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<td>90-E</td>
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<tr>
<td>Thomas Putnam</td>
<td>Evans, Boise, Idaho</td>
<td>515-432-3823</td>
</tr>
</tbody>
</table>

**SUMMARY OF CONVERSATION:**

I called Tom Putnam, the local 10K distance runner, to coordinate the proposed projects with him. Tom Putnam said he had no objections to the projects but suggested that the (+)trapping be done sometime after mid-June, when the (+)uring pressure of the area is not so great.

Ron Klump
90-E
**TELEPHONE OR VERBAL CONVERSATION RECORD**

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

**DATE**

10 March 1987

**SUBJECT OF CONVERSATION**

Riprap Placement and Hiking Trail Construction at Red Rock

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**SUMMARY OF CONVERSATION:**

I called Saul Carney of the US Fish and Wildlife Service to coordinate the above projects. I explained that 1,600 feet of shoreline would be riprapped and that the riprap would be brought in along the existing trail, that runs through the middle of the island. I also explained that a hiking-access trail would also be built along the island's perimeter.

Saul Carney stated that there would be no effect to federally listed threatened or endangered species and that the project would have no significant effect on fish and wildlife resources. Saul recommended that as large a rock as possible be used for riprapping, and that it be placed down into the water as far as possible to provide good habitat.

Ken Klump
PD-E
**TELEPHONE OR VERBAL CONVERSATION RECORD**

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

### SUBJECT OF CONVERSATION
Ripeap Placement and Trial Construction at Red Rock

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</tr>
<tr>
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<td>I called Eugene Kaiser of the US EPA to coordinate the proposed projects. I explained that 1600 feet of shoreline would be riprapped and that a trial would be constructed around the perimeter of the island. Eugene Kaiser said he saw no apparent problem with the proposed project and had no objections.</td>
</tr>
</tbody>
</table>

Ron Klump
30-E
Dudley M. Hanson, P.E.
Chief, Planning Division
Rock Island District Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

RE: PLACEMENT OF RIPRAP ALONG EAST BANK OF ISLAND IMMEDIATELY DOWNSTREAM OF RED ROCK LAKE DAM - MARION COUNTY

Dear Mr. Hanson:

Based on the information you provided, we find the proposed project to have no effect upon known historic or other cultural resources. Therefore, we recommend project approval.

However, if the proposed project work uncovers an item or items which might be of archeological, historic or architectural interest, or if important new archeological, historic or architectural data come to light in the project area, the work should be delayed for sufficient time to notify this office in order that the significance of the discovery can be determined.

Should you have any questions or if we can be of further assistance to you, please contact Dr. Kay Simpson, Archeological Surveys, at 515-281-8744.

Sincerely,

Dr. Carol L. Ulch
Deputy State Historic Preservation Officer

/mdd
CLEAN WATER ACT

SECTION 404(b)(1) EVALUATION
CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

RIPRAP PLACEMENT
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

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CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

RIPRAP PLACEMENT
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

SECTION 1 - PROJECT DESCRIPTION

LOCATION

The project site is located on the eastern shoreline of an island along the Des Moines River, 1,350 feet downstream of Red Rock dam. It is approximately 4 miles southwest of the town of Pella in Marion County, Iowa.

GENERAL DESCRIPTION

Approximately 1,608 feet of shoreline would be riprapped. This would involve shaping the shoreline to a 2.5 horizontal to 1 vertical slope and placing 6 inches of bedding rock and 18 inches of riprap. Large trees within the project site would be avoided and left in place.

PURPOSE AND AUTHORITY

The purpose of this action is to provide erosion protection to the eastern shoreline of the island downstream of Red Rock dam. The island is part of the land administered by the Corps under the Red Rock project. The project was authorized by the Flood Control Act of 1938 and is operated and maintained under this original authorization.

GENERAL DESCRIPTION OF DREDGED AND FILL MATERIALS

The bedding material would consist of crushed stone with a maximum size of about 1.5 inches. The riprap is larger stone and would consist of boulder or quarried rock of varying size. Approximately 2,500 tons of bedding rock and 7,500 tons of riprap would be used.
DESCRIPTION OF THE PROPOSED DISCHARGE SITES

Because of active erosion, the riverbank contains little or no vegetation. Landward of the bank, the site contains a combination of mature bottomland forest and open areas of various grasses and forbs and barren ground.

DESCRIPTION OF DISPOSAL METHOD

Bedding rock and riprap would be hauled in by truck and placed on site. A backhoe, bulldozer, or similar equipment would be used to shape the slope and adjust the materials to the correct dimensions.

SECTION 2 - FACTUAL DETERMINATIONS

PHYSICAL SUBSTRATE DETERMINATIONS

The substrate of the Des Moines River at the project site is generally composed of sand. The riverbank contains varying layers of modern river alluvium of mixed sand and silt layers.

WATER CIRCULATION, FLUCTUATION, AND SALINITY DETERMINATIONS

WATER

The Des Moines River is a fresh water stream. The river within the project area consists of a straight outflow channel from Red Rock dam to the downstream tip of the island. Below that, the river resumes its natural alignment. This downstream corridor below the dam is used heavily for fishing and other recreation.

CURRENT PATTERNS AND CIRCULATION

The proposed riprapping would be limited to the shoreline area and would have no noticeable effect on current flow patterns and circulation.
NORMAL WATER LEVEL FLUCTUATIONS

Water level fluctuations are influenced by Red Rock Reservoir which both stores and releases water in conjunction with its flood control purpose. The proposed project would cause no noticeable changes in water level fluctuations.

ACTIONS TAKEN TO MINIMIZE IMPACTS

Construction would take place during periods of low water to avoid excess turbidity. Larger trees along the shoreline would be avoided and left in place. The amount of riprap would be kept to the minimum amount necessary for erosion protection.

CONTAMINANT DETERMINATIONS

Bedding rock and riprap would be chemically stable and noncontaminating. The shaping of the banks would take place in a non-industrial, non-commercial area where the soil is unlikely to be contaminated.

AQUATIC ECOSYSTEM AND ORGANISM DETERMINATIONS

The proposed action should have no noticeable effect on the aquatic ecosystem. Active erosion creates an unstable substrate, limiting its suitability to benthos and other organisms. The placement of riprap, however, would provide crevices and stable substrates for invertebrates, as well as spawning habitat and shelter for fish. No significant impacts to benthos, plankton, or nekton are anticipated.

No wetlands, mudflats, vegetated shallows, or unique and sensitive areas would be affected.

Two federally endangered species are listed for Marion County, Iowa: the bald eagle (Haliaeetus leucocephalus) and the Indiana bat (Myotis sodalis). Threatened and endangered species are discussed in Section V of the preceding Environmental Assessment. It was determined that there would be no significant impacts to either species.

No State-listed threatened or endangered species are known to occur within the project area, and no impacts are anticipated.
PROPOSED DISPOSAL SITE DETERMINATIONS

The proposed project may cause minor, temporary increases in turbidity during construction; however, no violations to water quality standards should occur.

Certification under Section 401 of the Clean Water Act has been applied for, and all requirements will be met prior to construction.

DETERMINATION OF CUMULATIVE AND SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEM

Impacts from construction would be temporary. The riprap which would be permanent would be composed of chemically stable, noncontaminating material. Therefore, no detrimental cumulative or secondary impacts are expected to occur.
SECTION 3 - FINDINGS OF COMPLIANCE OR NONCOMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

1. No significant adaptations to the guidelines were made relating to this evaluation.

2. The alternative of no Federal action was not feasible because it did not provide erosion control protection to the island.

3. Certification under Section 401 of the Clean Water Act has been applied for from the Iowa Department of Natural Resources. Certification will be obtained before construction begins.

4. The project would not introduce toxic substances into nearby waters or result in appreciable increases in existing levels of toxic materials.

5. No significant impacts to Federal or State-listed endangered or threatened species will result from this project.

6. The erosion control projects are in inland fresh water systems. No marine sanctuaries are involved.

7. No municipal or private water supplies would be affected. Minor impacts would result from the construction sites, but an increase in habitat diversity would occur with the use of riprap. No sensitive or critical habitats would be affected, and no long-term impacts would occur.

8. Project construction materials will be physically and chemically stable.

9. The proposed actions will not significantly affect water quality or the aquatic ecosystem and are in compliance with the requirements of guidelines for Section 404(b)(1) of the Clean Water Act, as amended.

Date Neil A. Smart
Colonel, Corps of Engineers
District Engineer
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RIPRAP PLACEMENT AND TRAIL CONSTRUCTION
ON ISLAND BELOW RED ROCK RESERVOIR
MARION COUNTY, IOWA

DISTRIBUTION -- EXTERNAL

HON. CHARLES E. DOWLESS, UNITED STATES SENATOR
721 FEDERAL BUILDING, 211 WALNUT STREET
DES MOINES, IA 50309

HON. WALTER F. MONTE, UNITED STATES SENATOR
753 FEDERAL BUILDING, 211 WALNUT STREET
DES MOINES, IA 50309

HON. JOHN ROGERS LIGHTFOOT, REPRESENTATIVE IN CONGRESS
514 W. LOWELL ST, SHENANDOAH, IA 51641

HON. JACOBY, NATIONAL PARK SVC., LREDI
ROCKY MT. PARK SVC., P.O. BOX 25247
DENVER, CO 80222

DIRECTOR, ADVISORY COUNCIL ON HISTORIC PRESERV
OLD HOOD LOG #77, 1100 PENNSYLVANIA AVENUE NW
WASHINGTON DC 20004

DIRECTOR, US DEP. OF COMMERCE
OFFICE OF ENVIRONMENTAL AFFAIRS, RC.M 3425
WASHINGTON DC 20230

JACQUES B. M. BROWN--DIRECTOR, OFFICE OF FEDERAL ACTIVITIES (A-104)
US ENVIRONMENTAL PROTECTION AGENCY, 421 M STREET SW
WASHINGTON DC 20460

FEDERAL EMERGENCY MANAGEMENT ADMIN, 400 7TH STREET SW
ROCKVILLE, WASHINGTON DC 20432

OFFICE OF ENVIRONMENTAL PROGRAM REVIEW, DEPARTMENT OF INTERIOR
18TH & C STREETS NW, ROOM 1241, WASHINGTON DC 20240

HON. RICHARD NELSON--FIELD SUPERVISOR, DEPT. OF FISH & WILDLIFE SERVICE
1ST & 2ND AVE., 2ND FLOOR, RED ROCK ISLAND, IA 12341

STATE CONSERVATIONIST, INDIANA CONSERVATION SERVICE USCA
600 FEDERAL BUILDING, 211 WALNUT STREET
DES MOINES, IA 50309

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WATER RES. RESEARCH CENTER, ATTN OR A. AUSTIN
355 TOWN ENGINEERING BUILDING, IOWA STATE UNIVERSITY
AM, IA 50011

EDWARD C. WEST -- ACTING CHIEF, ENVIRONMENTAL REVIEW BRANCH
US ENVIRONMENTAL PROTECTION AGENCY REG VII, 726 MINNESOTA AVE
KANSAS CITY KS 66101

REGIONAL DIRECTOR, REG III, US FISH AND WILDLIFE SERVICE
FEDERAL HDQ., FORT SNELLING, TWIN CITIES MN 55111

MR. MORRIS KAY -- ADMINISTRATOR, US ENVIRONMENTAL PROTECTION AGENCY
726 MINNESOTA AVENUE, KANSAS CITY KS 66101

MIDWEST NATIONAL TECHNICAL CENTER, SOIL CONSERVATION SERVICE
BOX 9253, LINCOLN, NE 68501

REGIONAL FORESTER, FOREST SERVICE
US DEPT. OF AGRICULTURE, 310 W. WISCONSIN AVENUE, SAC 50307

PARK MANAGER, LAKE RED ROCK
PO BOX 44, BELL, IA 50211

CONFORTABLE TOORD BRIAND, GOVERNOR OF IOWA
STATE CAPITAL, DES MOINES, IA 50319

IOWA DEPT. OF ECONOMIC DEVELOPMENT, DIV OF COMMUNITY PROGRESS
200 EAST GRAND AVENUE, DES MOINES, IA 50319

COMMISSION, DEPARTMENT OF PUBLIC WORKS
ROUTE 1, LEWES ROAD
BROOK, IA 52336

MR. LARRY MILTON -- DIRECTOR, DEPT. OF NATURAL RESOURCES
WALLACE STATE OFFICE BUILDING, 700 E. GRAND AVENUE
D. JO. MISSOURI IA 65211

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