

**US Army Corps
of Engineers
St. Paul District**

**UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM**

OPERATION AND MAINTENANCE MANUAL

BLACKHAWK PARK

BACKWATER REHABILITATION PROJECT

**POOL 9
UPPER MISSISSIPPI RIVER
VERNON COUNTY, WISCONSIN**

DECEMBER 1997

PREFACE

The Blackhawk Park Backwater Rehabilitation Project was constructed by the Wisconsin Department of Natural Resources (WDNR) under a Section 215 Agreement between the WDNR and the Corps of Engineers (COE) and was completed in October 1991. In accordance with Section 906(e) of the Water Resources Development Act of 1986, the COE and the WDNR share in the costs of operation, maintenance, and rehabilitation of this project (75 percent and 25 percent respectively). As set forth in the signed Local Cooperation Agreement, dated 30 June 1986, the WDNR has the actual responsibility for operation, repair, and maintenance. The COE has prepared this manual to assist in fulfilling the operation and maintenance tasks.

This manual and appendices contain the latest approved agreements, maps, drawings, tables, and references pertinent to operation and maintenance of this project. The project objectives and monitoring plan, a COE responsibility, have also been included in order to provide a full perspective of post-construction project activities.

The project was designed and constructed to improve fish and wildlife habitat in the backwater areas of Blackhawk Park, specifically Nancy Lake and Long Slough. However, continued successful functioning of the project will depend upon the manner in which the project is maintained. Careful inspection and proper maintenance can help accomplish that goal.

The planning, design, and construction of the project was the result of a cooperative effort on the part of the involved Federal and State agencies and the public. The continuation of this cooperation and coordination as part of the operation and maintenance of the project will be important to the success of the project and is strongly recommended.

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OPERATION AND MAINTENANCE MANUAL

Blackhawk Park Backwater Rehabilitation Project Vernon County, Wisconsin

INTRODUCTION

This manual has been prepared to serve as a guide for the operation and maintenance of the Blackhawk Park Backwater Rehabilitation Project in Vernon County, Wisconsin. Operation and maintenance instructions for the major features of the project are presented.

There are no structures that need to be operated for the project. The intent of the maintenance instructions is to present preventive maintenance information consisting of systematic inspections and subsequent corrective actions to ensure long-term use of project features. A timely maintenance program prevents major damage to constructed features by early corrective action.

For ease in using this manual, it has been divided into three sections:

- | | |
|------------|--|
| Part I | This section describes the project features and provides background information on the project. |
| Part II | This section gives details on the operation and maintenance of the project. |
| Appendices | This section provides project specific details regarding the project drawings, local cooperation agreement, and monitoring plan. |

PART I - PROJECT FEATURES AND CONSTRUCTION HISTORY

AUTHORIZATION AND LOCATION

The Blackhawk Park Project was authorized under the provisions of the 1985 Supplemental Appropriations Act (Public Law 99-88) and Section 1103 of the Water Resources Development Act of 1986 (Public Law 99-662). The project area is in Pool 9 of the Upper Mississippi River, approximately 25 miles south of La Crosse, Wisconsin, on the left descending bank of the main channel of the river. It is immediately upstream of Blackhawk Park, a Corps of Engineers (COE) recreation facility. The major area influenced by the project lies immediately downstream of the construction site between the Park and the Wisconsin mainland in a complex of backwater channels, sloughs, and lakes. This project is designed to maintain and improve habitat in these backwater areas known as Nancy Lake and Long Slough.

The Blackhawk Park Project is located on state-owned lands and private lands to which the state of Wisconsin holds an easement. Preparation of plans and specifications and project supervision were accomplished by the Wisconsin Department of Natural Resources (WDNR) with the approval of the COE through a Section 215 Agreement, signed 11 March 1988, and in accordance with the Local Cooperation Agreement dated 30 June 1986. Operation and maintenance are to be performed in compliance with Section 906(e) of the 1986 Water Resources Development Act.

DESCRIPTION OF PROJECT

General

Nancy Lake and Long Slough have been identified as important fish habitat areas. In the past, several of the side channels that supply water to this backwater complex were obstructed by the construction of roads into Blackhawk Park, adjacent private developments, and by sedimentation. The plan of improvement consisted of a system of excavated channels combined with the placement of culverts beneath existing roadways. The installed culverts and channels, as designed, allow fresh water flows and sufficient dissolved oxygen levels to maintain and improve habitat in Nancy Lake and Long Slough throughout most of the year.

Appendix A contains a set of drawings showing details of the overall project as constructed. A "General Plan Appendix for Construction" dated 16 January 1986, and a letter from the WDNR dated 17 August 1987, provides additional information on the project.

Design Considerations

This project was designed to provide adequate dissolved oxygen via fresh water flows into Nancy Lake and Long Slough in order to maintain fish habitat throughout the year. To meet this goal, a technical analysis performed by the WDNR determined design flow conveyance requirements along the entire channel system. Channels designed to convey from 30 cfs to 90 cfs (depending upon the channel reach) were proposed in the original General Plan Appendix for Construction. Subsequent alterations to the design immediately prior to construction led to the elimination of excavation along some of these channels. This reduced the total design flow. Following construction, an hydraulic analysis of the channel design was performed.

Channel System

The majority of the project consists of a 3,345-foot-long excavated channel extending from the main channel of the Mississippi River to the backwater areas in Blackhawk Park. The channel alignments take advantage of natural conditions by following existing isolated sloughs and low areas. This was done to minimize excavation costs and the area disturbed. The excavated channel bottom elevation ranged from 618.0 feet mean sea level (1912 datum) at the riverward end of the project to elevation 617.0 feet mean sea level at the downstream end. Approximately 26,300 cubic yards of material was dredged from the channels. In addition to the channel excavation work, about 1,400 feet of backwater channels which intertwined with the ditched slough were cleared of snags. Detailed information on the constructed channel configuration and cleared channels are provided in appendix A.

To protect the right bank of the entrance channel from erosion by waves and current, shot rock was placed along a 360-foot-long reach of the bank. About 935 cubic yards of rock was used, including the portion that wraps around the riverbank.

Culverts

Three 48-inch diameter culverts were installed at the upstream end of the project under Gantenbein Road, a private drive. Riprap was placed upstream and downstream for erosion protection. Five additional 48-inch diameter culverts were installed by the Wisconsin Department of Transportation in 1987 as part of a county road improvement project into Blackhawk Park. Elevations and culvert locations for the Blackhawk Park construction project are shown in appendix A.

CONSTRUCTION HISTORY

Clearing of trees along the channel alignments was accomplished by the WDNR (Forestry Section) in the winter of 1989-90. A contract was awarded on February 15, 1990, for the construction of the Blackhawk Park Project. It was considered complete in October, 1991. Construction was performed by J.F. Brennan Co., Inc., La Crosse, Wisconsin, under a contract let by the WDNR. Supervision of the construction was performed by the WDNR.

PART II - OPERATION AND MAINTENANCE

GENERAL RESPONSIBILITIES AND PROCEDURES

Approved Responsibilities

Operation and maintenance responsibilities for the Blackhawk Park Project were described in the Local Cooperation Agreement, dated 30 June 1989. This agreement is contained in appendix B. The COE is responsible for 75 percent of the cost for all operation and maintenance of the project. The WDNR is responsible for all operations and physical maintenance of the project as outlined in this manual as well as 25 percent of the costs. The COE will be billed for its 75 percent share as costs are incurred.

Superintendent

The WDNR will designate an official, called the Superintendent, who will be responsible for performing all operation and maintenance duties as provided in this manual. The Superintendent's name, address and telephone number shall be provided to the District Engineer, ATTN: CEMVP-CO-TS, St. Paul District, and updated as necessary.

Improvements or Alterations

It is understood that improvements and alterations to any portion of the habitat project that would affect the ability of that element to function as intended to meet the project's habitat goals and objectives would be coordinated with the COE. Improvements or alterations should not be undertaken without the review of the U.S. Fish and Wildlife Service (USFWS).

Procedure for Reviewing O&M Responsibilities

The District Engineer or his/her representative will be kept informed of operation and maintenance activities for the Blackhawk Park Project through a periodic inspection of the project by the COE and through analysis of an annual inspection checklist submitted by the WDNR. The COE will inspect the project with a WDNR representative at least once every three years and at other times as may be required. The COE will contact the Superintendent so that a mutually convenient date can be set up for the joint inspection. The Superintendent is encouraged to invite the U.S. Fish and Wildlife Service to participate in the inspection.

The findings of these inspections will be transmitted to the WDNR and, if appropriate, will include recommendations for any remedial work considered necessary to maintain the habitat project in a satisfactory operating condition. Any agreed upon remedial work should be completed as soon as possible by the WDNR

as provided in the Local Cooperation Agreement between the WDNR and the COE.

Annual Report

An inspection checklist report and project drawing covering inspection and maintenance of the habitat project shall be submitted each year to the District Engineer. A sample copy of the inspection checklist (including a project drawing) is included in appendix C. Note that the inspection checklist requests a brief summary of the condition of the project and a description of any maintenance work done during the past one-year period. If photographs are taken on site, these should accompany the submitted report.

The WDNR will provide an annual operation and maintenance budget as part of this report. This will be prepared following normal agency biennial budgeting procedures. The capability of the WDNR to carry out these responsibilities will be contingent upon the necessary transfer of funds from both agencies (COE and WDNR).

The report will be prepared by the Superintendent and submitted for review through the WDNR on the first of February each year. The Annual Report will cover the previous calendar year's activities (January 1 - December 31). A copy of the annual report will be forwarded to the District Engineer, ATTN: CEMVP-CO-TS, St. Paul District by the first of May each year. The first report will be due in 1998.

OPERATION

There are no operational requirements associated with the Blackhawk Park Project.

MAINTENANCE

General

The person officially designated as the "Superintendent" is in charge of maintaining and inspecting the project works. The measurements and inspections presented below were initially chosen through coordination between the COE and the WDNR following completion of construction. The inspections, coupled with the project evaluation information, will be used to determine if maintenance is required and the extent of repair work that is needed. After the habitat project has been in operation for 5 years, the COE and WDNR will review these inspection activities for adequacy. The frequency and nature of the inspections may be modified by mutual written agreement.

The following inspections of the project should be made by the Superintendent:

1. Culverts should be inspected primarily to insure that they have not been functionally impaired. Blockages greater than 25 percent should be removed. Depending on the amount of high water that was present, it is anticipated that removal could be as frequent as once each year. The culverts under Gantenbein road are the responsibility of the WDNR/COE. Maintenance of the culverts underneath the County road are the responsibility of La Crosse County.
2. An overall inspection of the entire channel system should be conducted. The major items that should be reviewed during this inspection are signs of significant erosion along the channel and blockage due to debris or siltation.
3. Areas of the channel having rock protection need to be examined for loss of rockfill. Minor rockfill replacement is considered to be part of the anticipated maintenance activities during the project life. Normal total replacement throughout the 50-year project life is estimated to be approximately 15 percent of the rockfill that was originally placed.
4. The channels and sediment traps should be examined to ensure maintenance of design dimensions. Filling of the entire channel is not anticipated during the project life. Sedimentation that could require redredging of portions of the channel may occur with a frequency of once every 10 years. Although no detailed analysis of future deposition was done as part of this project, a quantity of 1,000 cubic yards every 5 years would be considered within the limits anticipated.

Time and Frequency of Inspections

An annual inspection should be made in September or October each year. An inspection checklist (appendix C) will be completed and other information on the condition of the project will be noted. This report will be submitted to the COE.

The Superintendent will conduct a general inspection of the property following the spring runoff period (usually between 15 May and 15 June) and at other times of the year following high water events. An inspection checklist report will be prepared, as needed, outlining problems or maintenance needs that cannot be delayed until the submission of the annual inspection report.

Maintenance

Maintenance of the project features was anticipated during the design of the project. The anticipated average annual cost of project maintenance was estimated to be \$3,000 as described in the General Plan Appendix. Should inspections reveal that maintenance is necessary to repair project features, the

following procedures should be followed.

No maintenance for which the WDNR wishes to receive a 75 percent cost reimbursement from the COE will be undertaken by the WDNR without prior approval from the District Engineer or his/her authorized representative. This can be obtained by submitting a completed Inspection Checklist Report that clearly demonstrates the need for maintenance work and presents an explanation of the proposed remedial work. This should be accompanied by an itemized cost estimate for the proposed work. Photographs may be helpful in explaining the problem which requires maintenance. The request should be submitted to the address shown on the Inspection Checklist.

Approval to proceed with any work will primarily depend upon concurrence of the COE with the suggested maintenance and the availability of funds for this effort. An interagency agreement (ENG FORM 4914-R) will be prepared by the COE that describes the scope of work agreed to by the two agencies. Following receipt of official approval from the Corps, the proposed maintenance work can proceed. Expenditures that exceed 10 percent of the submitted estimated cost must have prior approval of the COE.

Within 30 days after completion of the approved maintenance work, the superintendent will submit a bill for payment to the District Engineer or his authorized representative, citing the agreement number on the ENG FORM 4914-R. The COE will submit ENG FORM 4480 to Accounts Payable (CENMVP-RM-FE) for payment to the WDNR.

No reimbursement will be made for inspections of the project or submission of annual reports.

Repair Materials

Materials required for this project consist solely of the rockfill that was placed in conjunction with the installation of the culverts and along selected reaches of the channel. The source of the rock was the Kramer Quarry on County Road UU near Victory, Wisconsin. Gradations of rock for maintenance should be the same as were used during construction of the project. The drawings in appendix A should be consulted for placement and thickness of rock.

INSPECTIONS, TESTS, AND OPERATIONS FOLLOWING MAJOR STORMS OR FLOODS

General

As stated in the Local Cooperation Agreement between the WDNR and the COE, the WDNR will be responsible for 25 percent of the cost of any mutually agreed upon repair and rehabilitation of the Blackhawk Park Project that exceeds the annual maintenance

requirements (i.e., average annual O&M costs of \$3,000) and that may be needed as a result of a specific flood event.

Project Rehabilitation/Abandonment

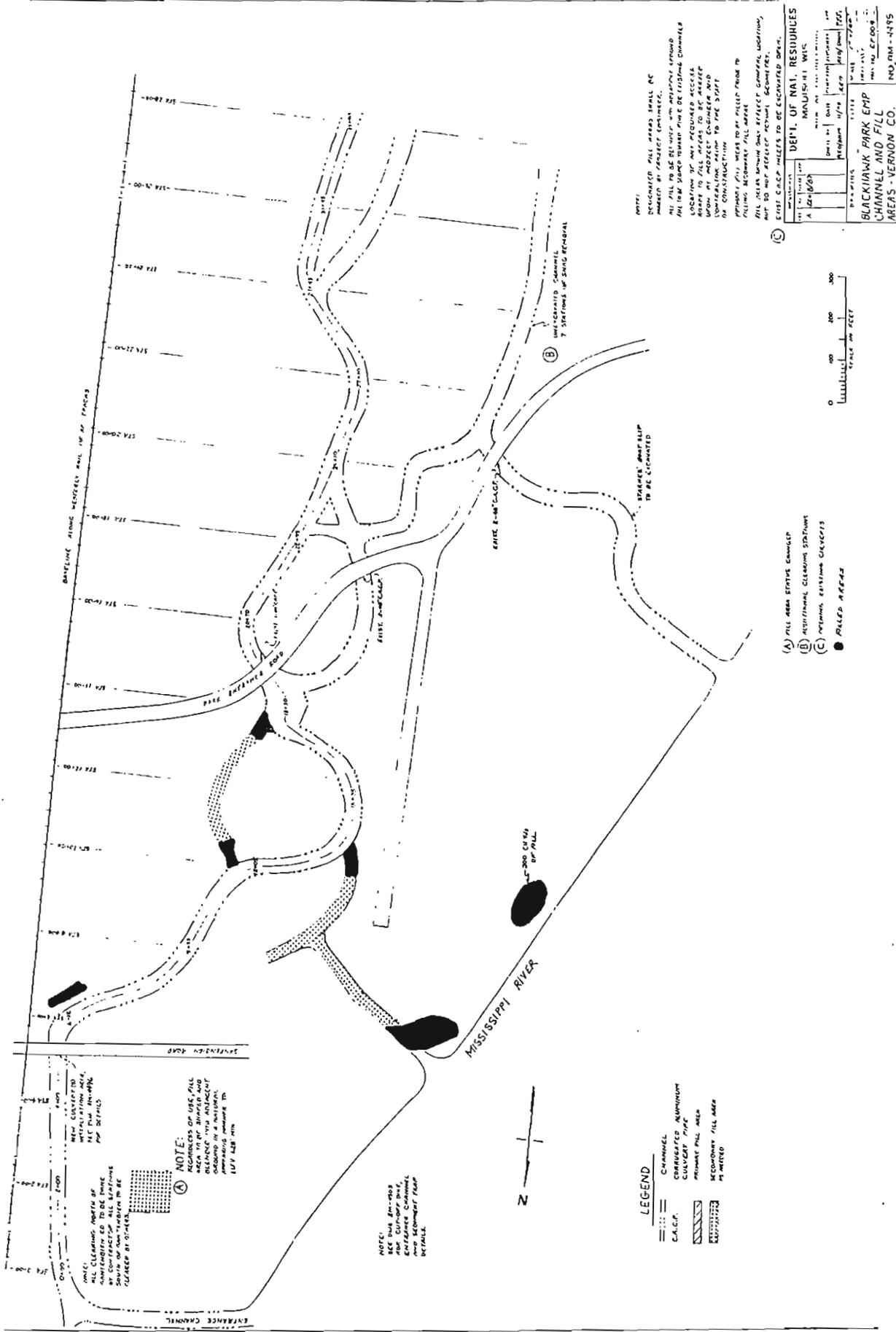
This project has been designed for an expected functional life of 50 years assuming normal river water levels and flood conditions not exceeding 25 year flood events. Should inspection of the project area following a major flood or natural disaster disclose substantial damage to the project that appears to exceed the annual operation and maintenance as specified in this manual, the COE, WDNR, and USFWS will meet to discuss the appropriate course of action in light of original project design. The inspections by the Superintendent and the joint inspections with the COE will be the basis for determining maintenance responsibility by the WDNR versus potential rehabilitation. With regard to the latter, the options of rehabilitation or abandonment of the project may be considered at this time. Any decision would be carried forth only upon written mutual agreement of the WDNR and the COE.

Project Monitoring and Evaluation

An evaluation plan has been established for the Blackhawk Park Project to help determine the extent to which the design meets the habitat improvement objectives. This plan is included in appendix D. Information from the evaluation will also be used, if required, when ascertaining whether rehabilitation or abandonment of portions of this project would be the wisest choice. Project monitoring is a COE responsibility and is limited to measuring changes in physical, water quality, and vegetation conditions. Monitoring beyond the scope of the COE project evaluation (i.e., to determine the response of fish and wildlife to habitat changes, for a longer duration, or in larger area) will be conducted at the discretion of the sponsoring agency.

APPENDIX A

PROJECT DRAWINGS & GENERAL PLAN APPENDIX



NOTE: ALL CLEARING WORK TO BE DONE CONSIDERED TO BE DONE SOUTH OF THE CENTERLINE TO BE CLEARED BY OTHERS.

NOTE: REGARDLESS OF USE, ALL AREA TO BE SHAVED AND GRADDED TO ADJACENT TERRAIN WITHIN 100' OF THE CENTERLINE TO BE CLEARED BY OTHERS.

NOTE: ALL CLEARING WORK TO BE DONE CONSIDERED TO BE DONE SOUTH OF THE CENTERLINE TO BE CLEARED BY OTHERS.

LEGEND

- CHANNEL
- GRAVELLED ALUMINUM
- CULVERT PIPE
- PRIMRY FILL AREA
- SECONDARY FILL AREA
- TO BE CLEARED

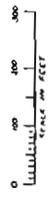
- (A) FILL AREA EXTENSIVE GRASSING
- (B) ADDITIONAL CLEARING STATIONS
- (C) REMAINS EXTENSIVE GRASSING
- FILLER AREA

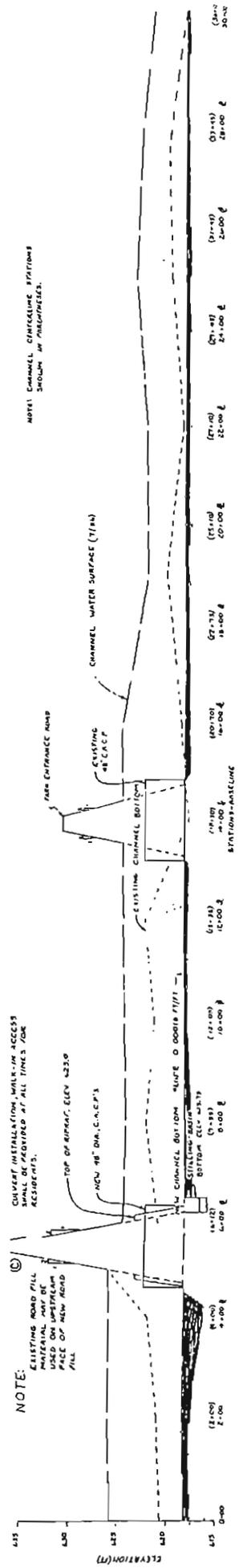
(C)

DEPT. OF NAT. RESOURCES
MAJORITY WIS.

DATE	11/11/88
BY	MAJORITY WIS.
PROJECT	BLACKHAWK PARK EMP CHANNEL AND FILL AREAS - VERNON CO.
NO.	NO. 88-008
REV.	NO. 88-008

NOTE: DESIGNATED FILL AREAS SHALL BE MAINTAINED BY PROJECT CONTRACTOR. ALL FILL SHALL BE PLACED IN ACCORDANCE WITH THE VERNON COUNTY FILL SPECIFICATIONS. LOCATION OF ALL FILL AREAS TO BE MAINTAINED BY PROJECT CONTRACTOR AND WORK TO BE MAINTAINED BY THE STATE OR CONTRACTOR TO THE STATE. PROJECT FILL SHALL BE MAINTAINED BY PROJECT CONTRACTOR. ALL FILL SHALL BE PLACED IN ACCORDANCE WITH THE VERNON COUNTY FILL SPECIFICATIONS. PROJECT FILL SHALL BE MAINTAINED BY PROJECT CONTRACTOR.

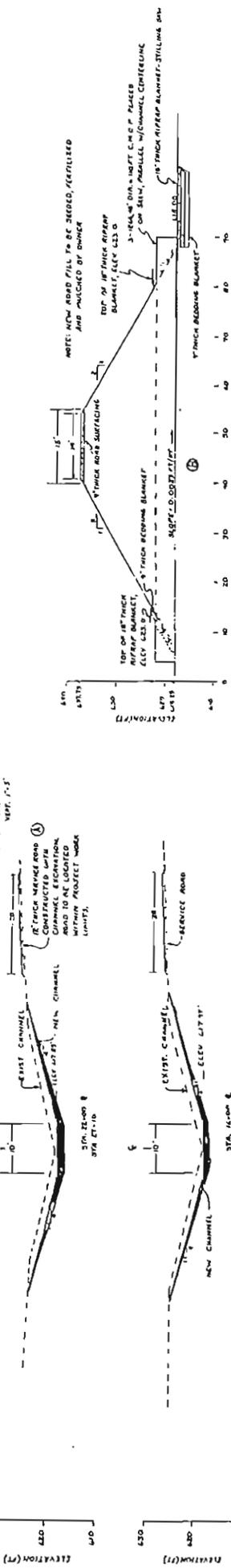




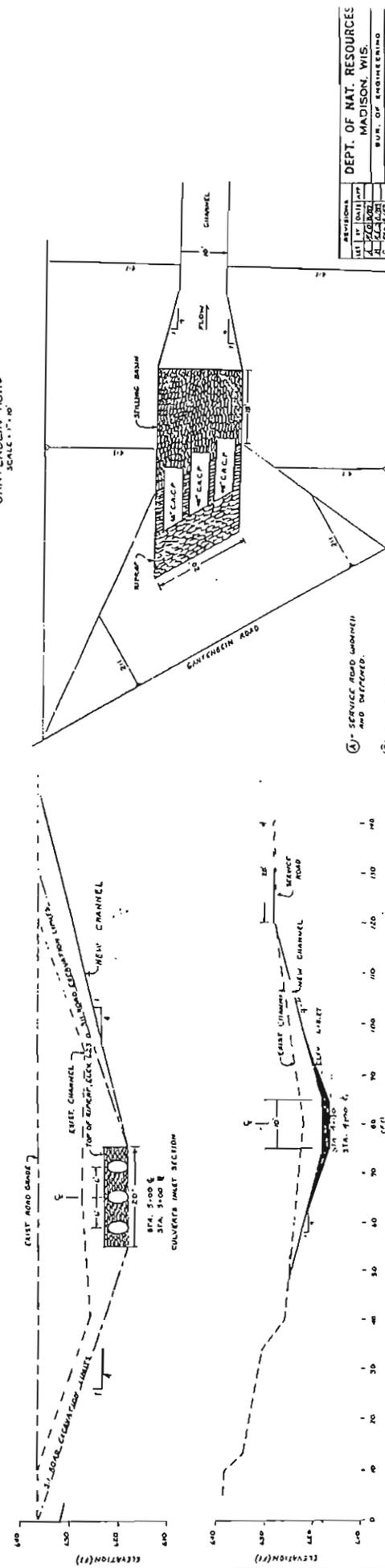
NOTE: EXISTING ROAD FILL MATERIAL MAY BE REUSED FOR FILL OF NEW ROAD FILL.

NOTE: CULVERT INSTALLATION SHALL BE ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR RESIDENTS.

CHANNEL PROFILE
SCALE: HORIZ. 1" = 100'
VERT. 1" = 5'



CULVERT CROSS SECTION
GANTEBAIN ROAD
SCALE: 1" = 10'



CHANNEL SECTIONS
SCALE: HORIZ. 1" = 100'
VERT. 1" = 5'

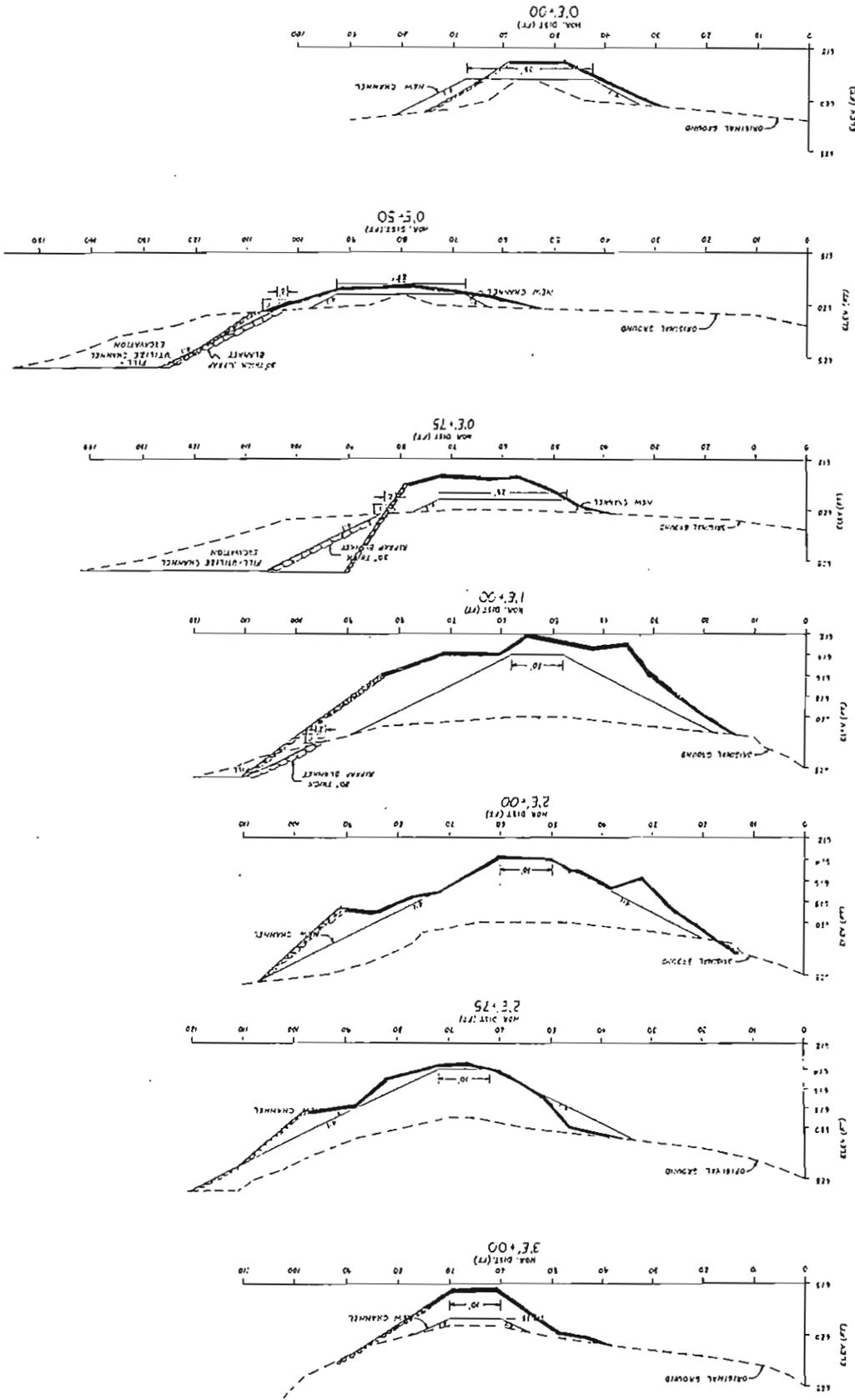
- (A) - SERVICE ROAD WORKMEN AND BARRIERS.
- (B) - C.A.C.P. BECOMING ELIMINATED.
- (C) - ROAD FILL CHANNEL.
- (D) - FINAL ELEV.

OUTLET DETAILS
SCALE: 1" = 10'

REVISIONS		DEPT. OF NAT. RESOURCES	
NO.	DATE	MADISON, WIS.	
1	10/1/50	SUN. OF ENGINEERING	
2	10/1/50	SUN. OF ENGINEERING	
3	10/1/50	SUN. OF ENGINEERING	
4	10/1/50	SUN. OF ENGINEERING	
5	10/1/50	SUN. OF ENGINEERING	
6	10/1/50	SUN. OF ENGINEERING	
7	10/1/50	SUN. OF ENGINEERING	
8	10/1/50	SUN. OF ENGINEERING	
9	10/1/50	SUN. OF ENGINEERING	
10	10/1/50	SUN. OF ENGINEERING	
11	10/1/50	SUN. OF ENGINEERING	
12	10/1/50	SUN. OF ENGINEERING	
13	10/1/50	SUN. OF ENGINEERING	
14	10/1/50	SUN. OF ENGINEERING	
15	10/1/50	SUN. OF ENGINEERING	
16	10/1/50	SUN. OF ENGINEERING	
17	10/1/50	SUN. OF ENGINEERING	
18	10/1/50	SUN. OF ENGINEERING	
19	10/1/50	SUN. OF ENGINEERING	
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25	10/1/50	SUN. OF ENGINEERING	
26	10/1/50	SUN. OF ENGINEERING	
27	10/1/50	SUN. OF ENGINEERING	
28	10/1/50	SUN. OF ENGINEERING	
29	10/1/50	SUN. OF ENGINEERING	
30	10/1/50	SUN. OF ENGINEERING	

BLACKHAWK PARK EMP
CHANNEL PROFILE AND
CROSS SECTIONS - ROAD
CULVERTS DC-NIS
NO. 101-101

REVISIONS		DATE		BY		CHECKED		DATE		SCALE		PROJECT NO.		SHEET NO.	
DEPT. OF NAT. RESOURCES MADISON, WIS.												BLACKHAWK PARK EPIP ENTRANCE CHANNEL CROSS SECTIONS			
NO. RIM 4504												NO. RIM 4504			



UNITS: HORIZONTAL TOP OF FILL TO BE
 SECTIONS, VERTICALIZED AND MATCHED

19 FEB 1986

UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM
GENERAL PLAN APPENDIX
FOR CONSTRUCTION

BLACKHAWK PARK BACKWATER RESTORATION
POOL 9, UPPER MISSISSIPPI RIVER
VERNON COUNTY, WISCONSIN

INTRODUCTION

Project Authority

The 1985 Supplemental Appropriations Act (Public Law 99-88) provides authorization and appropriations for an environmental management program for the Upper Mississippi River system that includes fish and wildlife habitat rehabilitation and enhancement. The proposed project would be funded and constructed under this authorization.

Project Location and Background

The Blackhawk Park area is in pool 9 of the Upper Mississippi River approximately 25 miles south of La Crosse, Wisconsin (attachment 1). The park proper lies along the main channel of the river. Between the park and the Wisconsin mainland is a complex of backwater channels, sloughs, and lakes.

Several of the side channels that supply water to this backwater complex were obstructed by the construction of roads to the park and adjacent private developments. These side channel obstructions have resulted in the loss of fresh (well-oxygenated) water flows to these backwaters during most of the year. This loss of fresh water flow, in turn, has resulted in dissolved oxygen depletion problems in these backwater lakes and sloughs.

The restoration of fresh water flows to the Blackhawk Park area was originally recommended in 1980 by the interagency Great River Environmental Action Team (GREAT) I study. After the GREAT I study, a channel and culverts were installed to provide flows to Green Lake and Peck Lake (attachment 2). Monitoring has shown a dramatic increase in the dissolved oxygen levels in these two lakes. Fishing in these lakes has also improved.

Project Purpose

The backwater lakes and sloughs at Blackhawk Park have been identified as important fishery habitat with multi-State importance. The purpose of the project is to convert 258 acres of backwater lakes from seasonal to year around fish habitats annually contributing an additional 20,000 fish to the boundary waters of the three states of Wisconsin, Iowa, and Minnesota. Over the 50 year project life, one million fish will be produced and dispersed to the waters of the three states. This production would not occur without the project.

PLAN FORMULATION

Existing Conditions

The Blackhawk Park area consists primarily of bottomland forest and backwater sloughs and lakes. The developed portions of the park lie along the main channel of the river. The backwaters provide excellent habitat for desirable sport fish such as northern pike, largemouth bass, crappie, and bluegill. However, low dissolved oxygen conditions in the backwater lakes and sloughs during both summer and winter limit the use of these areas by fish. The environmental assessment contains additional information on the environmental setting of the project area.

Future Without-Project Conditions

Under future without-project conditions, the low dissolved oxygen problems in the lakes and sloughs at Blackhawk Park (aside from Green and Peck Lakes) would continue. As time passes and these areas are further affected by sedimentation, the dissolved oxygen problems will become more chronic and acute. Long-range projections are that they will eventually become unusable as fishery habitat.

Alternatives Considered

Other than the proposed project described below, no other practicable method of providing fresh water flows to the backwaters have been identified. Pumped flows or the use of mechanical aerators would be impractical in this instance because of the size and location of the areas to be benefited.

Work by Others

The Wisconsin Department of Transportation plans to upgrade the Blackhawk Park entrance road during the summer of 1986, including the placement of culverts through the roadway. The Wisconsin Department of Natural Resources (DNR) is working with the Department of Transportation to determine the size, depth, and location of the culverts so that they are compatible with future efforts to provide flows to the Blackhawk Park backwaters.

Proposed Project

The proposed project involves the excavation of channels from the main channel to the backwaters to provide fresh water flows to these areas (attachments 2 and 3). The channels would follow existing isolated sloughs and low areas to minimize excavation. The channels would be located upstream of the backwaters to provide a hydraulic head differential between the main river channel and the backwaters.

In addition to the culverts installed by the Wisconsin Department of Transportation, a culvert would have to be placed through a private driveway. Sediment traps would be excavated upstream from each culvert to control sediment transport into backwater areas.

The proposed channels are designed to convey 30 to 90 cfs, depending upon location. The flow requirements were determined by the Wisconsin DNR to meet dissolved oxygen requirements in the backwaters. Attachment 4 shows typical cross sections for the various channel sizes. It is estimated that approximately 17,400 cubic yards of channel excavation would be required. The excavated material would be sidecast adjacent to one side of the channel in berms and seeded for stabilization. Winter construction may be necessary to support heavy equipment in this area.

The project would be constructed under contract in accordance with plans and specifications prepared by the Corps of Engineers. If construction funds were received by May 1, 1986, plans and specifications could be completed by September 1, 1986, and the project could be constructed during the fall-winter of 1986-87. The excavated material would then be seeded in the spring of 1987.

Operation and maintenance of the project would include a periodic cleanout of the sediment traps and channels. It is estimated that this would be required every 10 years.

Project Impact

Construction of the project would have some short-term disturbance impacts resulting from vegetation clearing and earth moving. In addition, approximately 12 acres of isolated sloughs and bottomland forest would be converted to 7000 feet of flowing channel and channel berms. The project would improve fishery habitat conditions in the backwaters at Blackhawk Park. It is anticipated that enhanced flows through these backwaters may slow the process of sedimentation in these areas. In addition, the 7,000 feet of channel would provide new fishery habitat. The environmental assessment contains additional information on project impacts.

PROJECT REQUIREMENTS

Land Acquisition

The culvert through the private driveway and all the channels would be on private land. The local sponsor (Wisconsin DNR) would be responsible for acquisition of all lands and easements. The local sponsor has indicated that all contacts with affected landowners have been very encouraging. The local sponsor's estimate of \$3,000 in easement acquisition costs has been reviewed by NCDRE and appears reasonable for this project.

Operation and Maintenance

The Wisconsin DNR would be responsible for all operation and maintenance. Operation and maintenance costs would be shared on the same basis as project construction (75 percent Federal/25 percent local sponsor).

Engineering and Construction Costs

The estimated engineering and construction costs for the proposed project are outlined below.

Private driveway culverts

3 48-inch culverts (60 feet long)	\$14,400
300 cubic yds excavation at \$4.00/cy	1,200
grading and roadbed restoration	800
sediment trap excavation	<u>900</u>
subtotal	\$17,300

Channels and sediment traps

7,000 lineal feet of channel excavation (17,400 cy at \$5.00/cy)	\$87,000
access road sediment trap excavation	<u>2,700</u>
subtotal	\$89,700

construction subtotal	\$107,000
contingencies (25 %)	<u>26,750</u>
	\$133,000

Engineering and design (15 %)	\$20,000
Supervision and inspection (8 %)	\$10,700
Land acquisition/easements	\$3,000
Operation and maintenance (present worth)	<u>\$3,000</u>
Total Project Costs	\$169,700 (rounded)

Local Cooperation/Cost-Sharing Agreement

The Wisconsin DNR will be the local sponsor for the project. Although the benefits from the project would not be nationally significant, the project would have multi-State significance because the project outputs would be shared by Wisconsin, Iowa, and Minnesota. Thus, the cost-sharing responsibility would be 75 percent Federal and 25 percent Wisconsin DNR.

The following are the basic features that would be part of the local cooperation agreement with the Wisconsin DNR.

The Wisconsin Department of Natural Resources would provide the following:

1. All real estate interests and local permits.

2. 25 percent of project costs to include operation, maintenance, and replacement costs - estimated share \$42,400.

3. Operation, maintenance, and replacement of project features.

The Federal Government (Corps of Engineers) would provide the following:

1. Final design and construction of the project.

2. 75 percent of project costs to include operation, maintenance, and replacement costs - estimated share \$127,300.

Coordination

The Wisconsin DNR has been coordinating with the Wisconsin Department of Transportation about placing culverts during the upgrading of the access road. The Wisconsin DNR has also contacted affected property owners. The Corps of Engineers has coordinated the project with the U.S. Fish and Wildlife Service, the Wisconsin DNR, and other Federal and State agencies.

The FONSI/environmental assessment for the project will be circulated to the public for review. In addition, the Corps of Engineers will issue a public notice on the project and will offer an opportunity for a public hearing.

Permit Requirements

The local sponsor will be responsible for obtaining all local and State permits.

As part of the process of ensuring project compliance with all Federal environmental statutes, the St. Paul District will prepare a Section 404(b)(1) evaluation and obtain Section 401 water quality certification.

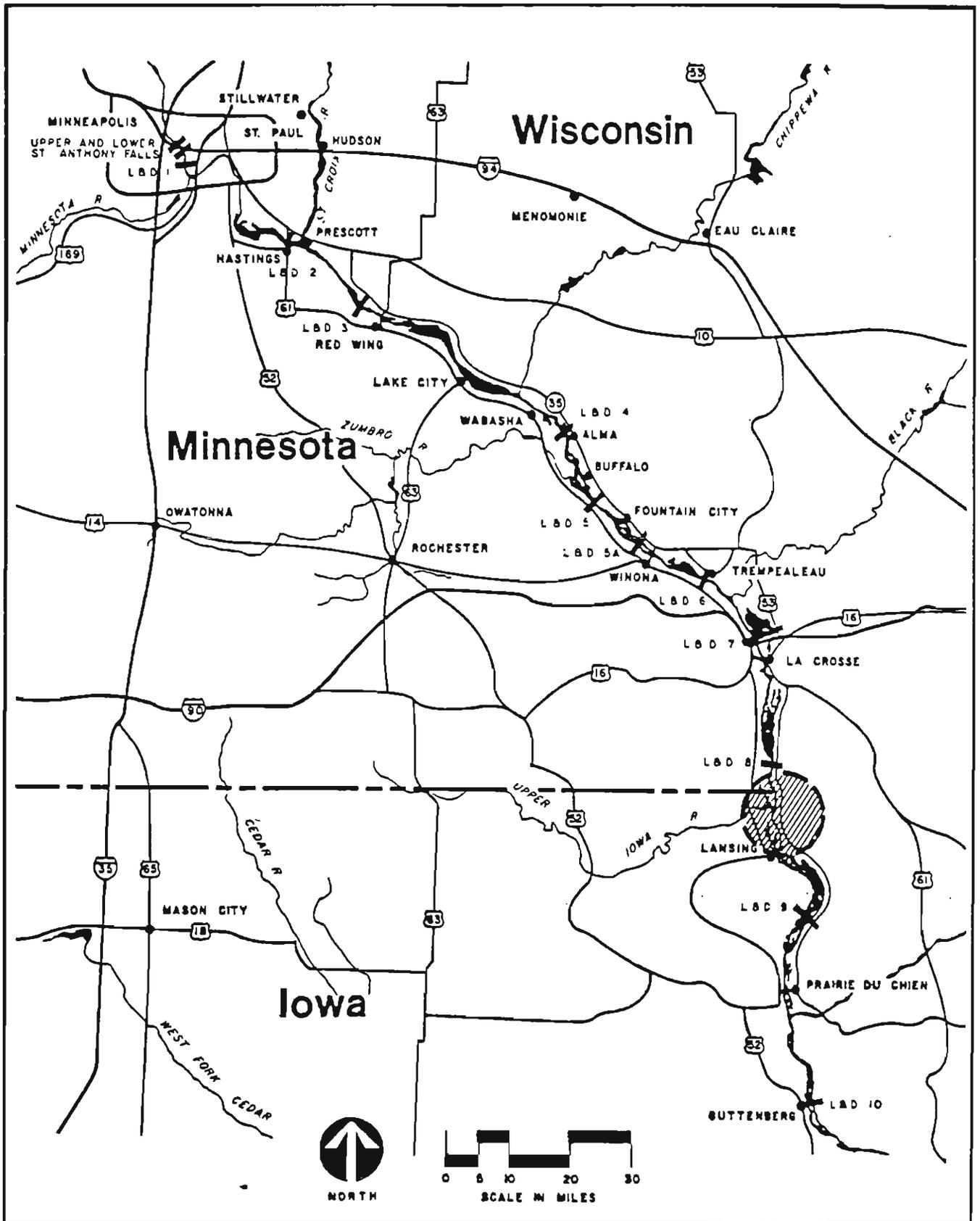
Monitoring

Premonitoring has been completed and has shown both low dissolved oxygen levels and use by fish has been poor in the area needing restoration. Additional dissolved oxygen monitoring will be completed by Wisconsin DNR during the winter of 1985-86. Postconstruction monitoring of dissolved oxygen, temperature, fish use, flows, and sedimentation will be conducted under the Long-term Resource Monitoring Program.

RECOMMENDATION

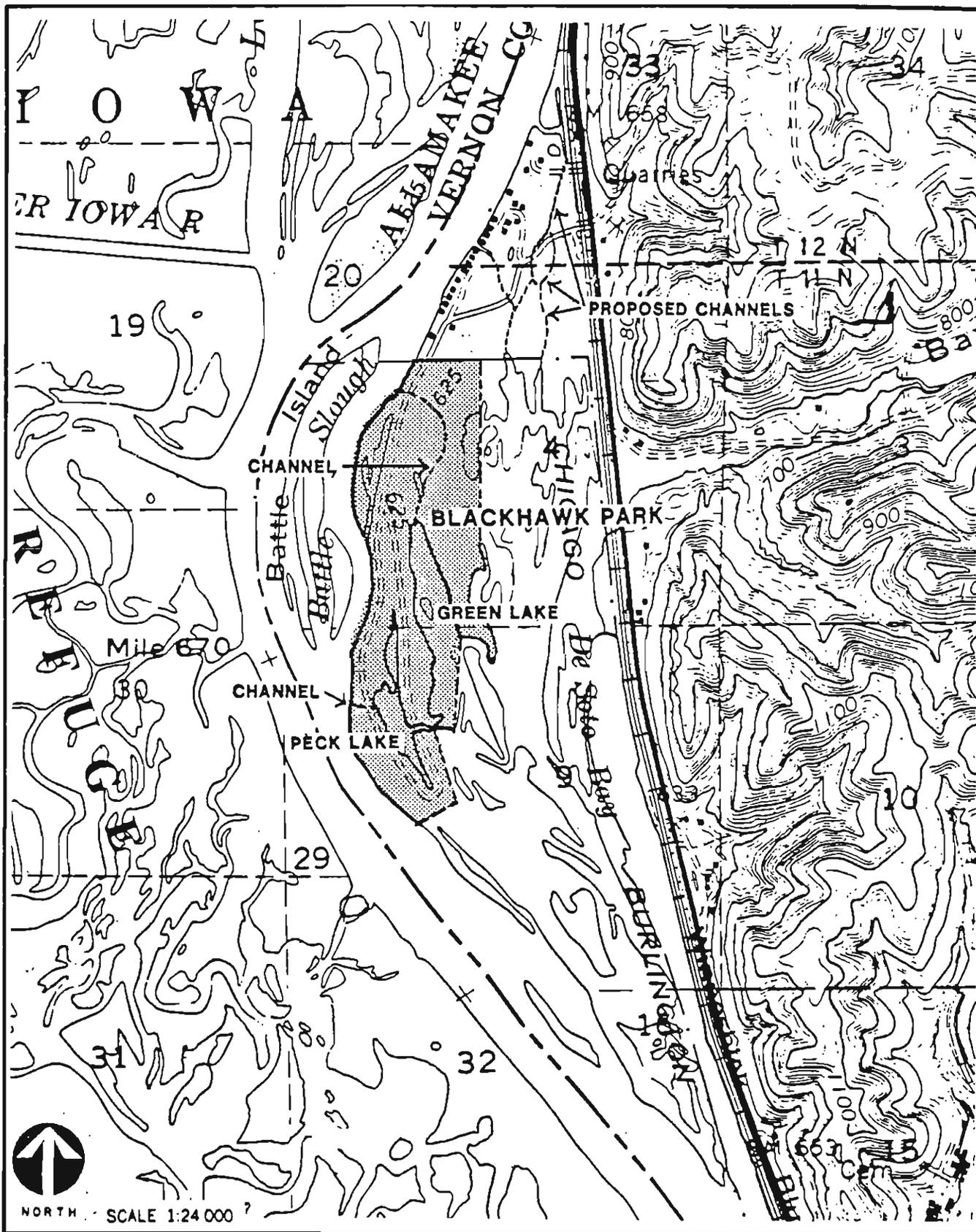
I recommend that the Secretary of the Army, under the Upper Mississippi River Environmental Management Program, enter into an agreement with the Wisconsin DNR for the Blackhawk Park backwater restoration project on a 75 percent Federal - 25 percent local sponsor cost-sharing basis. The total cost of the project would be \$169,700. The Federal share of project costs would be \$127,300. In addition, I recommend that \$22,500 of the funds be allocated in FY 1986 for preparation of plans and specifications with the remaining funds allocated in FY 1987 for actual project construction.

for Louis Kowalski
Joseph Briggs
Colonel, Corps of Engineers
District Engineer



**Upper Mississippi River System
Environmental Management Program**

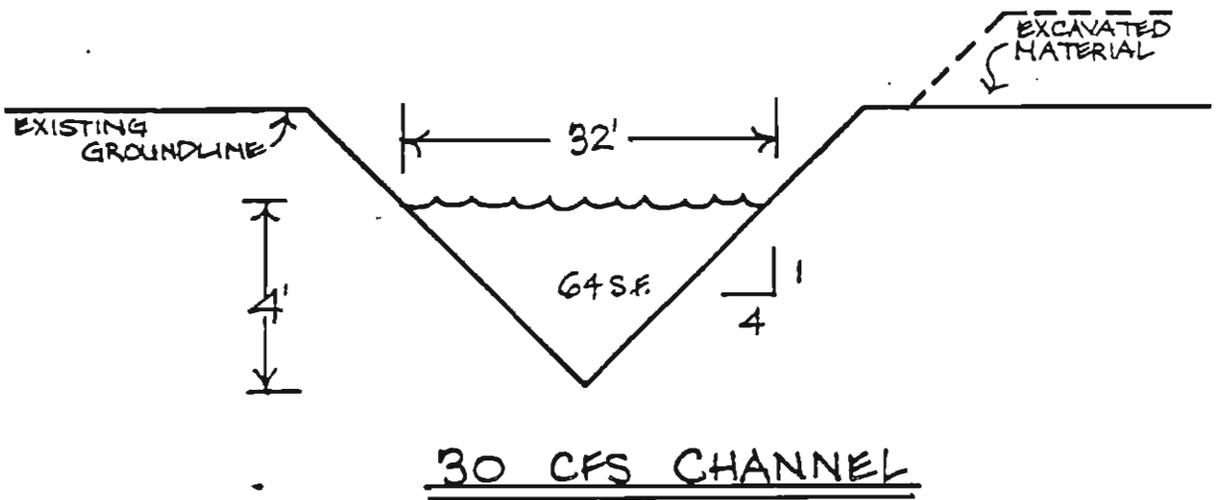
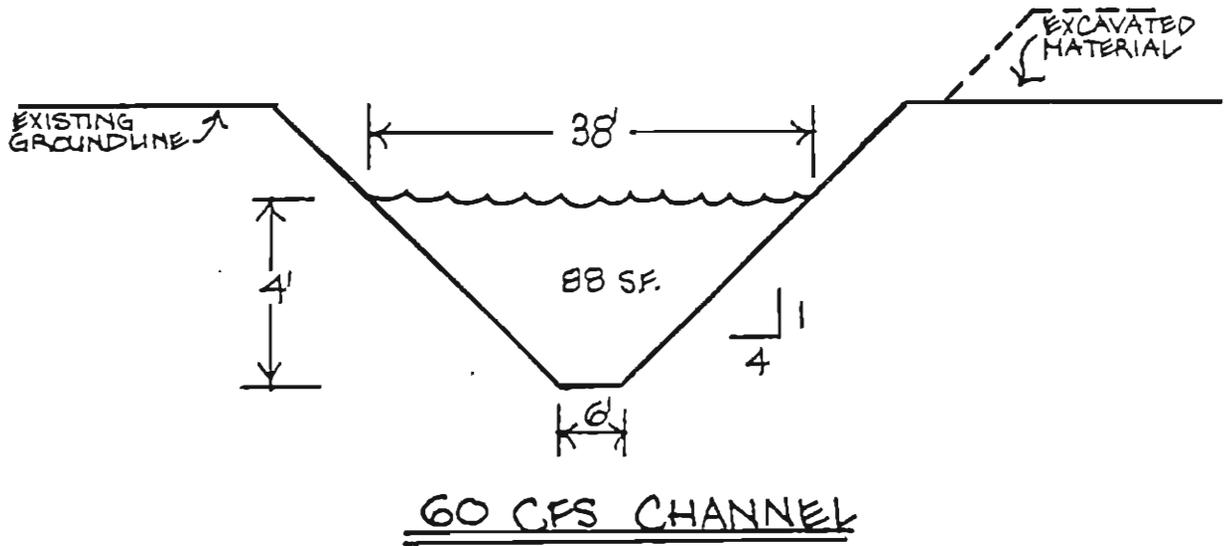
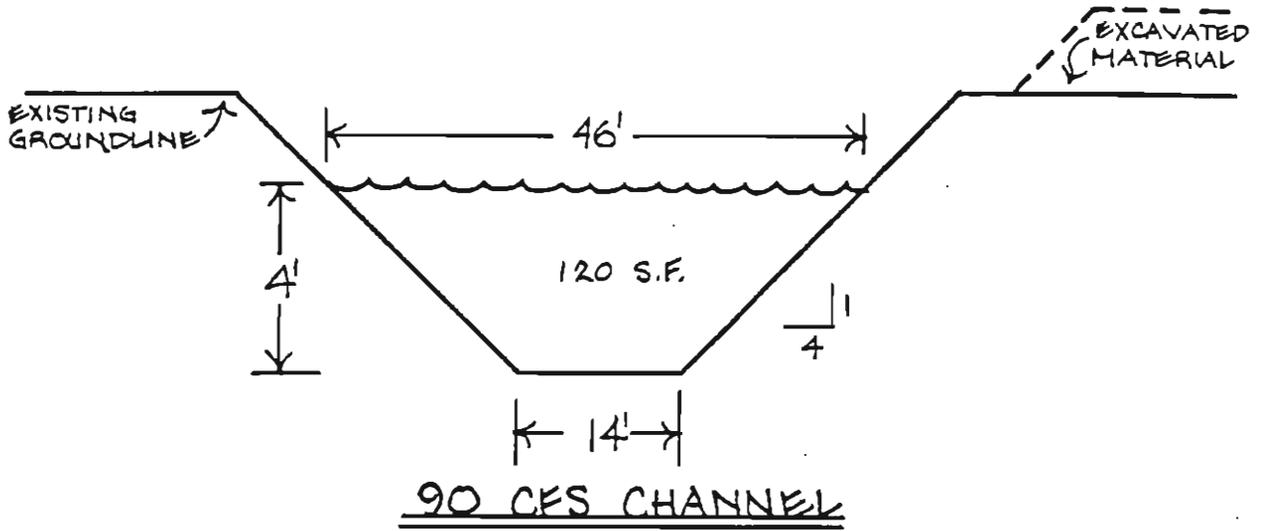
**Project Area Map
Blackhawk Park
Pool 9 Mile 669 Attachment 1**



Upper Mississippi River System
 Environmental Management Program

Project Area Map
 Blackhawk Park

Pool 9 Mile 669 Attachment 2



Upper Mississippi River System
Environmental Management Program

Project Area Map
Blackhawk Park

Pool 9 Mile 669

Attachment 4

APPENDIX B

LOCAL COOPERATION AGREEMENT

LOCAL COOPERATION AGREEMENT
BETWEEN THE DEPARTMENT OF THE ARMY
AND THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES
FOR THE CONSTRUCTION OF
BLACKHAWK PARK BACKWATER RESTORATION PROJECT
POOL 9, UPPER MISSISSIPPI RIVER,
VERNON COUNTY, WISCONSIN

This Agreement entered into this 30th day of June 1986 by and between the Department of the Army (hereinafter called the "Government"), represented by the Assistant Secretary of the Army (Civil Works) and the Wisconsin Department of Natural Resources (hereinafter called the "Local Sponsor").

Witnesseth that:

Whereas, Title I, Chapter IV of Public Law 99-88, known as the 1985 Supplemental Appropriations Act, provided funds for prosecution of certain river and harbor, flood control, shore protection and related projects authorized by law; and,

Whereas, the Secretary of the Army acting through the Chief of Engineers was authorized and directed to proceed with environmental management along the Upper Mississippi River Basin in accordance with the individual report describing such project as reflected in the Joint Explanatory Statement of the Committee of Conference accompanying the Conference Report for H.R. 2577; and,

Whereas, under Public Law 99-88, projects may not be undertaken or funds expended except under terms and conditions acceptable to the Secretary of the Army (or under terms and conditions provided for in subsequent legislation when enacted into law) as set forth in binding agreements with non-Federal entities desiring to participate in project construction; and,

Whereas, such agreements shall include a statement that the non-Federal entities are capable of and willing to participate in project cost sharing and

financing in accordance with the terms of the agreement; and,

Now, therefore, in consideration of the benefits which shall occur as a result of the construction of the Project, the parties agree as follows:

PREAMBLE

The Project area is in pool 9, about 25 miles south of La Crosse, Wisconsin. Authorization for this Project is provided by the 1985 Supplemental Appropriations Act (Public Law 99-88). The Project involves the construction of channels to provide fresh (well-oxygenated) water flows from the main channel of the river to backwater lakes and sloughs. The purpose is to alleviate low dissolved oxygen conditions in these backwaters. The Project would provide water flows to semi-isolated backwaters along the Upper Mississippi River for the purpose of alleviating low dissolved oxygen problems in the backwaters. Flows would be provided through the excavation of approximately 7,000 linear feet of 30 to 90 cfs capacity channel. Culverts will be installed where the channels cross local roads.

ARTICLE I - DEFINITIONS

For purposes of this Agreement:

1. The term "total project costs" shall mean all costs incurred by the Local Sponsor and the Government directly related to construction of the Project (excluding betterments). Such total project costs shall include, but not necessarily be limited to, actual construction costs, the value of lands, easements, and rights-of-way made available for the Project by the Local Sponsor, relocation and alteration costs, costs of engineering and design, and supervision and administration costs.
2. The "Contracting Officer" is the Commander of the U.S. Army Engineer District, St. Paul, or his designee.

ARTICLE II - OBLIGATIONS OF PARTIES

A. The Local Sponsor shall provide, during the period of construction, an amount equal to 25 percent of total project costs. The amount to be provided shall include all lands, easements, rights-of-way, and utility and facility alterations and relocations required for construction of the Project, as well as a cash payment or approved services equal in total to the difference between the value of the above items, as determined pursuant to Article IV of this Agreement, and 25 percent of total project costs.

B. The Government, using funds provided by the Local Sponsor and appropriated by the Congress, shall expeditiously construct the Project, applying those procedures usually followed or applied in Federal projects, pursuant to Federal laws, regulations, Executive Orders and policies. Award of Federal contracts and performance of the work thereunder shall be exclusively within the control of the Government. The Project shall be constructed, whenever possible, in a manner consistent with State and local laws and regulations.

C. Upon completion of project construction, the Government shall turn the Project over to the Local Sponsor, which shall be solely responsible for operation, maintenance, and rehabilitation of the Project in accordance with Article VIII of this Agreement.

D. The Local Sponsor shall, to the extent of its powers, prescribe and enforce regulations to prevent obstruction or encroachment on the Project that would reduce its level of effectiveness or that would hinder operation and maintenance.

E. Initiation of construction of the project, and all rights and responsibilities arising under this Agreement, shall be contingent upon the enactment of Federal legislation permitting written agreements for the construction of water resources projects between the Secretary of the Army and States, bodies politic of States which derive their powers from the State constitution, or governmental entities created by the State legislature to

reflect that nothing therein obligates future legislative appropriations when so doing would be inconsistent with State constitutional limitations.

F. Initiation of construction of the Project, and all rights and responsibilities arising under this Agreement, shall be contingent upon enactment by the Wisconsin state legislature of legislation authorizing the Wisconsin Department of Natural Resources to hold and save the United States free from damages in accordance with Article IX of this Agreement.

ARTICLE III - LANDS, FACILITIES, AND RELOCATION ASSISTANCE

A. The Local Sponsor shall provide without cost to the Government all lands, easements, and rights-of-way, including suitable borrow and dredged material disposal areas, as may be determined by the Chief of Engineers to be necessary for construction and subsequent maintenance of the Project. Prior to the award of any construction contract, the Local Sponsor shall convey to the Government all interests in real estate, including rights-of-entry, required for the Project, together with evidence supporting the Local Sponsor's legal authority to convey such interests.

B. The Local Sponsor shall accomplish without cost to the Government all alterations and relocations of buildings, streets, storm drains, utilities, and other structures and improvements made necessary by construction of the Project.

C. The Local Sponsor shall comply with the applicable provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, approved January 2, 1971, in acquiring lands, easements, and rights-of-way for construction and subsequent operation and maintenance of the Project, and inform any affected persons of applicable benefits, policies, and procedures in connection with said Act.

D. Lands currently owned by the Government which are needed for the Project shall be made available for the Project at no cost to the Local Sponsor.

ARTICLE IV - VALUATION OF LANDS, FACILITIES, AND SERVICES

A. The value of the lands, easements and rights-of-way to be included in total project costs and credited toward the Local Sponsor's share of total project costs will be determined in accordance with the following procedures:

1. If the lands, easements and rights-of-way are owned by the Local Sponsor as of the date this Agreement is signed, the credit shall be the fair market value of the lands at the time such lands are made available to the Government for construction of the Project. The fair market value shall be determined by an appraisal to be obtained by the Local Sponsor which has been prepared by an independent and qualified appraiser who is acceptable to both the Local Sponsor and the Government. The appraisal shall be reviewed and approved by the Government.

2. If lands, easements and rights-of-way are to be acquired by the Local Sponsor after the date this Agreement is signed, the credit shall be the fair market value of the lands at the time such lands are made available to the Government for construction of the Project. The fair market value shall be determined by an appraisal to be obtained by the Local Sponsor which has been prepared by an independent and qualified appraiser who is acceptable to both the Local Sponsor and the Government. The appraisal shall be reviewed and approved by the Government. Provided, however, that if the Local Sponsor pays an amount in excess of the appraisal fair market value, it may be entitled to a credit for this excess amount if the Local Sponsor has secured prior approval from the Government of its offer to purchase said lands.

3. If the Local Sponsor acquires more lands, easements or rights-of-way than are necessary for project purposes, as determined by the Government, then only the value of such portions of those acquisitions as are necessary for project purposes shall be included in total project costs and credited to the Local Sponsor's share.

4. Credit for lands, easements and rights-of-way in the case of involuntary acquisitions after the date this Agreement is signed will be based on court awards or stipulated settlements, in which instance the stipulated settlements must have prior Government approval.

5. The credits provided for in this Article will also include the actual costs of acquiring the land; e.g., closing and title costs, as well as the actual amounts expended for any relocation assistance made in accordance with Article III.

B. The costs of construction, relocation, alteration or modification of utilities or facilities which will be included in total project costs and credited towards the Local Sponsor's share of total project costs shall be that portion of the actual costs incurred by the Local Sponsor as set forth below:

1. Bridges and Highways: Only that portion of the cost as would be necessary to construct substitute bridges and roads to the design standard that the State of Wisconsin would use in constructing a new bridge or road under similar conditions of geography and traffic loads.

2. Utility Facilities: Actual relocation costs, less depreciation, less salvage value, plus the net cost of removal, less the cost of betterments. With respect to betterments, new materials shall not be used in any relocation or alteration if materials of value and usability equal to those in the existing facility are available or can be obtained as salvage from the existing facility or otherwise, unless the provision of new material is more economical. If, despite the availability of used material, new material is used, where the use of such new material represents an additional cost, such cost shall not be included in total project costs.

C. For purposes of determining total project costs and the Local Sponsor's share thereof, the cost of construction and engineering and design services that may be furnished by the Local Sponsor pursuant to this Agreement shall be that portion of these actual costs as set forth below:

1. Actual construction costs incurred by the Local Sponsor in constructing all or portions of the Project, less salvage value, and less the cost of betterments.

2. Actual expenses directly incurred and auditable in providing engineering and design services and expenses directly incurred and auditable in supervision and administration of construction contracts. For any expenses of the Local Sponsor incurred after the date of this Agreement to qualify for reimbursement as a contribution to project costs, all local expenditures for construction and engineering and design must be approved in advance by the Contracting Officer and will be subject to final Government audit. "Overhead" or other "indirect" expenditures by the Local Sponsor not relating directly to performance of the Project shall not be allowed as a project cost.

D. At the sole discretion of the Government, the Local Sponsor may be permitted to perform engineering and design services on all or any portions of the Project and construct all or portions of the Project subject to Government audit. Any work performed by the Local Sponsor, and reimbursed therefor, shall be in accordance with Section 215 of the Flood Control Act of 1968 (42 U.S.C. 1962d-5a).

E. Principles for determining allowable cost of contracts and subcontracts with State, Local, and Federally recognized Indian tribal governments are set forth in Office of Management and Budget (OMB) Circular No. A-87, Cost Principles for State and Local Governments, Revised. Those cost principles shall be applied during audit to determine allowability, allocability and reasonableness of costs incurred and claimed by the Local Sponsor as a part of total project costs. Costs shall be deemed allowable and includable as project costs to the extent they are incurred in accordance with and are in compliance with the principles enunciated in OMB Circular A-87 and are not excluded by the terms of this Agreement.

ARTICLE V - PROJECT PHASING AND MANAGEMENT

A. To provide for consistent and effective communication between the Local Sponsor and the Government, the Local Sponsor and the Government shall appoint representatives to coordinate on scheduling, plans, specifications, modifications, contract costs, and other matters relating to the Project.

B. The representatives appointed above shall meet as necessary as the Project is implemented and shall make such recommendations as they deem warranted to the Contracting Officer.

C. The Contracting Officer shall consider the recommendations of said representatives in all matters relating to the Project; however, the Contracting Officer, having ultimate responsibility for construction of the Project, has complete discretion to accept, reject, or modify the recommendations of the representatives. No action shall be taken by the Local Sponsor with respect to plans, specifications, scheduling, modifications, contract costs or other matters affecting the incidence of costs under this Project without the prior written approval of the Contracting Officer.

ARTICLE VI - METHOD OF PAYMENT

A. Pursuant to Article II of this Agreement, the Local Sponsor shall provide, over the term of construction, 25 percent of total project costs. Total project costs are presently estimated to be \$166,700. In order to meet its 25 percent share, the Local Sponsor must provide a cash contribution or ~~services-in-kind~~ presently estimated to be \$38,650 and lands, easements, and ~~rights-of-ways~~ presently estimated at \$3,000. If the Government has reason to believe that the total project cost will exceed the above-noted estimated cost by ten (10) percent or more, the Government shall notify the Local Sponsor to that effect, giving the revised estimate of such total cost for the Project.

B. The Government shall, 30 days prior to the award of the construction contract, notify the Local Sponsor of its share of total project costs, after crediting the Local Sponsor's share with the value of lands, easements, ~~rights-of-way~~, and relocations and alterations and approved services provided or to be provided by the Local Sponsor. Within 30 days thereafter, the Local Sponsor shall provide the Government the full amount of the required contribution by cash, escrow account or letter of credit. In the event that total project costs are expected to exceed the estimate given at the outset of construction, the Government shall immediately notify the Local Sponsor of the additional contribution it will be required to make to meet its share of the revised estimated total project costs. Within 30 days thereafter, the Local

Sponsor shall provide the Government the full amount of the additional required contribution.

C. The Government will draw on the funds, escrow account, or letter of credit provided by the Local Sponsor such sums as it deems necessary to cover contractual and in-house fiscal obligations as they occur and Government costs incurred prior to the date of this Agreement.

D. Upon completion of the Project and resolution of all contract claims and appeals, the Government will compute the total project costs and tender to the Local Sponsor a final accounting of its share of total project costs. In the event the total contribution by the Local Sponsor is less than its required share of total project costs at the time of the final accounting, the Local Sponsor shall deposit within 90 calendar days after receipt of written notice whatever sum is required to meet its required share of total project costs. In the event the Local Sponsor has made excess cash contributions and/or provided services that result in the Local Sponsor's having provided more than its required share of total project costs, the Government shall return such cash contributions or otherwise reimburse the Local Sponsor for any amounts in excess of its required 25 percent share within 90 calendar days of the final accounting of total project costs.

ARTICLE VII - DISPUTES

Before any party to this Agreement may bring suit in any court concerning an issue relating to this Agreement, such party must first seek in good faith to resolve the issue through negotiation or through other forms of non-binding alternative dispute resolution.

ARTICLE VIII - OPERATION, MAINTENANCE AND REHABILITATION

A. The Local Sponsor will operate, maintain and rehabilitate the Project upon completion in accordance with regulations or directions prescribed by the Secretary of the Army. The Government will be responsible for seventy-five (75) percent of the operations, maintenance, and rehabilitation, and the Local Sponsor will be responsible for the remaining

twenty-five (25) percent. The Local Sponsor will perform necessary operations, maintenance, and rehabilitation of the project and bill the Government for its seventy-five (75) percent share of such costs as those costs are incurred.

B. The Local Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon land which it owns or controls for access to the Project for the purpose of inspection, and, if necessary, for the purpose of completing, operating, repairing, and maintaining the Project. If an inspection shows that the Local Sponsor for any reason is failing to complete, operate, repair, and maintain the Project in accordance with the assurances hereunder, the Government will send a written notice to the Local Sponsor. If the Local Sponsor persists in such failure for 30 calendar days after receipt of the notice, the Government shall have a right to enter, at reasonable times and in a reasonable manner, upon lands the Local Sponsor owns or controls for access to the Project for the purpose of completing, operating, repairing, or maintaining the Project. No completion, operation, repair, or maintenance by the Government shall operate to relieve the Local Sponsor of its responsibility to meet its obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to assure faithful performance pursuant to this Agreement.

ARTICLE IX - RELEASE OF CLAIMS

The Local Sponsor will hold and save the Government free from all damages arising from the construction and operation of the completed Project, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE X - MAINTENANCE OF RECORDS

The Government and the Local Sponsor shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total project costs. The Government and the Local Sponsor shall maintain such books, records, documents, and other evidence for a minimum of three years

after completion of construction of the Project and resolution of any claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

ARTICLE XI - FEDERAL AND STATE LAWS

A. In acting under its rights and obligations hereunder, the Local Sponsor agrees to comply with all applicable Federal and State laws and regulations.

B. The Local Sponsor agrees to comply with Section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) and Department of Defense Directive 5500.II issued pursuant thereto and published in Part 300 of Title 32, Code of Federal Regulations, in connection with the construction, operation, and maintenance of the Project.

ARTICLE XII - RELATIONSHIP OF PARTIES

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

ARTICLE XIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV - COVENANT AGAINST CONTINGENT FEES

The Local Sponsor warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreements or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Local Sponsor for the purpose of securing business. For breach or violation of this warranty, the Government shall have the right

to annul this Agreement without liability, or, in its discretion, to add to the Agreement or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XV - TERMINATION OR SUSPENSION

A. If at any time the Local Sponsor fails to make the payments required under this Agreement, the Secretary of the Army shall terminate or suspend work on the Project unless the Secretary determines that continuation of work on the Project is in the interest of the United States. Any delinquent payment shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3 month period if the delinquency exceeds 3 months.

B. If the Government fails to receive annual appropriations in amounts sufficient to meet expenditures for the then-current fiscal year, the Government shall so notify the Local Sponsor. After 60 calendar days, either party may elect without penalty to terminate the Agreement or to suspend performance thereunder, and the parties shall proceed to wind up their activities relating to the Project and proceed to a final accounting in accordance with Article VI.D.

ARTICLE XVI - STATEMENT OF INTENT

As required under Title I, Chapter IV of Public Law 99-88, the Local Sponsor hereby affirms its willingness and capability to meet its cost-sharing obligations as set forth in this Agreement.

ARTICLE XVII - EFFECT OF SUBSEQUENT LEGISLATION

If, subsequent to the date of this Agreement, Congress enacts into law a change in the cost-sharing applicable to this Project, the parties hereto shall be bound by such a change, and this Agreement shall be amended accordingly.

ARTICLE XVIII - OBLIGATION OF FUTURE APPROPRIATIONS

Nothing herein shall constitute, or shall be deemed to constitute, an obligation of future appropriations by the State Legislature of the State of Wisconsin.

ARTICLE XIX - NON-LIABILITY OF OFFICERS AND EMPLOYEES

Neither the Secretary of the Wisconsin Department of Natural Resources, officers, agents, or employees thereof, nor any officer, agent, or employee of the Government, shall be charged personally with any liability, or held liable under the terms or provisions of this Agreement, or because of its execution or attempted execution, or because of any breach or attempted breach or alleged breach thereof.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

THE DEPARTMENT OF THE ARMY

THE WISCONSIN DEPARTMENT OF
NATURAL RESOURCES

BY 

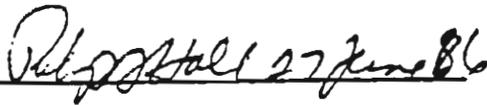
BY 

ROBERT K. DAWSON
ASSISTANT SECRETARY OF THE ARMY
(CIVIL WORKS)

DATE: 27 June 1986

DATE: 30 June 1986

AS WITNESSED BY:

 27 June 86

Linda N. Brackett 6/30/86
Executive Assistant, WDNR

CERTIFICATE OF AUTHORITY

I, Jimmy S. Christenson, do hereby certify that I am the Attorney for the Wisconsin Department of Natural Resources, that the Wisconsin Department of Natural Resources is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the DEPARTMENT OF THE ARMY and the WISCONSIN DEPARTMENT OF NATURAL RESOURCES in connection with the Blackhawk Park Backwater Restoration Project, Vernon County, Wisconsin, and to pay damages, if necessary, in the event of the failure to perform, in accordance with Section 221 of Public Law 91-611, and that the persons who have executed the Agreement on behalf of the Wisconsin Department of Natural Resources have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this Certificate this 30th day of June, 1986.


WISCONSIN DEPARTMENT OF NATURAL RESOURCES ATTORNEY

APPENDIX C

INSPECTION CHECKLIST FORM

Inspection Checklist

BLACKHAWK PARK BACKWATER REHABILITATION PROJECT
Habitat Rehabilitation and Enhancement Project
Pool 9 - Upper Mississippi River

TO: U.S. Army Corps of Engineers
ATTN: CEMVP-CO-TS
Army Corps of Engineers Centre
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Inspected by: _____ Date: _____

Type of Inspection: () Annual () Spring Flood
() Emergency - Disaster
() Other _____

I. CULVERTS

- A. Gantenbein Culverts (48 in. culverts)
() Debris Approximate % closed: _____ %
() Open
() Removal Needed
() Removal Completed Date: _____
() Erosion
() Displaced Riprap
() Riprap Needed
() Flow

B. County Culverts

	North Culvert (1 - 48")	Center Culverts (2 - 48")	South Culverts (2 - 48")
Open	()	()	()
Debris Removal Needed	()	()	()

II. CHANNELS

- A. Banks
- Erosion: () No Major Problems
() Areas To Monitor (show on project map)
() Areas Needing Attention (show on project map)
() Shaping
- Riprap: () No Major Problems
() Areas To Monitor (show on project map)
() Areas Needing Attention (show on project map)
() Reshaping
() Riprap Needed

B. Channel

Debris: () No Major Problems
 () Areas Needing Monitoring (show on project map)
 () Areas Needing Removal (show on project map)

Sand/Spoil: () No Major Problems
 () Areas Needing Monitoring (show on project map)
 () Areas Needing Removal (show on project map)

III. OTHER ITEMS (List)

A. Areas needing special attention (describe and show on the attached project drawing)

B. Maintenance performed during the past year (include location of work, volume of rockfill placed, volume of dredging performed, and cost)

C. Maintenance needed (include itemized estimated of cost to repair)

D. Other comments (brief summary of the condition of the project)

APPENDIX D

PROJECT OBJECTIVES AND MONITORING PLAN

Project Objectives and Monitoring Plan

Blackhawk Park Backwater Restoration Project Vernon County, Wisconsin

INTRODUCTION

DESCRIPTION OF PROJECT AREA

The project area is in Pool 9 of the Upper Mississippi River, approximately 25 miles south of La Crosse, Wisconsin. Blackhawk Park proper lies along the east bank of the main channel of the river. Between the Park and the Wisconsin mainland is a complex of backwater channels, sloughs, and lakes. This project is designed to maintain and improve habitat in backwater areas known as Nancy Lake and Long Slough.

DESCRIPTION OF PROJECT

Nancy Lake and Long Slough have been identified as important fish habitat areas. In the past several of the side channels that supply water to this backwater complex have been obstructed by the construction of roads to Blackhawk Park, adjacent private developments, and by sedimentation. The plan of improvement consisted of a system of excavated channels combined with the placement of culverts beneath existing roadways. The installed culverts and channels, as designed, allow fresh water flows and sufficient dissolved oxygen levels to maintain and improve habitat in Nancy Lake and Long Slough.

PROJECT GOAL

Maintain and improve centrarchid habitat in Nancy Lake and Long Slough, especially in winter and late summer.

The project channels are designed to carry sufficient flows and oxygen levels from the main channel of the Mississippi River to the backwater areas of Nancy Lake and Long Slough. Oxygen levels and water quality parameters in the above areas should be adequate to maintain centrarchid and centrarchid habitat in winter and late summer.

Key determinants to be assessed at the Blackhawk Park Project are dissolved oxygen levels, flow rates, channel configuration, temperature profiles, and fish use. The project will be considered successful if: oxygen levels are maintained between 5-10 ppm; flow rates are adequate to maintain oxygen levels; proper temperature levels are maintained; and fish use is maintained or increased in Nancy Lake and Long Slough.

PROJECT OBJECTIVES AND MONITORING TASKS

Objective 1

Maintain and improve centrarchids in Nancy Lake and Long Slough in winter and late summer.

Monitoring Task 1A - Determine the use of Nancy Lake and Long Slough by centrarchids in winter and late summer.

Monitoring Task 1B - Determine the distribution and density of vegetation in Nancy Lake and Long Slough in late summer.

Objective 2

Maintain oxygen levels in Nancy Lake and Long Slough at or above 5 mg/l in winter and late summer.

Monitoring Task 2 - Determine oxygen levels in Nancy Lake, Long Slough and the project channels in winter and late summer.

Objective 3

Maintain flows in the project channels of from 1-10 cubic feet per second under low flow conditions of winter and late summer sufficient to maintain Objective 2 oxygen levels in Nancy Lake and Long Slough and flow velocities equal to or less than 0.05 feet per second in Nancy Lake and Long Slough in the winter.

Monitoring Task 3A - Determine flows in the project channels in winter and late summer.

Monitoring Task 3B - Evaluate changes in the bed over time.

Objective 4

Maintain winter water temperatures of greater than 2°C in areas of Nancy Lake and Long Slough that have appropriate dissolved oxygen, depths, and flows for winter centrarchid habitat.

Monitoring Task 4A - Determine temperatures in Nancy Lake and Long Slough in winter.

MONITORING AND EVALUATION SCHEDULE

<u>DATE</u>	<u>Water Quality*</u>	<u>Fish</u>	<u>Vegetation</u>	<u>Channel Survey</u>
1993	X			
1995	X	X	X	
2001	X	X	X	X
2011	X	X	X	
2021	X	X	X	
2031	X	X	X	
2041	X	X	X	X

* Water quality sampling locations are shown on Figure 1. Measurements include: snow, ice, and water depths; current velocity and direction; water temperature; dissolved oxygen concentration; and conductivity.

BLACKHAWK PARK AREA
POOL 9, MISSISSIPPI RIVER

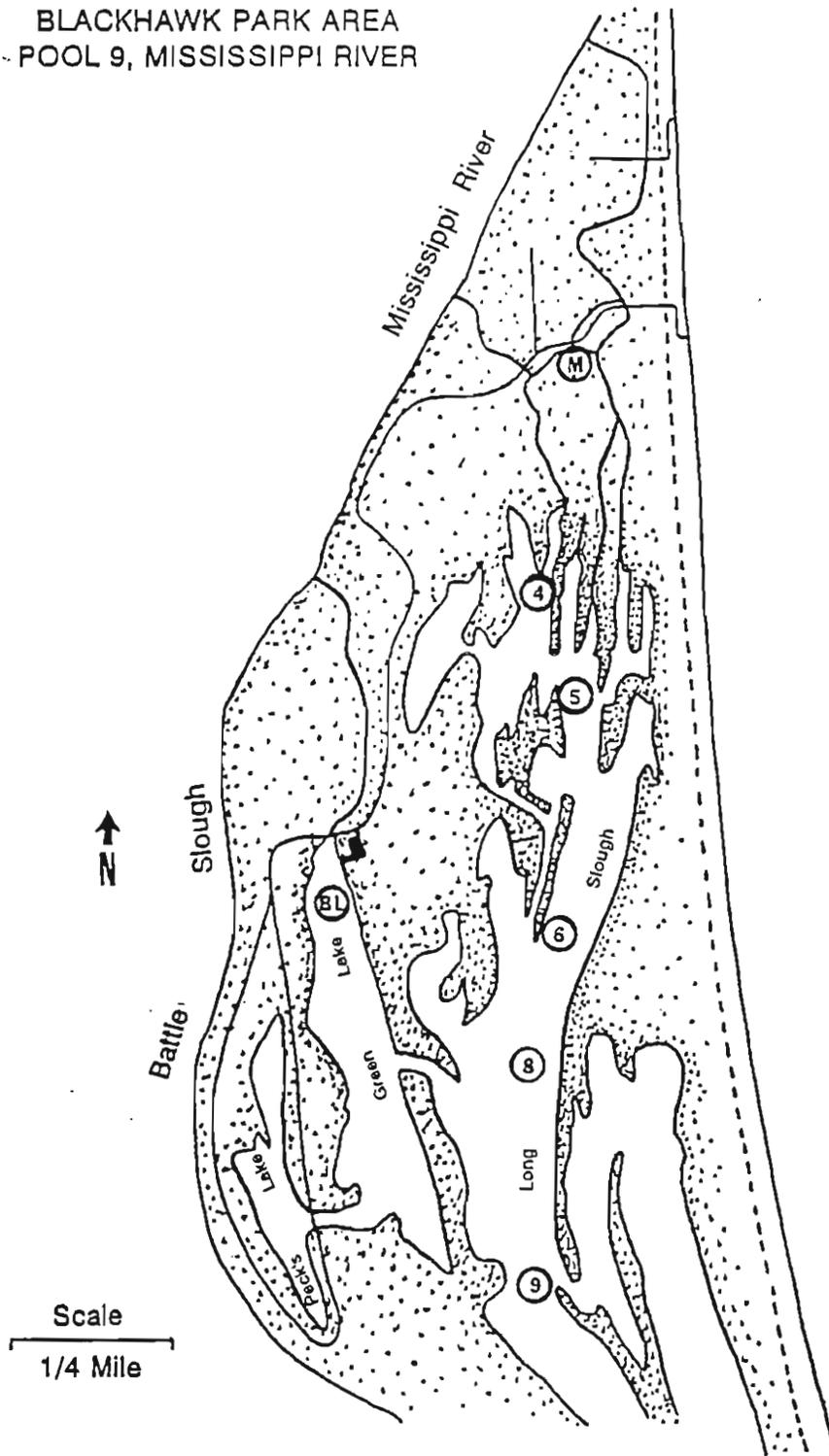
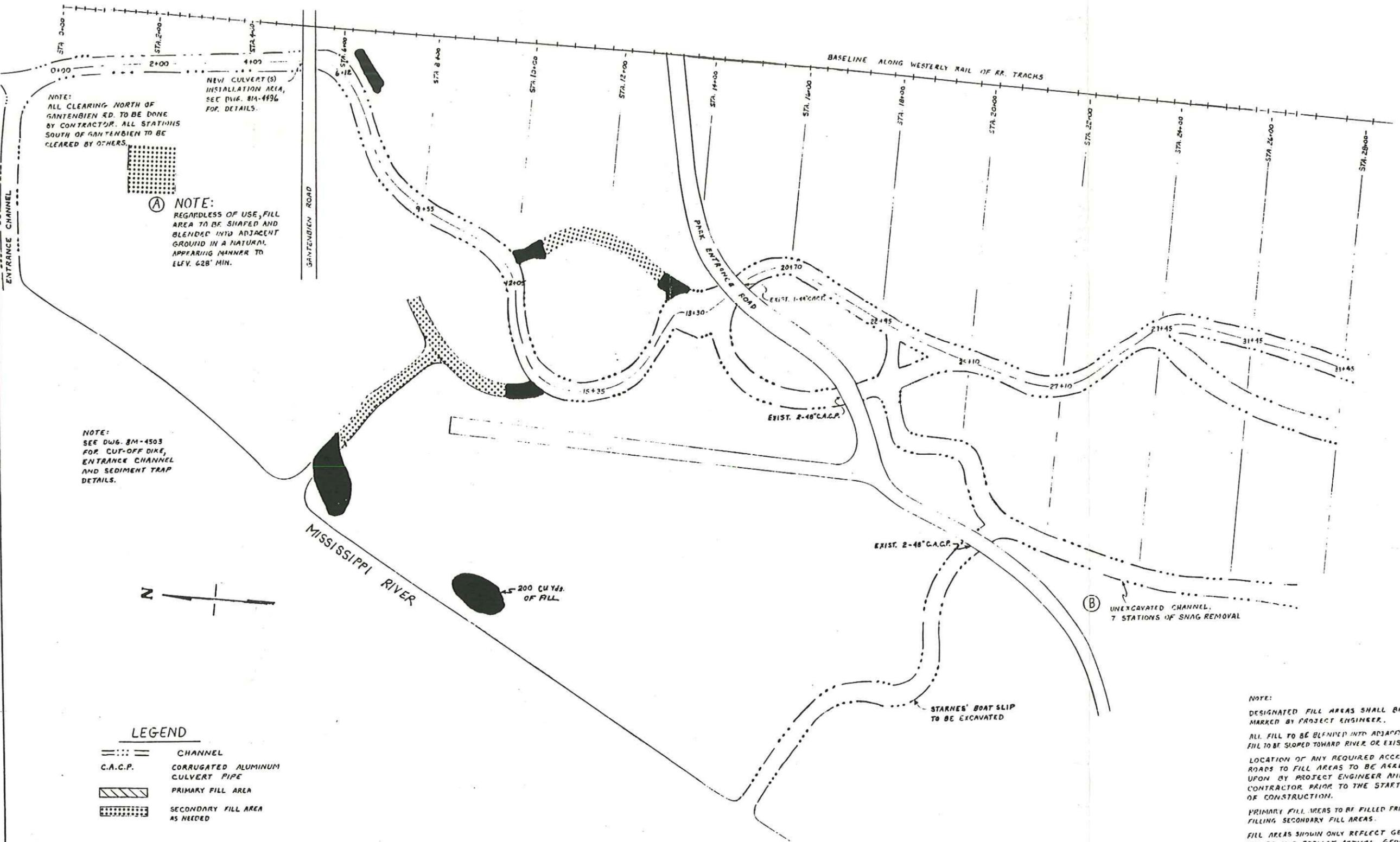


Figure 1. Water Quality Sampling Locations



NOTE:
ALL CLEARING NORTH OF
GANTENBIEN RD. TO BE DONE
BY CONTRACTOR. ALL STATIONS
SOUTH OF GANTENBIEN TO BE
CLEARED BY OTHERS.

NEW CULVERT(S)
INSTALLATION AREA,
SEE DWG. 8M-4496
FOR DETAILS.

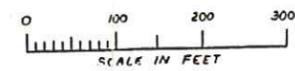
(A) NOTE:
REGARDLESS OF USE, FILL
AREA TO BE SHAPED AND
BLENDED INTO ADJACENT
GROUND IN A NATURAL
APPEARING MANNER TO
ELEV. 628' MIN.

NOTE:
SEE DWG. 8M-4503
FOR CUT-OFF DIKE,
ENTRANCE CHANNEL
AND SEDIMENT TRAP
DETAILS.



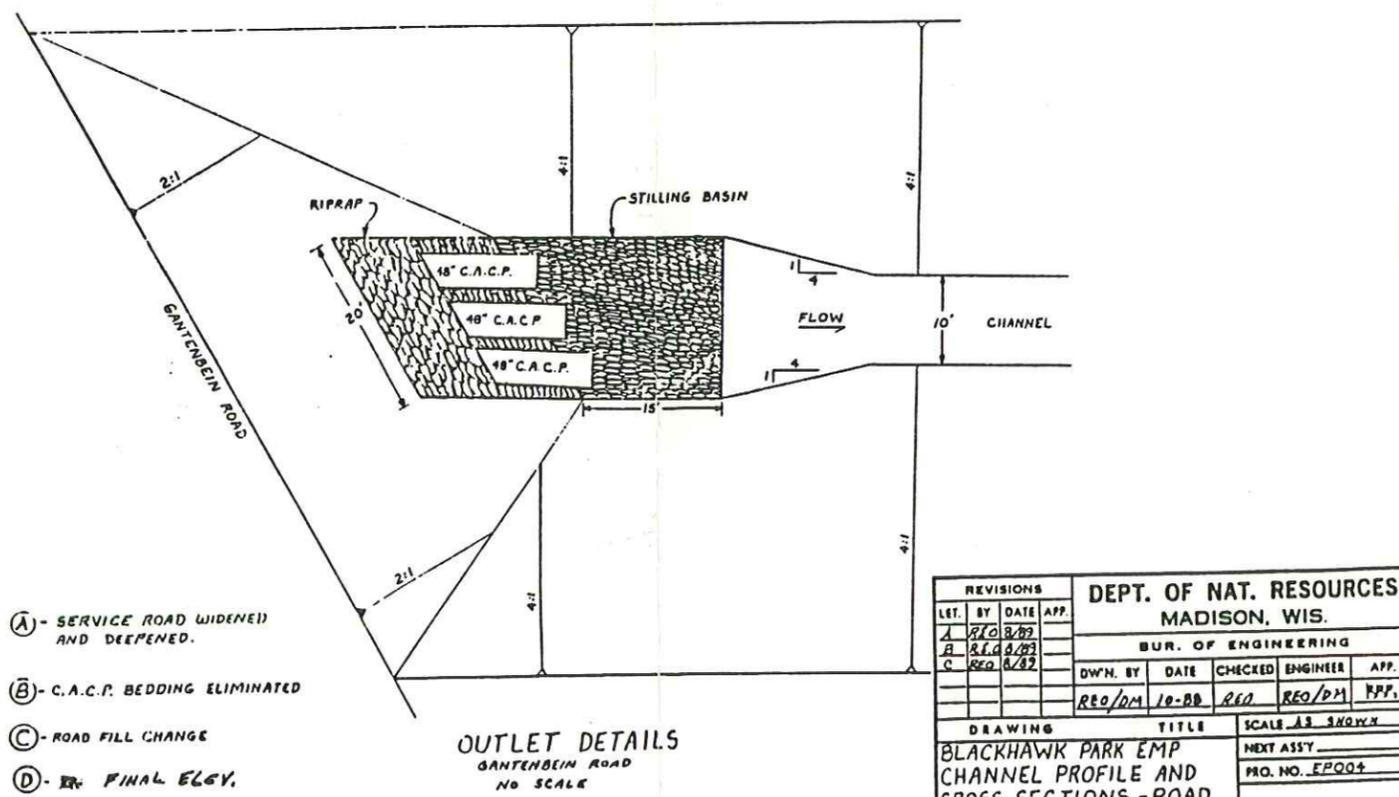
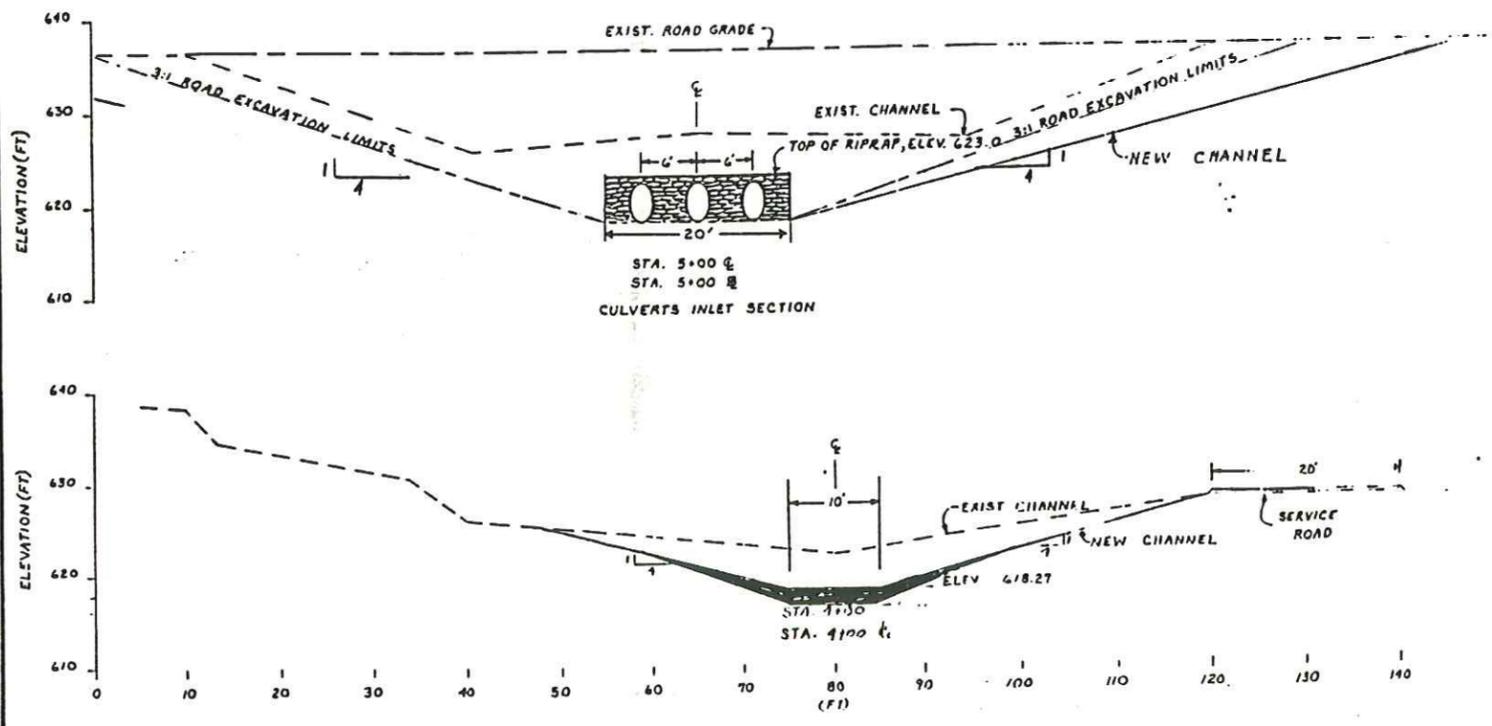
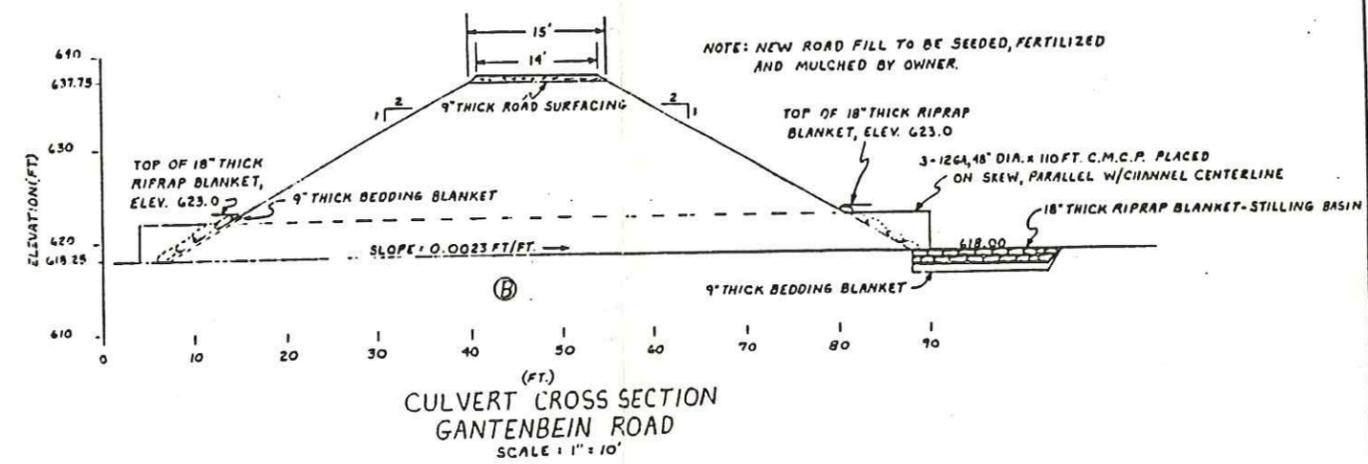
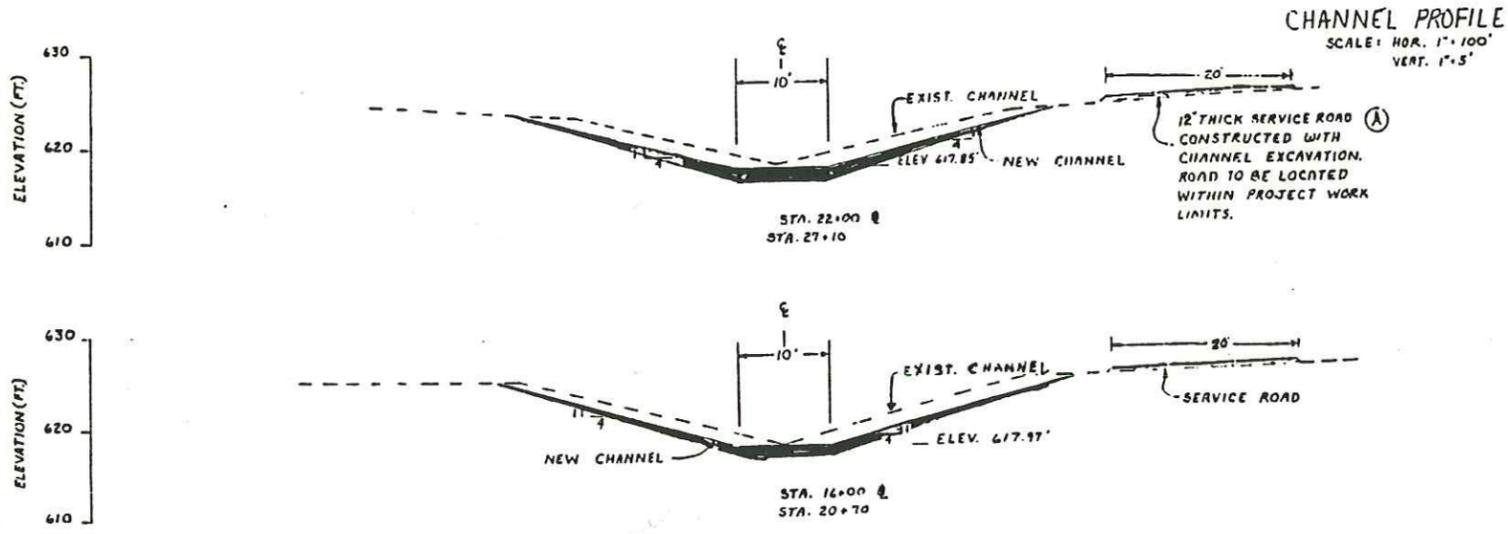
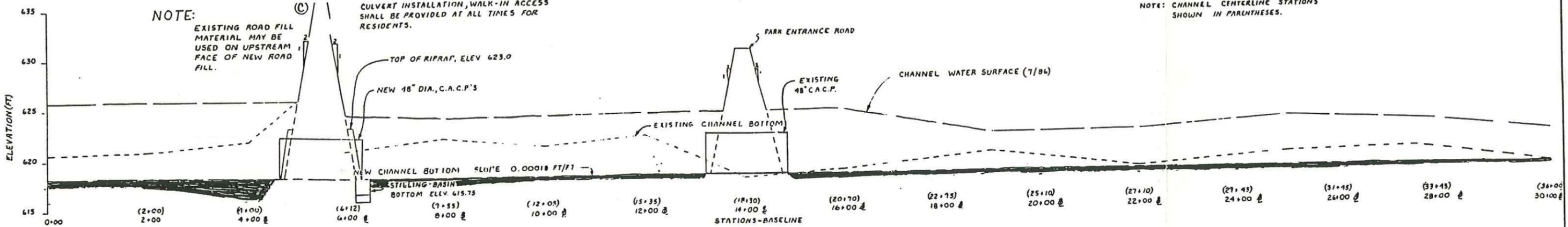
- LEGEND**
- CHANNEL
 - C.A.C.P. CORRUGATED ALUMINUM CULVERT PIPE
 - ▨ PRIMARY FILL AREA
 - ▤ SECONDARY FILL AREA AS NEEDED

- (A) FILL AREA STATUS CHANGED
- (B) ADDITIONAL CLEARING STATIONS
- (C) OPENING EXISTING CULVERTS
- FILLED AREAS



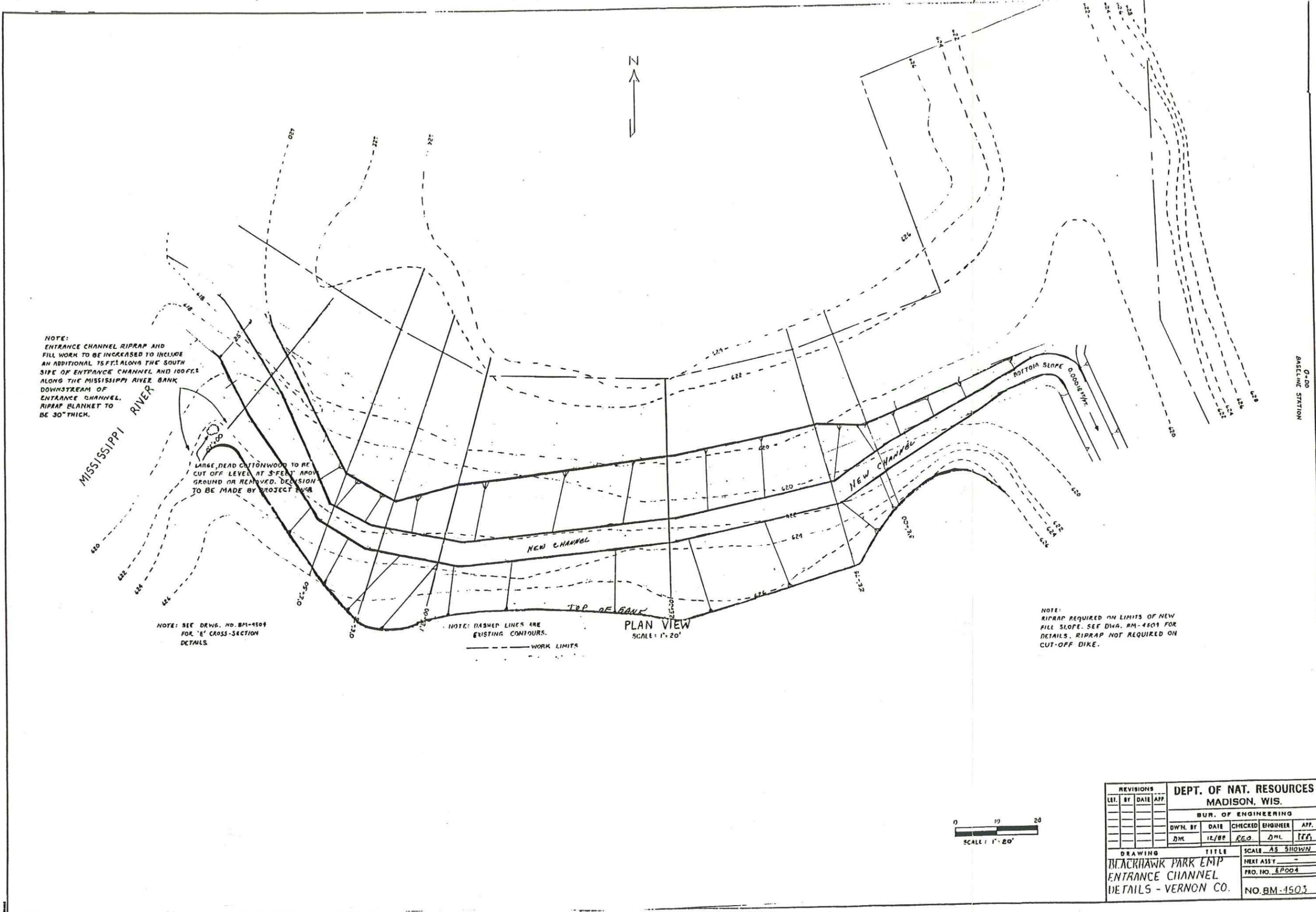
NOTE:
DESIGNATED FILL AREAS SHALL BE
MARKED BY PROJECT ENGINEER.
ALL FILL TO BE BLENDED INTO ADJACENT GROUND.
FILL TO BE SLOPED TOWARD RIVER OR EXISTING CHANNELS.
LOCATION OF ANY REQUIRED ACCESS
ROADS TO FILL AREAS TO BE AGREED
UPON BY PROJECT ENGINEER AND
CONTRACTOR PRIOR TO THE START
OF CONSTRUCTION.
PRIMARY FILL AREAS TO BE FILLED PRIOR TO
FILLING SECONDARY FILL AREAS.
FILL AREAS SHOWN ONLY REFLECT GENERAL LOCATION,
BUT DO NOT REFLECT ACTUAL GEOMETRY.
EXIST. C.A.C.P. INLETS TO BE EXCAVATED OPEN.

DEPT. OF NAT. RESOURCES MADISON WIS	
REVISED	DATE
A	8/83
DRAWING	TITLE
BLACKHAWK PARK EMP CHANNEL AND FILL AREAS - VERNON CO.	NO. RM-4495



- (A) - SERVICE ROAD WIDENED AND DEEPEMED.
- (B) - C.A.C.P. BEDDING ELIMINATED
- (C) - ROAD FILL CHANGE
- (D) - FINAL ELEV.

REVISIONS				DEPT. OF NAT. RESOURCES MADISON, WIS.			
LET.	BY	DATE	APP.	BUR. OF ENGINEERING			
A	REG	8/82		OWN. BY	DATE	CHECKED	ENGINEER
B	REG	8/82		REG/DM	10-88	REG	REG/DM
C	REG	8/82		SCALE AS SHOWN		NEXT ASSY.	
DRAWING TITLE							PRO. NO. EP004
BLACKHAWK PARK EMP CHANNEL PROFILE AND CROSS SECTIONS-ROAD CULVERTS DETAILS							NO. BM-4494



NOTE:
ENTRANCE CHANNEL RIPRAP AND
FILL WORK TO BE INCREASED TO INCLUDE
AN ADDITIONAL 75 FT. ALONG THE SOUTH
SIDE OF ENTRANCE CHANNEL AND 100 FT.
ALONG THE MISSISSIPPI RIVER BANK
DOWNSTREAM OF
ENTRANCE CHANNEL.
RIPRAP BLANKET TO
BE 30" THICK.

MISSISSIPPI RIVER

LARGE DEAD COTTONWOOD TO BE
CUT OFF LEVEL AT 3 FEET ABOVE
GROUND OR REMOVED. DECISION
TO BE MADE BY PROJECT ENGINEER

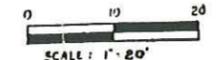
NOTE: SEE DRAW. NO. BM-4504
FOR 'E' CROSS-SECTION
DETAILS

NOTE: DASHED LINES ARE
EXISTING CONTOURS.

WORK LIMITS

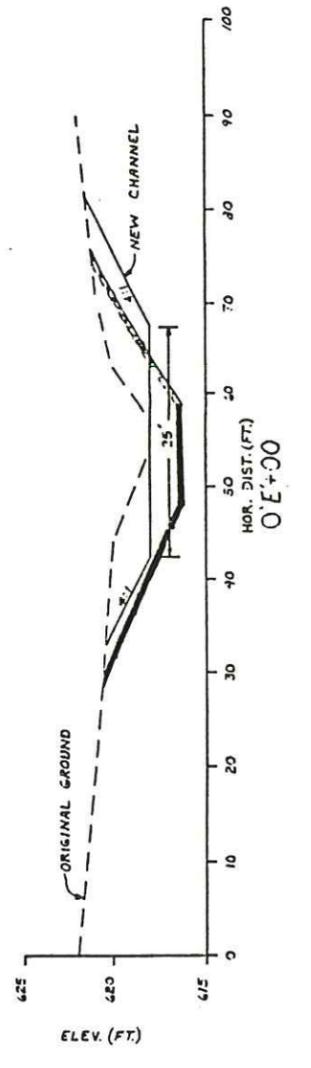
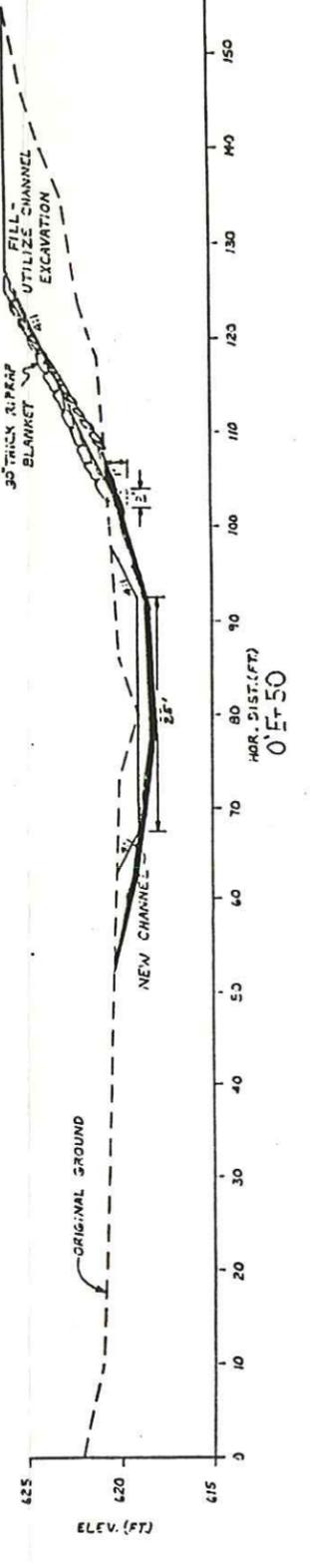
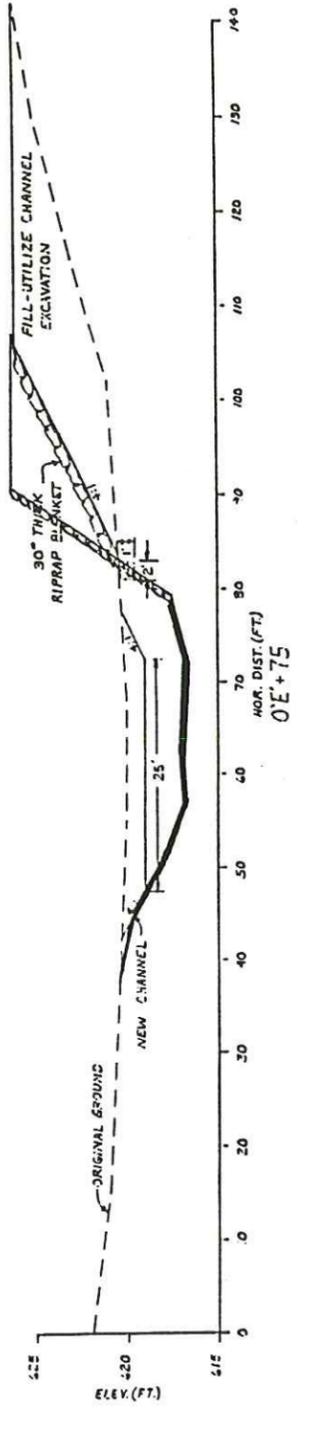
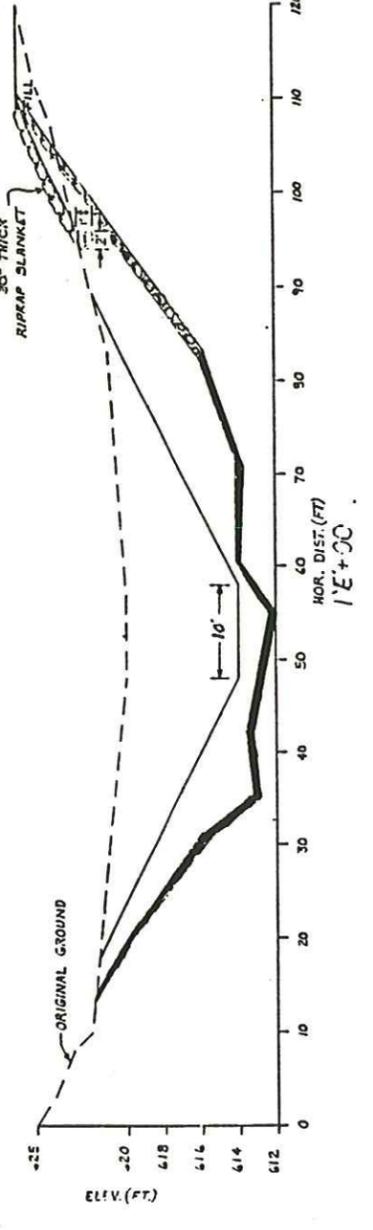
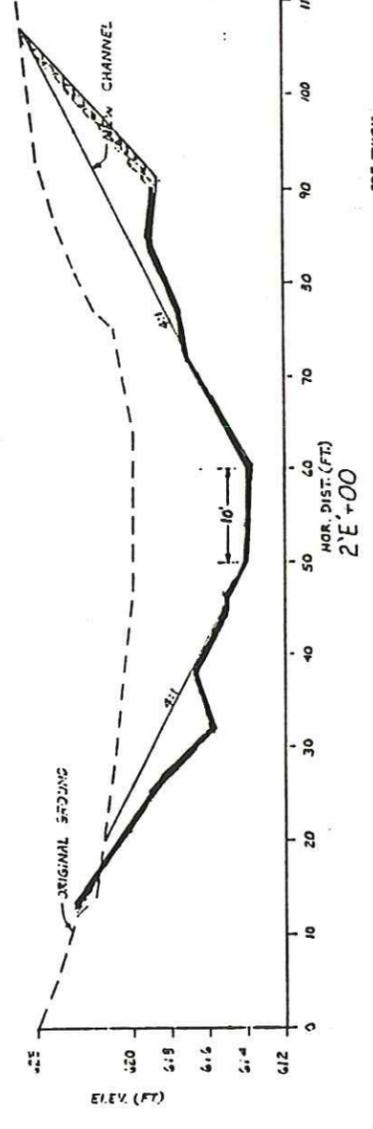
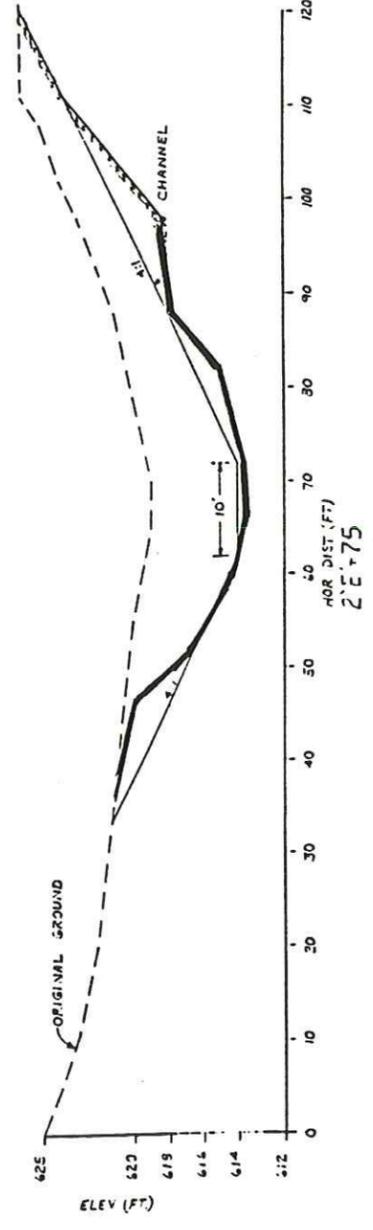
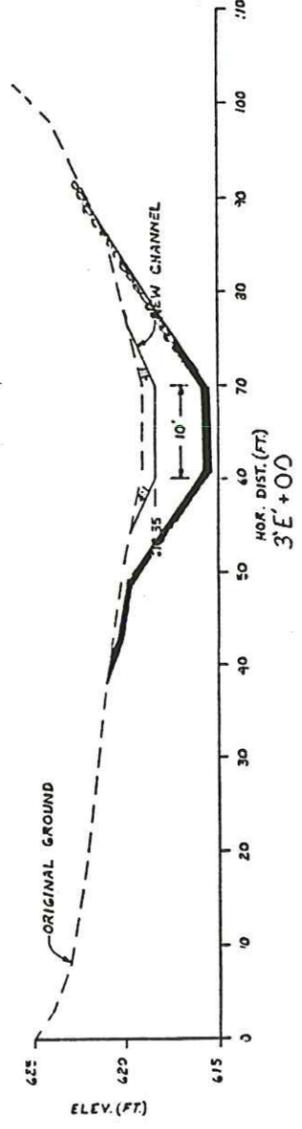
PLAN VIEW
SCALE: 1" = 20'

NOTE:
RIPRAP REQUIRED ON LIMITS OF NEW
FILL SLOPE. SEE DWG. AM-4504 FOR
DETAILS. RIPRAP NOT REQUIRED ON
CUT-OFF DIKE.



REVISIONS				DEPT. OF NAT. RESOURCES MADISON, WIS.				
LET.	BY	DATE	APP.	BUR. OF ENGINEERING				
				DWN. BY	DATE	CHECKED	ENGINEER	APP.
				DME	12/88	REG	DML	TFP
DRAWING				TITLE				
BLACKHAWK PARK EMP				SCALE AS SHOWN				
ENTRANCE CHANNEL				NEXT ASSY -				
DETAILS - VERNON CO.				PRO. NO. EP004				
				NO. BM-4503				

0+00
BASELINE STATION



NOTE: EXPOSED TOP OF FILL TO BE SEED, FERTILIZED AND MULCHED.

REVISIONS					DEPT. OF NAT. RESOURCES				
LET.	BY	DATE	APP.		MADISON, WIS.				
					BUR. OF ENGINEERING				
					OWN. BY	DATE	CHECKED	ENGINEER	APP.
					BWL	12/88	R.S.O.	DM	K.M.
DRAWING					TITLE				
BLACKHAWK PARK EMP					SCALE AS SHOWN				
ENTRANCE CHANNEL					NEXT ASSY. -				
CROSS-SECTIONS					PRO. NO. EP004				
					NO BM 4504				