

FOX ISLAND DIVISION

OPERATION AND MAINTENANCE MANUAL

**UPPER MISSISSIPPI RIVER RESTORATION PROGRAM
HABITAT REHABILITATION AND ENHANCEMENT PROJECT**

**CLARK COUNTY, MISSOURI
MISSISSIPPI RIVER
RIVER MILES 353.6 TO 358.5**

**APPENDIX B
MEMORANDUM OF AGREEMENT**

**MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES FISH AND WILDLIFE SERVICE
AND
THE DEPARTMENT OF THE ARMY
FOR
FOX ISLAND DIVISION HABITAT
REHABILITATION AND ENHANCEMENT
OF THE
GREAT RIVER NATIONAL WILDLIFE REFUGE
AT
MISSISSIPPI RIVER POOL 20, CLARK COUNTY, MISSOURI**

I. PURPOSE

The purpose of this Memorandum of Agreement (MOA) is to establish the relationships, arrangements, and general procedures under which the U.S. Fish and Wildlife Service (USFWS) and the Department of the Army (DOA) will operate in constructing, operating, maintaining, repairing, and rehabilitating the Fox Island Division, Great River National Wildlife Refuge, Clark County, Missouri, separable element of the Upper Mississippi River System- Environmental Management Program (UMRS-EMP).

II. BACKGROUND

Section 1103 of the Water Resources Development Act of 1986, Public Law 99-662, authorizes construction of measures for the purpose of enhancing fish and wildlife resources in the Upper Mississippi River System. The project area is managed by the USFWS and is on land managed as a national wildlife refuge. Under conditions of Section 906(e) of the Water Resources Development Act of 1986, Public Law 99-662, 100 percent of the construction costs of those fish and wildlife features for the Fox Island Division Refuge Area are the responsibility of the DOA, and pursuant to Section 107(b) of the Water Resources Development Act of 1992, Public Law 102-580, 100 percent of the cost of operation and maintenance for the Fox Island Division Refuge Area are the responsibility of USFWS.

III. GENERAL SCOPE

The project to be accomplished pursuant to this MOA shall consist of:

- A. Planting approximately 275 acres of existing cropland into a variety of hard mast tree species;
- B. Constructing wetland enhancement by the installation of two new wells and six water control structures;
- C. Allowing 564 acres of land to reforest naturally.

IV. RESPONSIBILITIES

A. The DOA is responsible for:

1. Construction. Construction of the project consists of constructing two new water wells and three new stop log water control structures; removing and replacing three existing stop log water control structures; channel excavation and improvement of approximately 7,500 linear feet at seven locations, including riprap placement at the well discharge locations; two access roads for a total of approximately 6,000 feet; and planting a variety of hard mast tree species (container stock and by seeding).

2. Major Rehabilitation. The Federal share of costs toward any mutually agreed upon (post-construction) rehabilitation of the project that exceeds the annual operation and maintenance requirements identified in the definite project report and that is needed as a result of specific storm or flood events.

3. Construction Management. Subject to and using funds appropriated by the Congress of the United States, and in accordance with Section 906(e) of the Water Resources Development Act of 1986, Public Law 99-662, DOA will construct the Fox Island Division Refuge Area, Missouri, Fish and Wildlife Enhancement Project as described in the report entitled *Environmental Management Program Definite Project Report with Integrated Environmental Assessment Fox Island Division Refuge Area Stage II* dated February 2008, applying those procedures usually followed or applied in Federal projects, pursuant to Federal laws, regulations, and policies. The USFWS will be afforded the opportunity to review and comment on all modifications and change orders prior to the issuance to the contractor of a Notice to Proceed. If DOA encounters potential delays related to construction of the project, DOA will promptly notify USFWS of such delays.

4. Maintenance of Records. The DOA will keep books, records, documents, and other evidence pertaining to costs and expenses incurred in connection with construction of the project to the extent and in such detail as will properly reflect total costs. The DOA 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 all relevant claims arising therefrom, and shall make available at its offices, at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the USFWS.

B. The USFWS is responsible for operation, maintenance and repair of the Fox Island Division Refuge. Upon completion of construction as determined by the District Engineer, Rock Island, the USFWS shall accept the project and shall operate, maintain, and repair the project as defined in the definite project report entitled *Environmental Management Program Definite Project Report with Integrated Environmental Assessment Fox Island Division Refuge Area Stage II* dated February 2008, in accordance with Section 107(b) of the Water Resources Development Act of 1992, Public Law 102-580.

V. MODIFICATION AND TERMINATION

This MOA may be modified or terminated at any time by mutual agreement of the parties. Any such modification or termination must be in writing. Unless otherwise modified or terminated, this MOA shall remain in effect for a period of no more than 50 years after initiation of construction of the project.

VI. REPRESENTATIVES

The following individuals or their designated representatives shall have authority to act under this MOA for their respective parties.

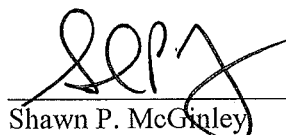
USFWS: Midwest Regional Director
U.S. Fish and Wildlife Service
One Federal Drive
Fort Snelling, Minnesota 55111-4056

DOA: District Engineer
U.S. Army Engineer District, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004

VII. EFFECTIVE DATE OF MOA

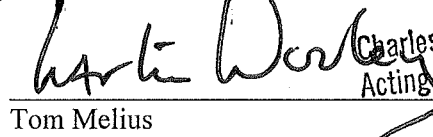
This MOA shall become effective when signed by the appropriate representatives of both parties.


THE DEPARTMENT OF THE ARMY



Shawn P. McGinley
Colonel, US Army
Commander & District Engineer

Dated 25 JUN 10

THE U.S. FISH AND WILDLIFE SERVICE


Tom Melius
Midwest Regional Director
U.S. Fish and Wildlife Service

 Charles M. Wooley
Acting Regional Director


Dated 5/25/10

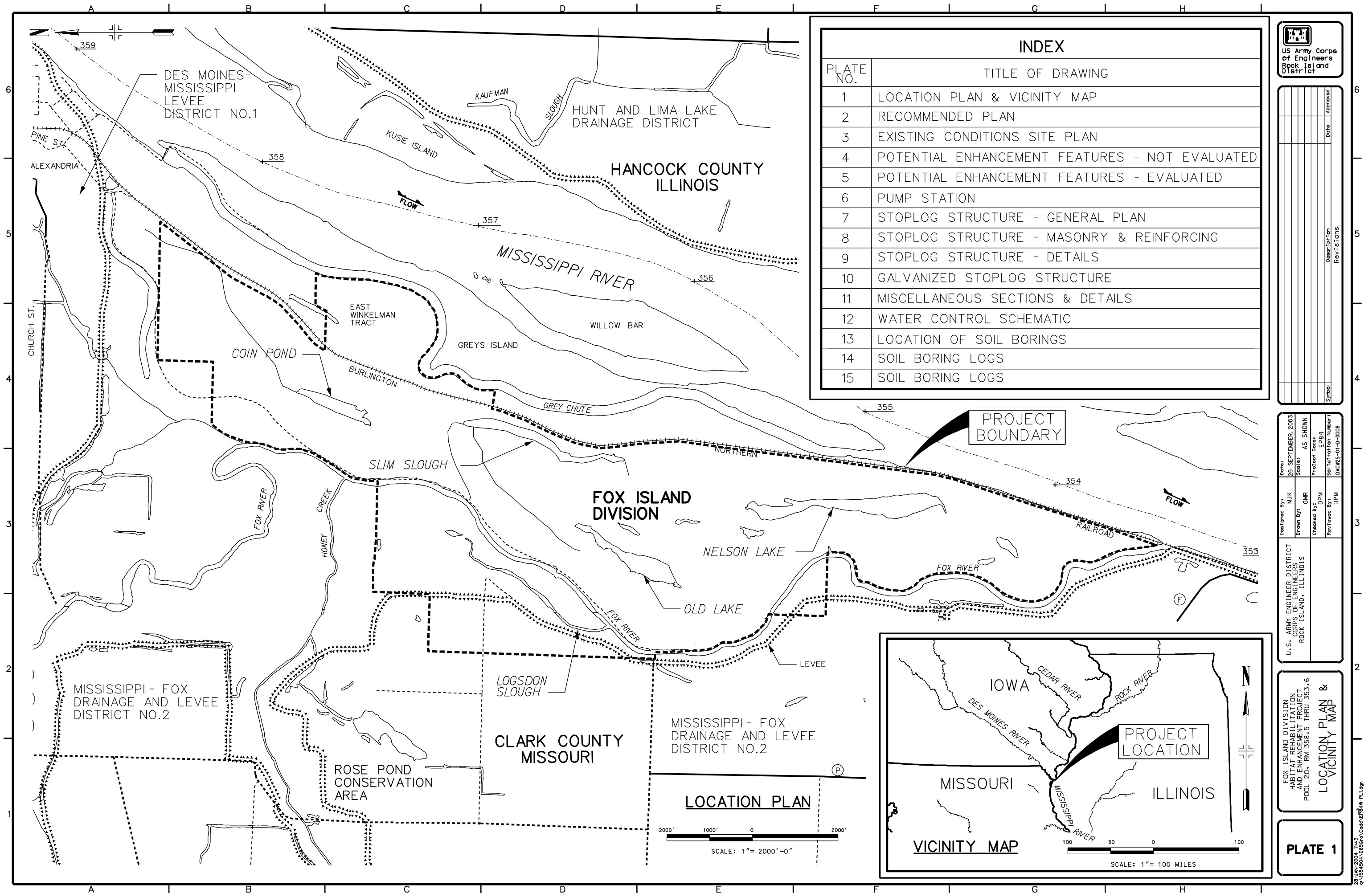
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**APPENDIX C
EXISTING RIGHT-OF-WAY**



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**APPENDIX D
ROUTINE INSPECTION CHECKLISTS**

PART 1: STREAMBANK EROSION CONTROL CHECKLIST

Inspected by: _____

Date: _____

Type of Inspection:

- 1. Annual _____
- 2. Emergency _____
- 3. Other _____

The following conditions are potential problem areas for streambank protection areas and should be checked during inspections:

- Embankment eroding from under the riprap
- Woody vegetation growing through the riprap
- Displaced riprap
- Significant deterioration of the riprap

List any discrepancies found on the inspection and corrective action taken.

Appendix D
Routine Inspection Checklists

Location/Station	Stone Protection	Erosion	Debris	Vegetation	Unauthorized Changes	Remarks
Mississippi-Fox Levee						
Upstream of Stoplog C						

PART 2: STOPLOGS AND STILLING BASINS CHECKLIST

Inspected by: _____

Date: _____

Type of Inspection:

- | | |
|--------------|-------|
| 1. Annual | _____ |
| 2. Emergency | _____ |
| 3. Other | _____ |

The following conditions are potential problem areas for streambank protection areas and should be checked during inspections:

- Embankment eroding from under the riprap
- Woody vegetation growing through the riprap
- Displaced riprap
- Significant deterioration of the riprap
- Debris blocking the stoplog grate

List any discrepancies found on the inspection and corrective action taken.

Appendix D
Routine Inspection Checklists

Location/ Station	Stone Protection	Erosion	Debris	Vegetation	Remarks
Stoplog A					
Stoplog B					
Stoplog C					
Stoplog D					
Stilling Basin at Well H					
Stoplog E					
Stilling Basin at Well G					

PART 3: DIRECT SEED AND CONTAINERIZED TREE PLANTING CHECKLIST

Inspected by: _____

Date: _____

Type of Inspection:

- 1. Annual _____
- 2. Emergency _____
- 3. Other _____

The following conditions are potential problem areas for streambank protection areas and should be checked during inspections:

- Identify areas of poor survivability in the direct seed area (1D)
- Identify areas of poor survivability in the containerized planting area (1C-8C)
- Identify area of invasive species establishment

List any discrepancies found on the inspection and corrective action taken.

Appendix D
Routine Inspection Checklists

Location/ Station	Percent Tree Establishment	Tree Species	Invasive Species	Remarks
1D				
1C				
2C				
3C				
4C				
5C				
6C				
7C				
8C				

PART 4: WETLANDS CHECKLIST

Inspected by: _____

Date: _____

Type of Inspection:

- 1. Annual _____
- 2. Emergency _____
- 3. Other _____

The following conditions are potential problem areas for streambank protection areas and should be checked during inspections:

- Identify areas of channel and pond sedimentation
- Identify areas of excessive channel sloughing
- Identify area of invasive species establishment

List any discrepancies found on the inspection and corrective action taken.

Fox Island Division – O&M Manual

*Appendix D
Routine Inspection Checklists*

Location/ Station	Effective Wetland Acres	Wildlife Use	Invasive Species	Remarks
Channel A				
Coin Pond				
Channel B				
Channel D				
Slim Slough				
Channel E				
Old Lake				
Channel F				
Logsdon Slough				

Submitted by:

Date:

Project Superintendent:

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**APPENDIX E
PHOTOGRAPHS**

*Appendix E
Photographs*



Photo 1. Stoplog D



**Photo 4. Construction of Stoplog A
(Looking South)**



Photo 2. Stoplog A (Looking North)



Photo 5. Channel A



Photo 3. Well H Stilling Basin



Photo 6. Well H with Trailer

*Appendix E
Photographs*



Photo 7. Trailer Mounted Pump Driver



Photo 10. Well H Stilling Basin



Photo 8. Well Head and Discharge Pipe



Photo 11. Coin Pond after Fall 2015 Pumping



**Photo 9. Channel A
(Looking South)**



Photo 12. Coin Pond After Fall 2015 Pumping

*Appendix E
Photographs*

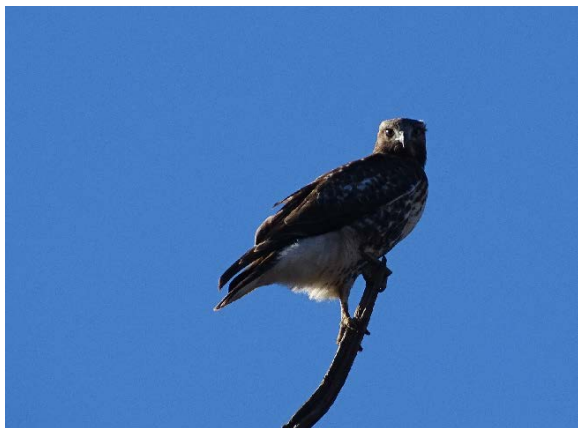


Photo 13. Inhabitant of Fox Island



Photo 16. Stoplog C and Berm



Photo 14. Stoplog A



Photo 17. Aluminum Stoplogs in Stoplog C



Photo 15. Grouted Riprap



Photo 18. Streambank Protection Adjacent to Stoplog C

*Appendix E
Photographs*



Photo 19. Stoplog C Trash Rack



**Photo 20. Channel F
(Looking East)**

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**APPENDIX F
DISTRIBUTION**

*Appendix F
Distribution*

Bob Clevenstine
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Moline, IL 61265

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51 East 4th Street,
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Sharonne Baylor Environmental Engineer
Upper Mississippi River National Wildlife & Fish Refuge
51 East 4th Street,
Winona, MN 55987

Tim Yager
Deputy Refuge Manager
Upper Mississippi River National Wildlife & Fish Refuge
51 East 4th Street,
Winona, MN 55987

Jason Wilson
Refuge Manager
Great River National Wildlife Refuge
37599 County Rd. 206
P.O. Box 88
Annada, Missouri 63330

Janet Sternburg
Missouri Department of Conservation
PO Box 180
Jefferson City, MO 65102

U.S. Army Corps of Engineers, Mississippi Valley Division
PO Box 80
Vicksburg, MS 39181-0080
Attn: CEMVD-PD-SP (Gabe Harris)

U.S. Army Corps of Engineers, Rock Island District
Clock Tower Building
PO Box 2004
Rock Island, Illinois 61204-0004 Attn:

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