

AMENDED
EXHIBIT A



Bob Holden, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.state.mo.us

JUN -9 2003

Memphis District Corps of Engineers
Attn: Colonel Jack Scherer
167 N. Main St., B-202
Memphis, MO 38103-1894

New Madrid County
St. John's Bayou/New Madrid Floodway Project

Dear Colonel Scherer:

The Missouri Department of Natural Resources' Water Pollution Control Program has re-evaluated your request for Water Quality Certification for the St. John's Bayou/New Madrid Floodway Project. In the application, the Memphis District of the Corps of Engineers proposes to construct a 1,500-foot levee to close a gap in the existing levee system within the New Madrid Floodway, add pumping stations within this area, and a pumping station within the St. John's Bayou area, and modify 27.6 miles of jurisdictional waters within the St. John's Bayou area. The Corps proposes a reduction of inundation on 12,255 acres of wetlands, 6,713 acres of which are agricultural and 5,542 acres non-agricultural. The levee and ditch excavation will directly impact 102 acres of wetlands; 65 acres of wetlands will be impacted by the placement of dredged material from the channel modifications.

Conceptual mitigation offered includes the reforestation of 8,375 acres of frequently flooded cropland, including up to 1800 acres of land adjacent to Big Oak Tree State Park, acquiring easements on 765 acres of herbaceous lands, and the reforestation/revegetation of approximately 64 miles of riparian corridor between 25 to 100 feet wide.

The department still has concerns regarding the accurate delineation of jurisdictional wetlands impacted within the project area. However, this certification is issued using the Corps method of wetland delineation provided that monitoring as described in condition number five validates that current jurisdictional wetlands in fact remain jurisdictional wetlands after completion of the project implementation. This certification is proposed in conjunction with a Settlement Agreement ("the Agreement") in which both parties agree to the terms of the certification, including the method by which the Corps will provide additional mitigation acreage should monitoring reflect a reduction in jurisdictional wetlands or that the project has impacted more acreage than was predicted



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499

AMENDED
EXHIBIT A

Colonel Jack Scherer .
Page Two

in the RSEIS. The Agreement further defines the process to be followed if such conditions are not met. The agreement will be signed before the certification is finally issued.

For your proposed project to proceed, the attached conditions shall apply. ~~SEE E - 101~~

If you have any questions, please contact me at (573) 751-5998 or by mail to Missouri Department of Natural Resources, Water Protection and Soil Conservation Division, P.O. Box 176, Jefferson City, MO 65102-0176.

Sincerely,

WATER PROTECTION AND SOIL CONSERVATION DIVISION



Scott Totten
Director

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AMENDED
EXHIBIT A

St. John's Bayou/ New Madrid Floodway Project
Water Quality Certification
Conditions and Provisions

Issued by the Missouri Department of Natural Resources
June 9, 2003

1. To mitigate for the incremental reduction of backwater flooding that this project will impose upon area wetlands and Big Oak Tree State Park, the applicant and department have agreed to the "Memorandum of Understanding for the Protection of Big Oak Tree State Park as it Relates to the St. John's Bayou/New Madrid Floodway Project" (MOU). All provisions of the MOU are incorporated into this certification by reference (Appendix A). Consistent with the MOU, the applicant shall meet the following conditions:
 - a. Acquire from willing sellers the approximately 1800 acres of land immediately surrounding Big Oak Tree State Park which are identified on the attached map. These will be a priority focus of the project mitigation plan and among the first areas pursued for acquisition.
 - b. Reforest these mitigation acres with a variety of Bottomland Hardwood species (Revised supplemental Environmental Impact Statement Dated July 2002, Appendix L, Section 8.1), in general accordance with guidelines established in the 1998 Final SEIS for the Mississippi River Levees Project, with consideration of modification as may be recommended by MDNR land managers. All tree species will be those known to naturally occur in the park, and the planting stock will be from native genotypes. Tree plantings will be monitored once a year for five years to assess survival rates. Plantings will be considered successful if survival is equal to or greater than 70 percent at the end of five years. If survival rates fall below 70 percent additional plantings will be made to achieve the required survival rate.
 - c. Design and construct the proposed Big Oak Tree State Park hydrology project, modified per USACE specifications to ensure engineering stability. At a minimum, this must be sufficient to transport Mississippi River water inside the park via gravity feed, inundate the park during periods of high water to at least the elevation 291 feet NGVD, and drain the park via gravity feed down to at least the elevation 288 feet NGVD. This includes:
 - 1) Acquire the lands alongside the park (including the new land acquisitions); that will be necessary to build and maintain the berms and water control structures. The berms, if necessary, will be constructed on acquired lands or Corps obtained easements along the existing park boundaries. These shall be outside the existing park boundary so that no existing timber or wetlands are sacrificed for the construction (provided there are willing sellers for the necessary lands).

AMENDED
EXHIBIT A

- 2) Providing a direct connection to supply surface water as a water source for the park from the Mississippi River. This shall be by gated culvert to allow river water to flow through the frontline levee at times of higher stages, to mimic natural flooding.
 - 3) Providing the necessary design work and construction for the berms, water control structures. Berms shall not be constructed until all acquisition is complete in order to maximize effective park hydrologic unit area.
2. This certification is issued using the Corps method of wetland delineation provided that monitoring as described in condition number four (4) validates that current jurisdictional wetlands remain jurisdictional wetlands after completion of the project. If the monitoring reflects a further reduction in current jurisdictional wetlands than has been anticipated in the June 2002 RSEIS or if additional jurisdictional wetlands have been adversely impacted by the project, the Corps shall within its authority and funding capability, acquire additional mitigation lands to compensate for those wetlands. If monitoring reflects that additional mitigation is necessary, the Corps shall provide additional mitigation in accordance with this certification and the terms and conditions in the corresponding Settlement Agreement.
3. Pursuant to the Missouri Clean Water Commission's order in Appeal Number 362 and 10 CSR 20-6.060(5), the applicant must submit a preliminary mitigation plan for the project before a certification is issued. No net loss of jurisdictional waters shall occur as a result of this project. A detailed mitigation plan must be submitted for each tract of land purchased for mitigation (currently estimated by the Corps for 8,375 average daily flooded acres from April 1st through May 15th, plus an additional 765 acres of herbaceous lands, plus any additional wetland areas identified using the monitoring in condition #2) and approved by the Department before any current jurisdictional wetlands as defined in the June 2002 RSEIS are impacted through loss of hydrology due to any operation of any component of the New Madrid Floodway portion of the project. A detailed mitigation plan must be submitted and approved for any current jurisdictional wetlands directly impacted by the footprint of the closure of the 1500 foot mainline levee before any fill material can be deposited into those jurisdictional wetlands.

Similarly, a detailed mitigation plan must be submitted and approved for any streams adversely impacted by this project (currently estimated at 27.6 miles) before any component of the St. John's Bayou portion of the project has impacts on any current jurisdictional waterbodies.

The final mitigation plan shall include:

- a. Clear statement of objectives;

AMENDED
EXHIBIT A

- b. Description of the wetland functions that will be lost and those that will be replaced;
 - c. Statement of the location and description of elevation and hydrology of the mitigation site;
 - d. Detailed construction plan with post-construction contour map, detailed location map and as built drawings;
 - e. Plans for establishment of vegetation including what, where and when if planting is proposed. Also, detailed drawings of planting plan and any proposed structures;
 - f. Detailed description of a mitigation monitoring program;
 - g. Performance standards for site grading, hydrology and plant community establishment, composition and survival;
 - h. Contingency plan;
 - i. Guarantee that the work will be performed as planned; and
 - j. Provisions for long-term management and maintenance.
4. The 8,375 acres of mitigation lands shall be purchased in fee. The applicant shall work with the MDNR toward timely identification and prioritization of suitable mitigation acreage for purchase. In accordance with federal law, mitigation shall be implemented concurrently with construction of the project feature that requires mitigation. The New Madrid Floodway portion of the project or the St. John's Bayou portion of the project shall not be operated until all mitigation lands for the respective portion of the project are acquired and MDNR, MDC, and Department of Interior has had an opportunity to review their suitability. By law, most mitigation lands purchased in fee will be turned over to the Department of Interior. The Department of the Interior may license those lands out to state resource agencies for management.

Any mitigation lands not purchased in fee and managed by a state or federal resource agency for the protection of natural resources shall have a permanent conservation restriction. The restriction covering this tract shall reserve this area for aquatic habitat protection, wetland protection, and wildlife purposes exclusively, and shall be filed and recorded as a deed restriction on the property in perpetuity. Deed restrictions on all mitigation areas must be acquired before fill material is placed within jurisdictional waters. If the Department does not approve the detailed mitigation plan, or if the mitigation proves to be unsuccessful, the Department shall review, suspend, modify or withdraw this certification.

5. The applicant shall submit a monitoring plan and receive Department approval for this plan prior to the deposition of any fill material into jurisdictional waters. The applicant shall submit to the Department for review any subsequent revisions to the monitoring plan and must receive approval from the Department of those revisions prior to their implementation. The monitoring plan must include the following components:

AMENDED
EXHIBIT A

- a. Current jurisdictional wetlands within the New Madrid Floodway and St. John's Bayou basin below 295 NGVD shall be monitored for 5 years after the project is completed to validate the Corps' modeling and to ensure all wetlands retain their jurisdictional status or are appropriately mitigated. Monitoring shall include a comprehensive network of water level monitoring device nestings and physical site evaluations to fully characterize temporal and spatial variation of surface and subsurface water levels in the project area (or within the area having ground surface elevations below 295 feet NGVD) at least to the extent that project operations impacts can be determined for all wetlands within the project area. The exact number and location of the monitoring stations will be determined in the approved monitoring plan. No net loss of jurisdictional wetland acres shall occur within the project area. Additionally, any drainage improvements shall not degrade or reduce adjacent wetlands. If monitoring reflects that any additional wetland acres are impacted by the project (other than those already planned for mitigation), additional mitigation shall be required.
 - b. The natural biological community within St. John's Bayou and New Madrid Floodway waterways shall not be adversely impacted beyond those impacts identified in the June 2002 RSEIS. The applicant shall conduct monitoring of aquatic biological populations in St. John's Bayou and New Madrid Floodway waterways and tributaries to St. John's Bayou and New Madrid Floodway in accordance with the approved monitoring plan for at least 5 years after construction impacts to ensure the re-establishment of similar aquatic populations indigenous to the waterways prior to impact.

The applicant shall submit monitoring results to the Department of Natural Resources by January 1 of each year. If, two years after restoration, the populations differ significantly from the original waterways or existing reference streams, successful remedial mitigation must be undertaken and approved by the Department and the degradation of the resource must be corrected. Populations will not be significantly different from the original streams or existing reference streams if monitoring reflects the development of aquatic macroinvertebrate communities with taxonomic structure and feeding function classes as good as or better than the 25th percentile of reference criteria. Successful mitigation and correction of the degradation will be subject to final determination by the Department.
 - c. The Corps shall also carefully monitor the jurisdictional acres that are proposed to remain jurisdictional wetlands after the project is complete to ensure that any future conversion of these acres will be done only after the 404 permitting and 401 certification process is complete. If the Corps finds that the 404/401 process has been evaded in the conversion of these acres, the Corps shall take immediate enforcement action.
6. The Corps shall submit a detailed analysis that addresses the relative impacts of options a-f below before condition seven (7) may be pursued:

AMENDED
EXHIBIT A

- a. Construction of a 120 foot bottom width "high flow" channel adjacent to the existing St. John's Bayou waterways that would be excavated to an elevation lower than existing grade of the croplands, but higher than the existing streambed. The majority of the existing riparian corridor should be spared;
 - b. Construction of a "by-pass" channel, similar to above, in areas outside the corridor of the existing St. John's Bayou waterways;
 - c. Acquiring land or easements along all or part of the existing St. John's Bayou waterways, and grading these lands to increase conveyance/storage of floodwaters;
 - d. Floodproofing East Prairie through improving stormwater conveyance, construction of berms, construction of detention basins, or selective buyouts of properties;
 - e. The recommended alternative as outlined in the June 2002 RSEIS; and
 - f. A combination of the aforementioned options.
7. If there are no other feasible alternatives, as agreed upon by MDNR and the Corps, to modifying the St. John's Bayou waterways and the portion of the project is constructed according to the June 2002 RSEIS preferred alternative number 3.1B, the following conditions shall apply:
- a. Any material to be sidecast along the impacted St. John's Bayou waterway will be disposed in accordance with the June 2002 RSEIS. Excavated materials shall be utilized to the maximum extent feasible in other components of this project. No dredged material shall be deposited into jurisdictional waters except those identified in the 2002 RSEIS and mitigated for as required.
 - b. Artificial structures (including, but not limited to weirs, current deflectors, rock barbs) shall be installed to create a simuous low-flow channel.
 - c. Any excavation shall be limited to one bank only in order to preserve riparian corridor and aquatic organism habitat.
 - d. Work shall be conducted during low flow whenever possible.
8. The Clean Water Act, Section 402, requires a permit for land disturbance activities impacting one or more acres of total area for the entire project. The general permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP). The contents of the SWPPP are specified in the permit. The Corps shall submit a copy of the site-specific SWPPP developed for compliance with this permit prior to the initiation of any regulated activities. Clearing of vegetation shall be the minimum necessary to accomplish the activity, and shall be done in a manner outlined in the SWPPP.
9. If monitoring shows that additional degradation of jurisdictional waters results from this project, the applicant must either implement modifications to operations to avoid impacts or undertake additional mitigation to ameliorate impacts. The applicant shall consult the Department throughout this process. If the Department determines that

AMENDED
EXHIBIT A

the project has resulted in additional degradation of jurisdictional wetlands which cannot be corrected or avoided by modifying operations or undertaking additional mitigation to ameliorate these impacts, the Department may review, suspend, modify or withdraw the 401 water quality certification.

10. Care shall be taken to keep machinery out of the waterways. Fuel, oil, other petroleum products, equipment and any solid waste shall not be stored below the ordinary high water mark at any time. All precautions shall be taken to avoid the release of wastes, fuel or any toxic or harmful material to streams and other adjacent water bodies as a result of this operation. Petroleum products spilled into any water body or on the banks where the material may enter waters of the state shall be immediately cleaned up and disposed of properly. Spills of petroleum must be reported as soon as possible to the Department's 24-hour Environmental Emergency Response number at (573) 634-2436 and in accordance with federal and state laws and rules regarding petroleum projects.

If the applicant does not comply with any of the conditions of this certification the Department may review, suspend, modify, or withdraw this certification.

This certification is being issued under Section 401 of the Clean Water Act. This certification does not relieve the applicant from its duty to comply with all other federal, state or local laws, regulations or permits. For this certification to remain effective, the applicant must obtain all necessary permits required under federal and state law. This certification is only valid for impacts as expressly described above. If there should be modification of this project that may have water quality impacts, including any failure to successfully mitigate as described in the application, this certification may be reviewed, suspended, modified, or withdrawn.

This department may review this certification every 5 years to assure that the project has not caused and apparently will not cause the general or numeric criteria to be exceeded nor impair beneficial uses established in Water Quality Standards, 10 CSR 20-7.031. This review may include but is not limited to on-site inspections, document reviews and requests for additional information to be provided by the applicant as necessary to make this determination.

If the Department obtains or is made aware of any information indicating that this project may adversely affect water quality, including the natural biological community, or that mitigation is unsuccessful, the Department shall review, suspend, modify or withdraw the certification.

Pursuant to the Missouri Clean Water Law, RSMo Section 644.052.9, this 401 water quality certification shall be valid only upon payment of a fee of seventy-five dollars (\$75.00). The enclosed invoice contains the necessary information on how to submit your fee. Payment must be received within ten (10) days of receipt of this certification. Upon receipt of the fee, a copy of the certification will be mailed to the applicable office of the Corps of Engineers to inform them the certification is now in effect.

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AMENDED
EXHIBIT A

Water Quality Standards must be met during any operations authorized by these permits. If compliance with Water Quality Standards, as defined by current law and regulations, is not maintained, you will be notified and the certification may be reviewed, suspended, modified, or withdrawn.



MEMORANDUM OF UNDERSTANDING
 For the Protection of Big Oak State Park as it relates to the St. John's Bayou/New Madrid
 Floodway Project

RECEIVED

JUN 09 2003

THIS MEMORANDUM OF UNDERSTANDING is entered between the
 Department of Natural Resources (MDNR) and the Memphis District,
 of Engineers (USACE).

WITNESSETH:

NOW THEREFORE, in consideration of mutual covenants, promises and representations,
 the parties agree as follows:

- 1) **PURPOSE:** The purpose of this Memorandum of Understanding (MOU) is to:
 - A) Compensate for the effects of reduced Mississippi River flooding on the natural resources and environment within Big Oak Tree State Park; and,
 - B) Maintain and enhance the value of the park as a regional biological preserve and National Natural Landmark; and,
 - C) Facilitate operation of the Big Oak Tree State Park hydrology project by acquisition of adjacent low-lying areas as part of the project mitigation; and,
 - D) Assure a continued source of Mississippi River water to Big Oak Tree State Park, and the capacity to manipulate Mississippi River water by purposeful flooding or drainage to mimic a natural hydrology for this mesic bottomland forest and swamp.

The United States Army Corps of Engineers shall:

- 1) **ACQUISITION:** Acquire from willing sellers approximately 1800 acres of land immediately surrounding Big Oak Tree State Park which are conceptually identified on the attached map. These will be a priority focus of the project mitigation plan and among the first areas pursued for acquisition.
- 2) **RESTORATION OF ACQUIRED LANDS:** Reforest these frequently flooded agricultural lands with a variety of Bottomland Hardwood species (Revised supplemental Environmental Impact Statement Dated July 2002, Appendix L, Section 8.1), in general accordance with guidelines established in the 1998 Final SEIS for the Mississippi River Levees Project with consideration of modifications as may be recommended by MDNR land managers. All tree species will be those known to naturally occur in the park, and the planting stock will be from native genotypes. Tree plantings will be monitored once a

year for five years to assess survival rates. Plantings will be considered successful if survival is equal to or greater than 70 percent. If survival rates fall below 70 percent additional plantings will be made to achieve the required survival rate.

3) **DESIGN AND CONSTRUCT HYDROLOGY PROJECT:** Design and construct the proposed Big Oak Tree State Park hydrology project, modified per USACE specifications to ensure engineering stability. At a minimum, this must be sufficient to deliver Mississippi River water inside the park via gravity feed, inundate it during periods of high water to at least elevation 291 feet NGVD, and drain the park via gravity feed down to at least elevation 288 feet NGVD. This includes:

A) Acquiring the easements alongside the park (including the new acquisitions) that will be necessary to build and maintain the berms and water control structures. The berms, if necessary, will be constructed on acquired lands or Corps obtained easements along the existing park boundaries.

B) Provide a direct connection to supply surface water as a water source for the park from the Mississippi River. This will be by gated culvert to allow river water to flow through the frontline levee at times of higher stages, to mimic natural flooding.

C) Provide the necessary design work and construction for the berms, and water control structures; and include all new acquisitions within the perimeter of the berms. Berms shall not be constructed until all acquisition is complete in order to maximize effective park hydrologic unit area.

4) **TIME FRAME:** Although acquisition efforts may continue for some time, the Big Oak Tree hydrology project shall be constructed concurrently with other floodway features of the Corps project. The hydrology project shall be completed prior to operation of the proposed New Madrid Floodway project.

The Missouri Department of Natural Resources shall:

1) **OPERATE AND MAINTAIN THE HYDROLOGY PROJECT.** The Corps and the MDNR shall work together on all engineering features to minimize adverse impacts to the park.

Both the Missouri Department of Natural Resources and the United States Army Corps of Engineers shall:

1) **MODIFICATIONS:** Modifications to the terms of this MOU shall be made through letter agreements which shall be made a part of this MOU and which have been signed by both agencies.

2) **INCORPORATE INTO RECORD OF DECISION:** These requirements of this Memorandum of Understanding shall become a part of the Record of Decision through

the Water Quality Certification conditions for the New Madrid Floodway/St. John's Bayou project.

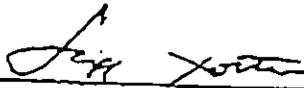
3) PENALTIES: Failure to meet the conditions of this MOU is grounds for reviewing, suspending, modifying or withdrawing water quality certification for the project.

IN WITNESS WHEREOF, the parties have entered into this MOU on the date last written below.

Executed by MDNR this 9th day of June, 20 02.

Executed by USACE this 5 day of June, 20 03.

MISSOURI DEPARTMENT OF NATURAL RESOURCES

By: 
SCOTT TOTTON, Director
Division of Water and Soil Conservation

U.S. ARMY CORPS OF ENGINEERS

By: 
JACK V. SCHERER, Colonel
District Engineer, Memphis District