

**DEPARTMENT OF THE ARMY PERMIT**  
**Regional Permit 32**  
Watershed Protection and Flood Prevention Planning Program  
Public Law 83-566 (PL 566) Flood Detention Dams  
In the State of Missouri

**Permittee:** General public meeting the terms and conditions herein.

**Number:** CEMVR-OD-P-2007-294 (Regional Permit 32)

**Expiration Date:** October 23, 2012

**Issuing Office:** U.S. Army Corps of Engineers, Rock Island District  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

You are authorized to perform work in accordance with the terms and conditions specified below.

**NOTE:** The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

**Project Description.** Mechanized land clearing, excavation, and the discharge of dredged or fill material in waters of the United States that are not subject to transportation of interstate or foreign commerce, in conjunction with the construction of earthen flood detention dams designed as part of a regional watershed management plan and prepared under the authority of the Watershed Protection and Flood Prevention Planning Program, Public Law 83-566.

**Project Location.** Work is authorized in all waters of the United States except navigable waters of the United States which are located in the geographical jurisdiction of the Corps of Engineers, Rock Island District, for the State of Missouri. Rock Island District has regulatory jurisdiction in all or parts of the following counties in Missouri: Adair, Clark, Knox, Lewis, Marion, Scotland, Schuyler, and Shelby Counties.

**Permit Conditions:**

❖ **General Conditions:**

1. The time limit for completing the work authorized ends 2 years from the date that the individual project was authorized, renewed, extended, or withdrawn. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before that date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party, in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

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CEMVR-OD-P-2007-294 Regional Permit 32  
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3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions. (Condition is not applicable for Section 10 Permits.)

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

❖ **Special Conditions:**

NOTE: This regional permit will authorize discharges of dredged or fill material associated with mechanized land clearing, excavation and other discharges of dredged or fill material below the ordinary high water mark of waters of the United States in conjunction with the construction and required mitigation work of earthen flood detention dams designed as part of a regional watershed management plan and prepared under the authority of the Watershed Protection and Flood Prevention Planning Program, Public Law 83-566, as amended.

1. You must sign and return a "Compliance Certification" after you complete the authorized work and any required mitigation. Your signature will certify that you completed the work in accordance with this permit, including general and specific conditions, and that any required mitigation was completed in accordance with the permit conditions. The "Compliance Certification" may be submitted with the required annual status report (see conditions below).

2. Dam height must be less than 35 feet, measured from the centerline of the streambed.

3. Impoundment size must not exceed 15 surface acres of water, unless a written waiver is received from the Rock Island District. Waivers shall not be granted for impoundments that exceed 20 surface acres. Request for waiver must include a written statement detailing the need for the increased size of the impoundment and must include additional compensatory mitigation to offset the associated aquatic impacts.

4. If any part of the authorized work is performed by a contractor, before starting work you must discuss the terms and conditions of this permit with the contractor; and, you must give a copy of this entire permit to the contractor.

5. Any structure or fill authorized shall be properly maintained to ensure public safety.

6. You must use clean, uncontaminated materials for fill in order to minimize excessive turbidity by leaching of fines, as well as to preclude the entrance of deleterious and/or toxic materials into the waters of the United States by natural runoff or by leaching.

7. You must dispose of excess concrete and wash water from concrete trucks and other concrete mixing equipment in a nonwetland area above the ordinary high water mark and at a location where the concrete and wash water cannot enter the water body or an adjacent wetland area.

8. You must excavate, dredge and/or fill in the watercourse in a manner that will minimize increases in suspended solids and turbidity which may degrade water quality and damage aquatic life outside the immediate area of operation.

9. You must immediately remove and properly dispose of all debris during every phase of the project in order to prevent the accumulation of unsightly, deleterious and/or toxic materials in or near the waterbody.

10. You must not dispose of any construction debris or waste materials below the ordinary high water mark of any water body, in a wetland area, or at any location where the materials could be introduced into the water body or an adjacent wetland as a result of runoff, flooding, wind, or other natural forces.

11. You must store all construction materials, equipment, and/or petroleum products, when not in use, above anticipated high water levels.

12. You must restrict the clearing of timber and other vegetation to the absolute minimum required to accomplish the work. Clearing, grading and replanting should be planned and timed so that only the smallest area necessary is in a disturbed, unstable or unvegetated condition.

13. Upon completion of earthwork operations, you must seed, replant or otherwise protect from erosion all fills in the water or on shore, and other areas on shore disturbed during construction. If seeding does not successfully vegetate the disturbed areas by the end of the first growing season, you must implement alternate measures, such as placing riprap, slope terracing with untreated railroad ties, gabions or concrete blocks, or additional vegetative plantings, to protect the disturbed areas from further erosion. You must contact the Rock Island District Regulatory Office prior to beginning work on any additional erosion control measures so that a determination can be made whether further authorization is required.

14. You must not discharge fill or dredged material or excavate below the water surface during the fish spawning seasons, unless a written variance from the Missouri Department of Conservation that no more than minimal impacts will occur to fish populations from the work during normal fish spawning periods. Evidence of coordination with the Missouri Department of Conservation will be included with the authorization.

15. The programmatic memorandum of agreement (MOA), or procedural memorandum of agreement (PMOA), or project specific MOA or other documentation signed by the Missouri State Historic Preservation Officer that the proposed work will not affect any property listed on the National Register of Historic Places or listed as eligible for listing on the register will be a part of this permit. The regional permit does not authorize the work to affect any property listed on the National Register of Historic Places or listed as eligible for listing on the register, unless the project complies with all conditions and restrictions of the agreement and receives clearance to complete the work from the Corps of Engineers.

Failure to comply with the cultural resource agreement would constitute non-compliance with the regional permit. **You must inform the Corps of Engineers of any projects proposed in locations listed in the agreement that will have the potential to affect cultural resources.**

16. The regional permit does not authorize you to take an endangered species. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA). If authorization under the ESA contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with an "incidental take", such terms and conditions become part of the regional permit. Failure to comply with the ESA terms and conditions would constitute an unauthorized take, and it would also constitute non-compliance with the regional permit. The Corps of Engineers will informally consult with the U.S., Fish and Wildlife Service to comply with the ESA and to make a determination of the affect on Federally-listed species. If you have any questions concerning threatened and endangered species occurring in your project area, you should contact the U.S. Fish and Wildlife Service at the Columbia Field Office located at 608 East Cherry Street, Columbia, Missouri 65201.

– Missouri Species and Areas of Conservation Concern. Predischarge Notification (PDN) will occur with the Missouri Department of Conservation (MDC) prior to verification of any project activity in a body of water identified as containing potential habitat for Missouri's species of concern or Missouri's areas of conservation concern. MDC will be given a timely opportunity to comment and full consideration will be given to MDC's comments, which may include adding site specific conditions, prior to project verification. Project sites should be checked at the Missouri Species and Natural Communities of Conservation Concern web site:  
<http://mdcgis.mdc.mo.gov/heritage/>.

– Seasonal Fish Spawning Restrictions. Fish spawning seasonal restrictions as outlined by the Missouri Department of Conservation will be consulted prior to each individual verification. Verifications will be conditioned to restrict construction during the spawning season limits unless a variance is granted by Corps of Engineers. The variance must be documented in the verification letter.

17. The Corps of Engineers has the discretion to require an individual permit on a case-by-case basis for any proposed structure and has the discretion to revoke verification under this general permit for any uncompleted structures if the cumulative impacts to the watershed are shown to warrant such an action.

18. Individual verifications will be issued for each proposed dam and will be valid for two (2) years. Work verified by the permit but not completed within the two year timeframe will require a new verification for the uncompleted portions of the project.

19. You must submit an annual status report to the Rock Island District Regulatory Office after each construction season. The report must include the cumulative number of dams constructed, total length of stream channels directly fill and inundated, and the total length of stream channel compensatory mitigation created/restored/enhanced per watershed for that verification period.

20. The project must be in compliance with the State of Missouri Aquatic Resources Mitigation Guidelines developed by the Missouri Department of Natural Resources with cooperation from the Missouri Department of Conservation, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Natural Resources Conservation Service, and the Missouri Department of Transportation.

21. **Mitigation.** This regional permit is not valid for any individual project if a mitigation plan has not been submitted and approved by the Corps of Engineers. The wetland mitigation plan must include acres of emergent, forested, etc., wetland to be created as a result of the project. The mitigation plan shall include a purpose. A summary of the approved acres and performance measures for the mitigation plan is as follows:

**Mitigation Design Objectives / Performance Measures**

Type:	Mitigation					Stream Channel Length (feet)
	Emergent (acres)	Forested (acres)	Open-Water (acres)	Other * (acres)	Total (acres)	
Restoration:						
Creation:						
Enhancement:						
Preservation:						
<b>Total:</b>						

\* Replace "Other" with actual type of mitigation ("Upland", "Woodland", etc.)

The technical specifications listed in the mitigation plan document may be used as a reference for various procedures for the mitigation plan. However, the information contained in this document is superseded by any permit conditions or written specifications provided by the Corps of Engineers. Mitigation shall be completed concurrent with project activities. If excavation and construction are completed outside an optimal seeding period, temporary erosion control protection shall be implemented immediately upon completion of excavation and construction and shall be maintained until such time as wetland plantings can be completed during an optimal period. The permanent wetland plantings shall then be completed during the next optimal seeding period. In addition:

- The boundaries of the wetland mitigation sites shall be identified clearly by the placement of permanent markers.
- Any field tiles within or adjacent to the wetland mitigation sites must be broken or plugged in a manner so the natural hydrology of the sites may re-establish.
- Any tile systems that are to remain functional must be relocated outside of the zone of influence of the tile, or non-perforated tile must be installed.
- Any tile outlet(s) may be relocated at the upstream end of the mitigation site(s) where outflows will enhance soil hydrology and surface water ponding in the wetland areas. The tile outlets should be located where the outflows will not cause erosion.
- The wetland mitigation sites shall be fenced with a permanent fence if any domestic livestock are to be allowed to graze adjacent areas.
- Any future development or land-use conversion of the wetland mitigation area for any purpose which may interfere with or be detrimental to wetland functions is prohibited without prior written approval from the Corps of Engineers.
- An as-built plan shall be submitted to the Corps of Engineers and Missouri Department of Natural Resources upon project completion.

- You must protect all mitigation areas with a deed restriction, conservation easement, United States Department of Agriculture (USDA) contract restriction or other restrictive agreement between the landowner and the USDA. You must provide a copy of the restrictive document on each mitigation area to the Rock Island District at the time that you submit your "Compliance Certification."
- The permittee shall conduct an annual survey of the mitigation area to monitor the survival rate of the plantings, and soil and hydrology conditions at the site. The results of the survey will be documented annually on the enclosed Rock Island District Standard Mitigation Reporting Form also available at: <http://www2.mvr.usace.army.mil/Regulatory/> or in an annual progress report as specified in RGL 06-03, <http://www2.mvr.usace.army.mil/Regulatory/Documents/Regulatory>. These annual reports are due no later than August 31 of each year for the 5-year period following construction. All annual monitoring reports shall be formatted for an 8.5 x 11 inch piece of paper. Your project must be in full compliance with the *State of Missouri Aquatic Resources Mitigation Guidelines*.
- Your responsibility to complete the required mitigation as set forth in the project details will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the U.S. Army Corps of Engineers.

22. **Water quality certification.** The conditions listed in the Section 401 water quality certification dated October 18, 2007, from the Missouri Department of Natural Resources are considered to be part of this regional permit.

<<<<<    **END OF SPECIAL CONDITIONS**    >>>>>

**Further information:**

1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:

- ( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- ( X ) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- ( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. **Limits of this authorization.**

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. **Limits of Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. **Reliance on Applicant's Data.** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



Robert A. Sinkler  
Colonel, U.S. Army  
District Engineer, Rock Island District

27 DEC 07

Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

October 18, 2007

Mr. Clifford J. Baumer, PE  
Natural Resources Conservation Service  
Parkade Center, Suite 250  
601 Business Loop 70 West  
Columbia, MO 65203-2546

PN06-02746/CEK004021  
GP-39M

Dear Mr. Baumer:

The Missouri Department of Natural Resources' Watershed Protection Program has reviewed Public Notice GP-39M/PN06-02746/CEK004021 in which the applicant proposes to renew an existing general permit issued on April 26, 2002, and extend the authorization for another 5-year period. The existing general permit authorizes mechanized landclearing, excavation and the discharge of dredged or fill material in waters of the United States that are not subject to transportation of interstate or foreign commerce. It is in conjunction with the construction of earthen flood detention dams designed as part of a regional watershed management plan and prepared under the authority of the Watershed Protection and Flood Prevention Planning Program, Public Law 83-566 (PL566).

The project is located in the geographical range of the Kansas City District's regulatory service area for the State of Missouri.

This office certifies that the proposed project will not cause the general or the numeric criteria to be exceeded nor impair beneficial uses established in the Water Quality Standards, 10 CSR 20-7.031, provided the following conditions are met:

1. Best Management Practices shall be used during excavation to limit the amount of sediment discharged into the stream.
2. If fill is needed, only clean, nonpolluted material shall be used.
3. This activity shall be conducted during times of low rainfall and low water levels in nearby streams.

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4. All precautions shall be taken to avoid the release of wastes or fuel to the stream or drainage channel.
5. All jurisdictional wetlands and springs shall be avoided.
6. Only structures designated and constructed as ponds by the Natural Resources Conservation Service (NRCS) shall be authorized by this permit.
7. In order to prevent water quality degradation by livestock, all ponds less than five (5) acres must limit livestock access to the areas opposite the dam where drainage enters the structure.
8. Clearing of vegetation/trees shall be the minimum necessary to accomplish the activity.
9. Any land disturbance activities disturbing one (1) or more acres of total area for the entire project will require a Land Disturbance Permit from the Department of Natural Resources.
10. Construction activities that are located in or occur within two (2) miles upstream of a designated outstanding state or national resource water shall not be authorized by this permit.
11. The electronic copy of verification sent to the U.S. Army Corps of Engineers (Corps) with baseline information on each site structure shall also be sent to the Department of Natural Resources, Water Protection Program, as referenced below.
12. Augmented flow shall be maintained at all impoundments as recommended by the Missouri Department of Conservation to sustain natural downstream conditions.

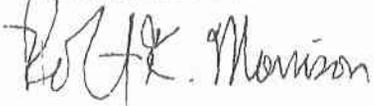
You may appeal to have the matter heard by the administrative hearing commission. To appeal, you must file a petition with the administrative hearing commission within thirty (30) days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission.

Water Quality Standards must be met during any operations authorized by these permits. If you have any questions, please contact Ms. Shannon Slater of the NPDES Permits and Engineering Section at (573) 526-1535, e-mail [shannon.slater@dnr.mo.gov](mailto:shannon.slater@dnr.mo.gov), or by mail at Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176.

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Sincerely,

WATER PROTECTION PROGRAM



Robert K. Morrison, P.E., Chief  
Water Pollution Control Branch

RKM:ssp

c: Mr. James Ptacek, Army Corps of Engineers, Kansas City District, MO State Reg. Office  
DNR - KCRO

## STATE OF MISSOURI AQUATIC RESOURCES MITIGATION GUIDELINES

**OBJECTIVE:** The goal of the federal Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters including wetlands. These guidelines will help determine the minimum acceptable levels of mitigation in regards to permits issued under Sections 404 and 401 of the federal Clean Water Act for the State of Missouri.

These guidelines were developed by the Missouri Department of Natural Resources (MDNR) with cooperation from the Missouri Department of Conservation (MDC), the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (COE), the Natural Resources Conservation Service (NRCS) and the Missouri Department of Transportation (MoDOT).

**AUTHORITY:** These guidelines are intended to comply with the following authorities:

1. Clean Water Act (33 USC 1251 et seq.)
2. National Environmental Policy Act (42 USC 4321 et seq.)
3. Executive Order 11990
4. Missouri Clean Water Law, Chapter 644, RSMO and implementing regulations  
10 CSR 20-7.031, Water Quality Standards

The guidelines are consistent with the regulations and policies, including the Water Quality Standards, of the Department of Natural Resources and the Missouri Clean Water Commission as well as other policies or rules of the Department of Natural Resources and the cooperating agencies.

- A. Mitigation is defined to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time and compensating for impacts. This definition can be simplified into three general types: avoidance, minimization and compensatory mitigation. These guidelines will address these three general types of mitigation.
1. Avoidance: No impacts to aquatic resources should occur if there is a practicable alternative to the proposed impacts which would have less adverse impacts to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. If the impacts to the resource are so significant, the project should not be permitted even if no alternatives are available.
  2. Minimization: Appropriate and practicable steps to minimize adverse impacts will be required through project modifications and permit conditions.
  3. Compensatory Mitigation: Appropriate and practicable compensatory mitigation will be required for unavoidable adverse impacts to aquatic resources which remain after avoidance and minimization have been done to the extent practicable. The COE, or other agency with authority to delineate wetlands using the appropriate delineation manual, will determine the jurisdictional boundaries of wetlands or other waters at the project site.
- B. Compensatory mitigation sites shall be recorded as deed restrictions in perpetuity, or some other method as approved by the COE and the MDNR, that will reserve the mitigation area in perpetuity or aquatic resource protection and wildlife purposes.

## APPENDIX II I

- C. Projects in aquatic areas with federal or state endangered, rare or threatened species must consult with the USFWS and/or MDC for information to avoid/minimize any adverse impacts to these species.

### GENERAL CRITERIA

- A. Definitions: The following definitions describe the various terms relating to wetland mitigation to be used by MDNR for purposes of these guidelines:
1. *Aquatic Resources*: All aquatic areas which fall under the jurisdiction of Section 404 of the Clean Water Act.
  2. *Created Wetland*: The conversion of a persistent non-wetland area into a wetland. Creation techniques vary but usually entail excavation or the construction of berms, levees and water control structures which establish wetland hydrology. Once the hydrology has been introduced, wetland plants may grow naturally, or it may be necessary to transplant desired vegetation from other established wetlands. Even when wetland vegetation is established, it will take an indeterminate amount of time for hydric soils to develop. Thus, created wetlands, also called artificial wetlands, may not meet the criteria for a true wetland for years after its creation.
  3. *Degraded Wetland*: A wetland altered through impairment of some physical or chemical property which results in a reduction of habitat value or other reduction of functions.
  4. *Enhanced Wetland*: An existing wetland where some activity of people increases one or more values; often with an accompanying decline in other wetland values.
  5. *Preservation*: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the aquatic ecosystem.
  6. *Restoration*: Wetland restoration is the act of returning an area that was previously a wetland, or is presently a degraded wetland, back to a condition of equal or greater acreage and/or function within the same wetland classification type. In many cases, reestablishing the hydrology is sufficient to reactivate the seedbed that lies dormant in the wetland soil. For example, restoration of a drained wetland may be as simple as removing the drainage tiles or plugging up the drainage ditch that removed the water from the area.
  7. *Shrub*: A woody plant which at maturity is usually less than six meters (20 feet) tall.
  8. *Tree*: A woody plant which at maturity is usually six meters (20 feet) or more in height.
  9. *Watershed*: Watershed or basin areas, for these guidelines, will use the cataloging unit boundaries (eight digit number) as developed by the U.S. Geological Survey (USGS) and shown on the enclosed maps.
  10. *Wetland*: Areas which are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

APPENDIX III

B. Mitigation Site

1. Compensatory mitigation shall occur on-site unless:
  - a. On-site mitigation is impractical
  - b. On-site mitigation will not adequately replace lost functions
  - c. It is determined that off-site mitigation is environmentally preferable considering the type of aquatic resource impacted and the historic loss of aquatic resource types and functions in the watershed.
2. Off-site mitigation shall be conducted: adjacent to or connected with other protected sites in the same watershed unless the applicant demonstrates the impracticality of doing so.
3. Compensatory mitigation shall be done in the same watershed where adverse impacts occurred, unless the impracticability of doing so is demonstrated.
4. Exceptions:
  - a. Mitigation for linear projects (i.e., along highway right-of-way or pipelines) with impacts in several watersheds may be done at a single mitigation site.
  - b. If mitigation in one site is not possible, mitigation for a single project may be conducted at more than one site and with more than one mitigation technique.

C. Mitigation Type:

1. Mitigation shall be in-kind unless the applicant demonstrates the impracticality of in-kind habitat mitigation or;
2. It is determined that out-of-kind habitat mitigation is environmentally preferable considering the type of aquatic resource impacted, and the historic loss of aquatic resources and the functions and values in the watershed.

D. Mitigation Method: Unavoidable losses to aquatic resources may be compensated for in several ways.

1. Restoration of historic wetlands (i.e., prior converted cropland). This is the preferred method for wetlands compensation.
2. Creation of wetlands in areas where wetlands did not historically exist.
3. Enhancement of existing wetlands. This method should not result in secondary impacts to wetlands or the aquatic system.
4. Preservation of existing wetlands. This method should only be used in unusual circumstances, determined on a case by case basis and will generally receive only partial credit. Therefore, more acreage would be required as compared to other methods of compensation.

5. Other.

- a. Mitigation for aquatic resources besides wetlands should be dealt with case by case since providing wetland acreage may not be appropriate for other aquatic resource impacts. Methods may include: restoring a degraded reach, designing a new reach as close to a natural one as possible or riparian plantings.
- b. Other methods of compensatory mitigation exist. These include banking and in lieu fee. These types of agreements shall be determined on a case by case basis. Applicants wanting to use one of these methods must still go through the avoidance and minimization process. On-site mitigation is preferred unless there is some extenuating circumstance in which off-site mitigation would better serve the resource that is damaged. Any mitigation banks that are used shall be developed by following the current federal guidance for mitigation banks. The first guidance was issued November 28, 1995. This guidance may be fine tuned at a later date to be specific to the State of Missouri.

E. Mitigation Ratios

- 1. Acreage ratios are useful to ensure consistency among projects and as a surrogate for more complex functional assessment methodologies when seeking to ensure the replacement of lost aquatic habitat including wetland functions. The ratios reflect the uncertainty of mitigation success, the time delay between the loss of functions and the reestablishment of those functions and the value of the aquatic resource from a water quality perspective.
- 2. The following ratios have been developed by the participating agencies for use in the State of Missouri for wetland creation/restoration. The ratios are intended for use by projects for which the sequencing requirements have been completed and it has been determined at that point that compensatory mitigation is appropriate. The ratios are not intended for enforcement purposes, however, the high end of the range may be an appropriate place to begin negotiations for enforcement cases.

Farmed Wetlands	1.0-1.5
Emergent	1.0-3.0
Shrub-Scrub Wetlands	1.5-3.0
Wooded Wetlands	2.0-4.0
Open Water	1.0
Streams	Case by Case (refer to General Criteria D.5.a. & b.)

These ratios may be increased when:

- a. Mitigation is not conducted before or concurrently with a development project.
- b. Out-of-watershed mitigation is proposed.
- c. Projects impact functioning mitigation sites.
- d. Other relevant circumstances make increases in the ratio appropriate.

- 3. Rare and unique aquatic habitats may not be appropriate for any mitigation and therefore no impacts should occur in these areas. This would include fens, mature bottomland woodland or other areas as described by the current NRCS Missouri categorical exclusion and red flag areas.

F. Wetland Classification (from Cowardin, Classification of Wetlands and Deepwater Habitats of the United States, FWS/OBS-79/31, December 79)

## APPENDIX III

1. "If vegetation (except pioneer species) covers 30% or more of the substrate, we distinguish classes on the basis of the life form of the plants that constitute the uppermost layer of vegetation and that possess an areal coverage 30% or greater. For example, an area with 50% areal coverage of trees over a shrub layer with a 60% areal coverage would be classified as Forested Wetland; an area with 20% areal coverage of trees over the same (60%) shrub layer would be classified as Shrub-Scrub Wetland. When trees or shrubs alone cover less than 30% of an area but in combination cover 30% or more, the wetland is assigned to the class Shrub-Scrub. When trees and shrubs cover less than 30% but the total cover of vegetation (except pioneer species) is 30% or greater, the wetland is assigned to the appropriate class for the predominant life form below the shrub layer."

### G. Mitigation Plan

1. All mitigation plans must be submitted and approved before work begins on the project. The applicant must also demonstrate financial and technical capability to do the work and show that a suitable site is available.
2. When possible, mitigation should be completed before project proceeds or completed prior to or at the same time the project is completed. Failure to achieve this may result in increased mitigation ratios.
3. Mitigation plans should include the following information.
  - a. Clear statement of objectives;
  - b. Description of the wetland functions that will be lost and those that will be replaced;
  - c. Statement of the location and description of the baseline 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. 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.

APPENDIX IV

MISSOURI STREAM/SPANNING BEASON

WATERBODY	COE HILES FROM DIST	TO	CLOSED	COUNTY1	COUNTY2	COUNTY3	COUNTY4	COUNTY5
Baker Branch	KCD	4.0 Mouth of Flat Creek (6,37N,27W)	03/15 - 06/15	St. Clair				
Barren Fork	KCD	3.9 Conf. with Tavern Creek (35,40N,13W)	03/15 - 06/15	Miller				
Bass Creek	KCD	4.0 Mouth (20,47N,12W)	01/15 - 07/15	Boone				
Beas Creek	KCD	9.7 Hwy A (10,34N,25W)	03/15 - 06/15	Cedar	Polk			
Big Creek, East Fork	KCD	40.0 Conf. with West Fork (9,63N,28W)	03/15 - 06/15	Harrison				
Big Creek, West Fork	KCD	38.0 Conf. with East Fork (9,63N,28W)	03/15 - 06/15	Harrison				
Big Piney River	KCD	47.2 Conf. with Gasconade River (31,37N,10W)	03/15 - 06/15	Phelps	Pulaski	Texas		
Big Sac River	KCD	6.1 Stockton Lake (5,31N,25W)	03/15 - 06/15	Dade				
Bonne Pense Creek	KCD	8.5 Andrew Sapp Road (35,47N,13W)	03/15 - 07/15	Boone				
Brush Creek	KCD	9.6 Hwy J (18,36N,25W)	03/15 - 06/15	Cedar	Polk	St. Clair		
Brush Creek	KCD	8.0 Conf. with Shoal Creek (30,56N,27W)	03/15 - 06/15	Caldwell				
Brushy Fork	KCD	3.2 Conf. with Barren Fork (3,39N,13W)	03/15 - 06/15	Miller				
Cahoonlife Creek	KCD	2.5 Conf. with Thomas Creek (2,36N,20W)	03/15 - 06/15	Dallas				
Castile Creek	KCD	28.0 Route Y (22,57N,32W)	03/15 - 06/15	Buchanan	Clinton			
Clear Creek	KCD	19.0 Conf. with Fishing River (18,52N,30W)	06/01 - 08/31	Clay	Clinton			
Clear Creek	KCD	5.0 Mouth (32,48N,47N,15W)	03/15 - 06/15	Cooper				
Crabapple Creek	KCD	9.0 Conf. with Shoal Creek (21,56N,27W)	03/15 - 06/15	Caldwell	Clinton	Ray		
Crooked River	KCD	49.0 Hwy 10 (31,52N,26W)	03/15 - 06/15	Caldwell	Ray			