



**US Army Corps
of Engineers**

Little Rock District
Memphis District
Vicksburg District

General Permit

2007 ARKANSAS GP-GTR

ISSUANCE DATE:
October 30, 2007

EXPIRATION DATE:
October 30, 2012

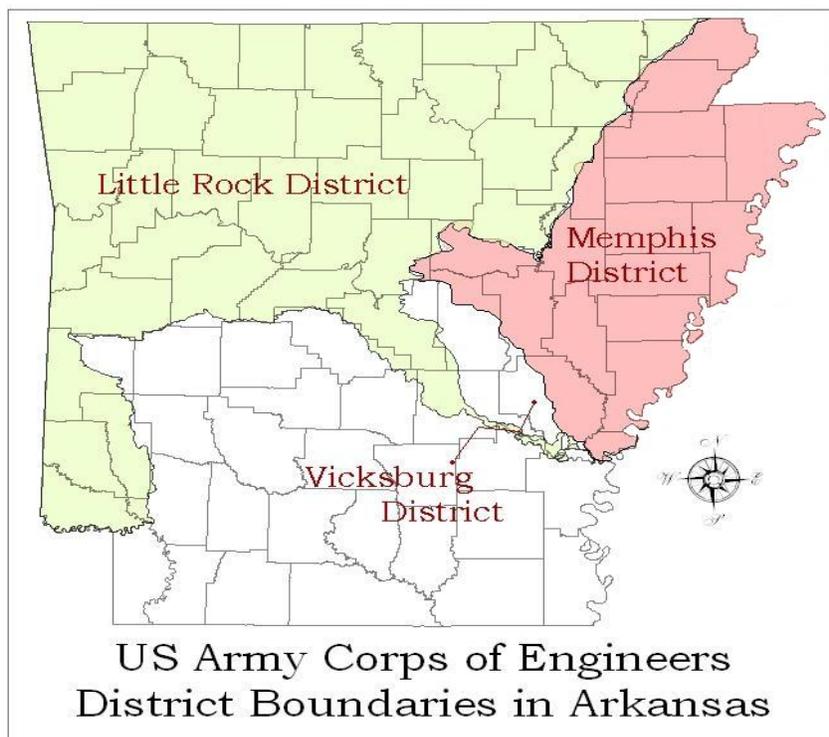
The District Engineers, U.S. Army Corps of Engineers, Little Rock, Memphis, and Vicksburg Districts, announce the issuance of a general permit to authorize deposition of fill material into waters of the United States, as regulated by Section 404 of the Clean Water Act and/or Section 10 of the Rivers & Harbors Act, associated with creation of Green-Tree Reservoirs (GTR) in the state of Arkansas. Such work proposals usually include construction of levees and/or installation of water control structures used for manipulation of water levels in bottomland hardwood wetlands intended to provide for the habitat needs of migrating waterfowl. Management of timber resources as a GTR is largely undertaken for the purpose of attracting waterfowl to create, improve, and/or enhance hunting opportunities. This general permit is intended to provide a basic framework for effective management of vital wetland resources for landowners that are willing to undertake the responsibility associated with this management option.

Upon receipt of an application for this GP, the District Engineer will review the information submitted. After an initial review, the District Engineer will advise the inquiring party as to whether additional information is required. If appropriate, the District Engineer will also advise at that time whether the proposed work will be reviewed as an individual permit or whether it may be authorized under the General Permit (see the attached terms and conditions). The respective District addresses are:

USACE - Vicksburg
ATTN: Mike McNair
4155 Clay Street
Vicksburg, MS 39183-3435

USACE – Memphis
ATTN: Mr. Larry Watson
167 North Main, Rm. B-202
Memphis, TN 38103-1894

USACE - Little Rock
ATTN: Mr. Jerry Harris
700 West Capitol Ave.
Little Rock, AR 72203-0867



2007 ARKANSAS GP-GTR TERMS & CONDITIONS

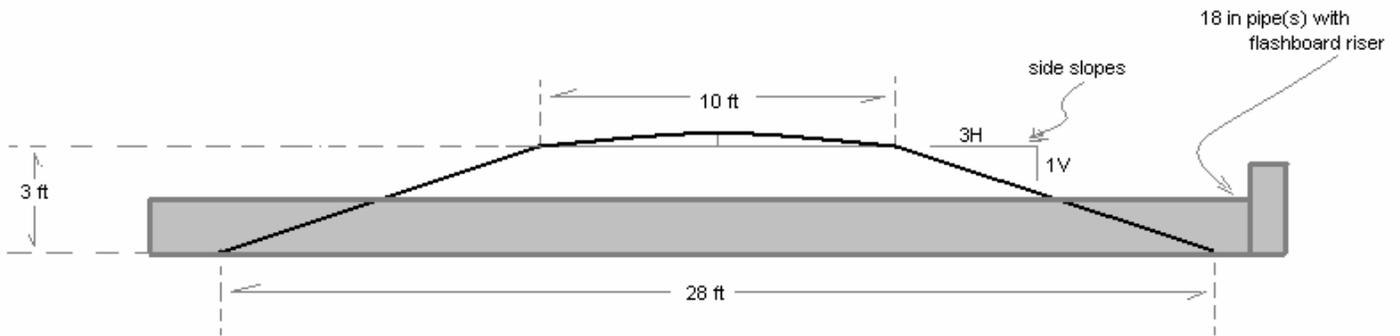
1. For consideration under this general permit, the landowner must submit a standard application for Department of the Army Permit (ENG 4345) supplemented with: a) a vicinity map, b) aerial photography denoting proposed levee alignment(s), c) a topographic map also denoting levee alignment(s), d) a site plan denoting location of water control structures (both proposed and existing), and e) verification that the project plans have been reviewed by the State Historic Preservation Officer (SHPO). Work plans will designate location of borrow materials and specify size of all water control structures to be used. Also, a cover letter will be submitted with the application stating that the applicant has read, understands, and fully intends to abide by the following conditions along with estimated start and completion dates of construction. If the landowner and applicant are not the same person, the landowner must be signatory to this cover letter.
2. To receive authorization under this general permit, compensatory mitigation will be required for unavoidable adverse impacts to the aquatic environment. The applicant should submit an outline that demonstrates how impacts to the aquatic environment have been avoided and/or minimized. A reasonable mitigation plan must be submitted for the application to be considered complete and eligible for processing. Ultimately, determination of mitigation requirements will be the responsibility of the District Engineer based on an evaluation and/or assessment of the functional capability of resource(s) to be impacted.
3. Prior to construction of the GTR, the District Engineer will normally require that a portion of the approved mitigation plan be accomplished, such as: a) deed restrictions and/or deed recorded conservation easements, b) listing with County Tax Assessor, c) posting of perimeter signs. Prior to use of the GTR (man-induced flooding), mitigation plan components that will normally be required are: c) site preparation, and/or e) planting of seedlings.
4. For the application to be considered complete, an initial baseline report (prepared by a forester, biologist, or other qualified land management professional) must be submitted. The baseline report will designate location of sampling points for use in future monitoring of the GTR and include a base map of vegetation communities on the site.
5. Wherever possible, direct impacts to bottomland hardwood wetlands for levee construction will be minimized or avoided, allowing only those impacts necessary to form the impoundment. For example, the levees will be constructed in previously disturbed areas such as farmland, cleared pipeline right-of-way, or where possible, incorporate existing dikes or roadways to minimize impacts.
6. A proposed GTR site should be properly positioned in the floodplain (at a slightly higher elevation) with soils that exhibit low permeability. Topography of the GTR site will generally be flat (i.e. slope less than 1%). Vegetation of the proposed GTR site should contain water tolerant species, preferably dominated by species classified as Facultative Wet. The proposed site should exhibit the potential to discharge adequate amounts of water to protect forest resources whenever necessary.
7. Construction of dams and/or levees across primary rivers, perennial streams, or in sites dominated with bald cypress (*Taxodium distichum*) and/or water tupelo (*Nyssa aquatica*) is not allowed by this general permit.
8. Manipulated water levels within the GTR are not to exceed 18-inches (excluding channels), with levee design and alignment location selected to impound water between four and ten inches in depth over the majority of the site.
9. GTR impoundments proposed to contain multiple cells will be designed such that each individual cell is capable of being flooded and/or drained independently.
10. Levee(s) will not exceed three feet in height, with a maximum crown width of 10 feet, and will be constructed with side slopes of 3H: 1V (see typical GTR Levee Cross-Sectional Diagram). Levees may be constructed to a flatter slope (i.e. 6H: 1V) if desired by the landowner and/or may be required by the Corps on sites subject to over-bank flooding with high flow velocities.

11. Fill materials (dirt, rock, gravel, etc.) may be obtained from within the GTR and/or adjacent to levees if appropriate (i.e. drainage needs). Also, fill materials may be obtained offsite from an upland (non-wetland) area, but must be clean and free of pollutants capable of contaminating the aquatic environment.
12. Water control structures will be of sufficient size and/or number to carry expected high flows that would pass through the reservoir impoundment and effectively drain the reservoir in a timely fashion. Emergency spillways will be incorporated in the levee system as necessary to facilitate passing of high flows and prevent excessive damage from erosion. In areas subject to beaver activity, installation of beaver pond levelers and/or emergency drainage systems may be necessary to maintain control of water levels.
13. Mechanized clearing for food plots and/or duck holes is allowed under this general permit. These may be up to 0.5-acre in size with no more than one of these per 50 acres within the GTR impoundment. Offsetting these impacts will be addressed in the overall mitigation plan. Ditches for the express purpose of boat access are prohibited. Mechanized clearing for access trails must be in accordance with an approved forest management plan and will be limited to the minimum (number & size) necessary to meet forestry goals.
14. All soils disturbed by construction (including the borrow site if necessary) will be compacted upon completion of work and planted with native grasses to prevent erosion. In areas subject to stronger water currents, placement of rock materials (i.e. riprap, crushed limestone, gravel, etc.) may be required for slope protection depending on an evaluation of the site conditions. Prior to the beginning of any construction activities, appropriate erosion control measures, such as silt fences, silt barriers or other suitable devices shall be placed between the construction area and affected waterways (wetlands); and maintained in a functioning capacity until the area is permanently stabilized upon project completion.
15. Use of control structures to impound water within the GTR is prohibited prior to November 15th and after the last day of duck season or February 15th (whichever occurs first). It is recommended that draw-down of the impounded water occur at a slow pace (i.e. \leq one inch per day) for nutrient retention in the GTR with all floodwaters removed by March 1.
16. GTR impoundments authorized by this general permit are required to experience at least one “dry year” (i.e. no man-induced flooding) for every two “wet years” (i.e. years that flooding is manipulated by the owner). If the GTR is scheduled to experience a “dry year” and a natural flood event occurs exceeding two weeks in duration, then the GTR must remain dry for the following year as well.
17. For each year the water control structures are used to impound water, a letter from the landowner (or an authorized representative) must be submitted to the Corps of Engineers not later than April 1st stating: a) when use of the control structure was initiated, b) when drainage of impounded water was initiated, and c) whether or not the GTR was successfully drained by March 1st. In the event the GTR was not drained by March 1st, the landowner will include a statement explaining why this did not occur and plans for corrective measures.
18. A monitoring report must be submitted to the Corps of Engineers for the life of the GTR. Initially, these reports will be submitted for five consecutive years after use of the GTR begins. If monitoring reports submitted for years 3 thru 5 are considered a success (i.e. minimal stress), then the landowner may elect to submit them only for the “dry year”. The results will be provided to the Corps of Engineers by July 15th of each year they are due.
19. The monitoring report will be based on data collected at pre-determined sampling points. The report will include but not be limited to: an assessment of vegetation, changes or stress noted, and recommendations for operating the GTR the following year.
20. Special conditions concerning the operation of the GTR may be modified or added as a result of the findings of monitoring reports. If monitoring reveals significant adverse impacts to the GTR, corrective measures may be necessary to ensure the integrity of the forested land. If monitoring reveals significant adverse impacts to the GTR, the requirement for yearly monitoring will resume until three consecutive successful reports are submitted. Additional sampling points may be added to investigate problem areas discovered in the course of monitoring.

21. The Corps may provide a copy of monitoring reports to the appropriate resource agencies. You must allow representatives from this office to inspect the GTR at any time deemed necessary to ensure that the terms and conditions of your permit are being met.
22. GTR impoundments capable of flooding more than 100 acres and divided by levees into multiple impoundments (cells) will be reviewed by the Environmental Protection Agency, U.S. Fish and Wildlife Service, Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, Arkansas Natural Heritage Commission, Arkansas Forestry Commission and the Arkansas Department of Environmental Quality.
23. Creation of a GTR impoundment may not occur in a component or a proposed component of the National Wild and Scenic River System or in a component of a system designation component of a state Scenic River System or Special Category Waters without the appropriate Federal or state authorization. Creation of a GTR may not affect state wildlife management areas, national wildlife refuges, national forests, and/or extraordinary resource waters without the appropriate Federal or state authorization.
24. No activity which may adversely impact a site listed in or eligible for listing in the National Register of Historic Places shall be allowed by the General Permit. Additional material shall not be taken from a known historical or archeological site such as an Indian mound. If undocumented cultural resources, skeletal remains and/or other religious artifacts, etc. are uncovered during construction, work must stop immediately and the appropriate Corps District notified.
25. Creation of a GTR may not destroy or adversely affect threatened or endangered species or their critical habitat as identified under the Endangered Species Act.
26. As a condition of Water Quality Certification from Arkansas Department of Environmental Quality (ADEQ) applicants are required to: a) implement and follow all practicable best management practices to avoid excessive impacts of sedimentation and turbidity to surface waters during construction and operation of the GTR; and b) comply with the provisions of the NPDES Storm water program.
27. A copy of the permit conditions will be recorded with the deed of the property at the local county tax assessor or other official responsible for maintaining records of property title. A certified copy verifying that this requirement has been met must be returned to the Corps of Engineers prior to initiation of work. If you sell the property associated with the authorization under this General Permit, you must contact the appropriate Corps District so that authorization can be transferred to the new owner.
28. The landowner must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. The landowner is not relieved of this requirement if management of the GTR is abandoned. Should the landowner wish to cease management of the area as a GTR and/or abandon maintenance of the authorized structure, the appropriate Corps District must be contacted to obtain modification of this permit, which may require restoration of the area.
29. Authorization under this GP does not obviate the need to obtain other Federal, state, or local authorizations as required by law, does not grant any property rights or exclusive privileges, does not authorize any injury to the property or rights of others, and does not authorize interference with any existing or proposed Federal projects.
30. In the event that the subject property is encumbered by easements (i.e. flowage, utilities, rail, highway, etc.), it will be the responsibility of the applicant and/or landowner to comply with the easement terms and/or limitations.
31. By 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.

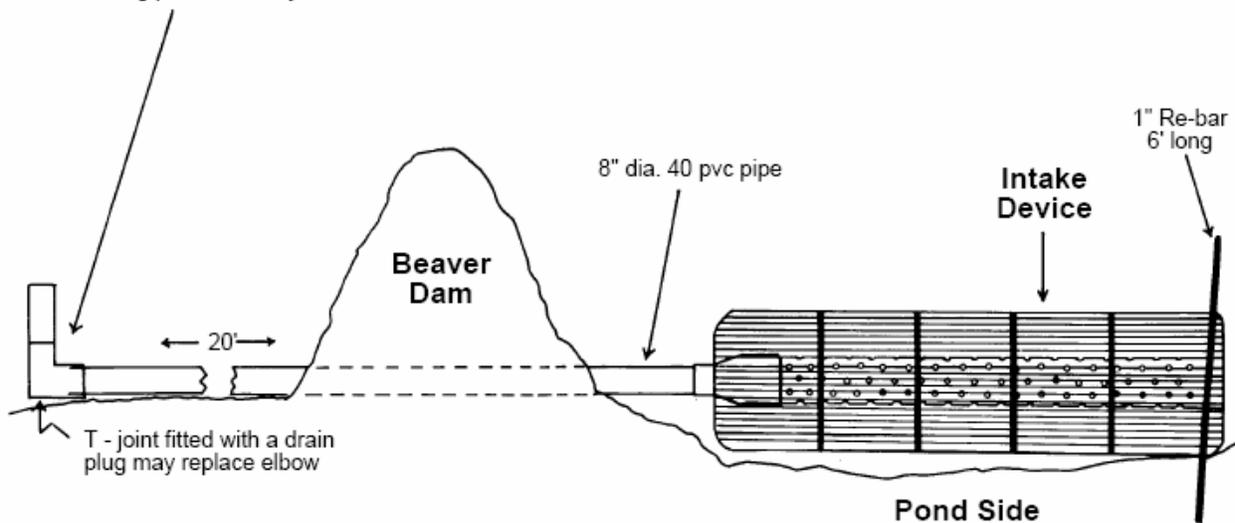
32. USACE may reevaluate its decision on this permit at any time the circumstances warrant. Please note that, in the event USACE finds it necessary to reevaluate its decision, permit authorization may be modified, suspended, or revoked. Circumstances that could require a reevaluation include, but are not limited to the following:
- Failure to comply with terms and conditions of this permit.
 - Discovery that the information provided by the applicant and/or landowner in support of this permit request proves to have been false, incomplete, or inaccurate.
 - The occurrence of excessive timber mortality.

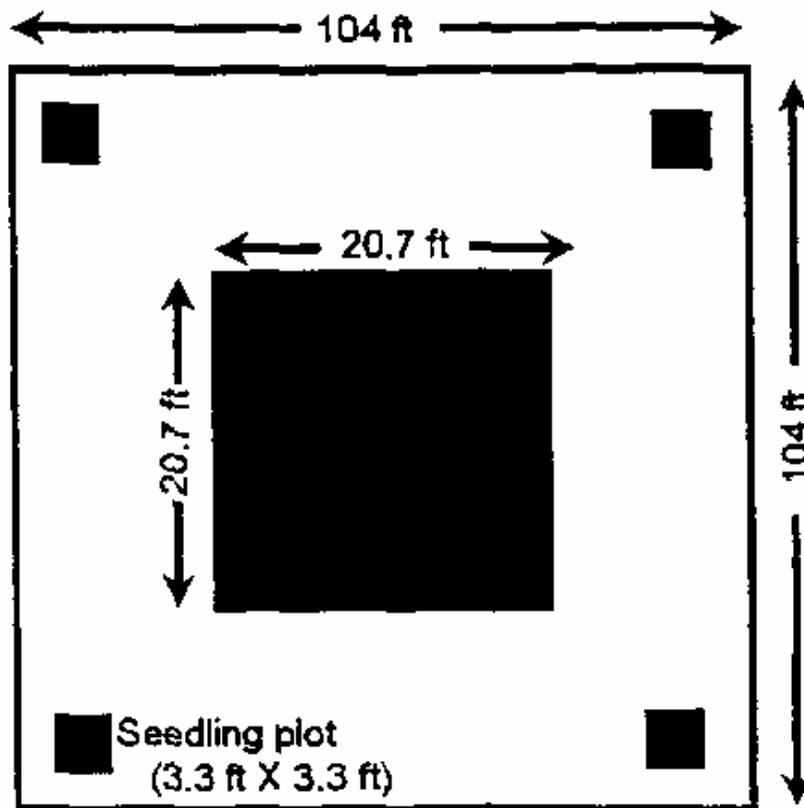
Typical Cross Section for Greentree Reservoir Levee



Elbow and stand pipe are optional. Needed only to manage water level if maintaining pond is an objective

Clemson Beaver Pond Leveler





Typical Plot Design for Intensive Monitoring

Indicators of flooding stress on bottomland trees and potential for recovery.

Condition	Probable cause	Potential for recovery
Yellowing of leaves (Chlorosis)	Saturated soils and/or shallow flooding during the growing season	Good if flooding frequency and duration reduced. Do not flood for at least 2-3 years or longer if trees do not recover
Loss of flowering	Saturated soils and/or shallow flooding for extended period during dormant and growing season	Good if flooding frequency and duration reduced
Canopy thinning (fewer leaves produced)	Saturated soils and/or shallow flooding for part of the growing season for 2 or more years	Fair if flooding frequency and duration reduced. Do not flood for at least 2-3 years or longer if trees do not recover
Butt swelling on red oaks	Dormant season flooding at same depth, duration and timing for 10 or more years	Fair if flooding frequency, duration, and depth is changed to be dynamic within and among years
Tip die-back	Long-deep flooding in dormant season and extended flooding in 2 or more growing seasons	Fair when first noticed, but trees most likely have reduced vigor and will have increased mortality in next 5 to 7 years. Do not flood for at least 2-3 years or longer if trees do not recover
Large dead branches (2" or more in diameter)	Long-deep flooding in dormant season and well into and during the growing season	No reversal possible