

CEMVS-PM-E

MEMORANDUM THRU CEMVS-PM (Barnes) *4/12*

FOR CEMVS-DE

SUBJECT: Supplement No. 1, Design Memorandum No. 504, The Master Plan, Carlyle Lake, Kaskaskia River, Illinois

1. Supplement 1 to Carlyle Lake Master Plan is submitted for review and approval.
2. The purpose of this supplement is to propose the installation of 35 water and sewer hookups, in Loop 1, of the Coles Creek Campground and the updating of facilities at the Carlyle Lake Project Maintenance Compound. Total project estimate is \$479,424.
3. A technical review was completed and is included as an enclosure to the supplement.
4. In accordance with ER 1130-2-550, paragraph 3-2 h., approval of this plan by the District Commander is requested.

Timothy K. George

TIMOTHY K. GEORGE
Acting Chief, Environmental and
Economic Analysis Branch

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THRU CEMVS-DE *for*

FOR CEMVS-PM-E

Request for this plan is:

APPROVED

DISAPPROVED

Thomas J. Hodgini
THOMAS J. HODGINI
COL, EN
Commanding

MEMORANDUM FOR CEMVS-DE

SUBJECT: Supplement No. 1, Design Memorandum No. 10, The Master Plan, Carlyle Lake, Kaskaskia River, Illinois

1. References:

- a. Design Memorandum No. 10, The Master Plan, Carlyle Lake, Kaskaskia River, Illinois (Updated 1997)
- b. ER 1130-2-550, Project Operations - Recreation and Operations and Maintenance Policies
- c. ER 1165-2-400, Water Resources Policies and Authorities

2. Purpose: Supplement No.1, The Master Plan, Revised, Carlyle Lake, Illinois is submitted for review and approval. Its purposes are: 1) to provide information and gain approval for installation of 35 water and sewer hookups in Loop 1, Coles Creek Campground and 2) to provide information and gain approval for updating facilities at the Project's maintenance compound.

3. Background Information:

- a. Reference 1a. is the current Master Plan for Carlyle Lake.
- b. ER 1130-2-550 is the current ER for master planning and management of water resources projects.
- c. ER 1165-2-400 is the current ER for water resource policies and authorities.

4. General Description:

Coles Creek

a. Up to 30 of the 35 sites in Loop 1 of the Coles Creek Campground can become inundated when the lake exceeds 450 N.G.V.D. Because these sites are frequently flooded, potential revenue is lost when the lake level is above normal pool. As the lake level recedes, the project incurs significant cleanup and maintenance costs.

b. The current Master Plan proposed the relocation of the frequently inundated sites to a new sixth loop. Comparison of construction costs for a new loop versus elevating sites in Loop 1 proved more costly as shown in Appendix 1, Table 1. To avoid construction costs, reduce operations costs and to accommodate customer preference for Loop 1, the sites in Loop 1, lower than 450 N.G.V.D., will be elevated, using material removed from the adjacent cove. A low-level berm will be placed along the shoreline using approximately 4,900 tons of quarry run stone and approximately 4,761 cubic yards of silt will be removed with a trackhoe from the cove. The deepened area of the lake will provide material to floodproof campsites in Loop 1 up to elevation 453.0 N.G.V.D. The proposed action will allow for boat access to the shoreline adjacent to Loop 1 and continued use of preferred sites during flood damage reduction operations (high water).

c. Because Loop 1 will be useable when lake levels are high and some of the sites in Loop 1 are lakefront sites with boat access, water and sewer hookups along with hardened sites (impact sites) are proposed to be installed to all 35 sites in Loop 1. This will increase revenue, as shown in Appendix 1, Tables 2 and 3 and provides a quality service to our camping customers. See Plates 1 and 2 for a site plan and design typical of the impact sites.

d. The current project Master Plan includes approval for electrical service repair and rehabilitation at all 35 campsites in Loop 1. Master plan approval is requested for the 35 water and sewer hookups. O&M approval is requested for the elevation of sites, impact sites and a protection berm.

Maintenance Compound

a. The work effort will be broken down into five distinct areas. Each area is listed and discussed separately. A diagram of the maintenance compound is included in Enclosure 1.

(1) Proposed Wash Rack to Meet Environmental Compliance. Use of the existing wash rack is limited due to the run-off discharged into the adjacent grass and wooded area. The current wash rack is not close to a lift station, therefore a new wash rack at a different location is necessary. Concrete or asphalt curbing, a water/oil separator, drain pipe, GFI electrical outlets, and hot/cold water outlets will need to be supplied.

(2) Employee's Necessary Room (also known as Employee Locker Building). The current Master Plan proposed removal of this structure. Now, it is essential that the building remain in place due to the implementation of the Federal Inmate Partnership Program, which involves up to ten inmates, working at the Carlyle Lake Project, year-round, performing unfunded backlog maintenance. The building is used to house supplies and food for the inmates and is used as an area to prepare and eat lunch.

Structurally, the building is in good condition, but will require minor repairs. Proposed repairs include replacement of existing flooring, windows and damaged ceiling panels. Currently the building has two showers, which are rarely used and one toilet. To provide necessary facilities for inmate workers, one of the two existing showers will be removed and replaced with a second toilet. The federal prison labor crew will provide labor for the proposed modifications.

(3) Hazardous Material Storage Building. Currently, the Project is not in compliance with IEPA regulations and safety requirements. In order to gain compliance and accommodate chemical and paint storage needs, a replacement building is needed. Existing project structures are not large enough to accommodate separate paint and chemical storage, which is required. The proposed structure will be 32' x 12' x 9' and meet all existing regulations and safety requirements. The new building will replace the existing chemical storage building at the same location.

(4) Enclosed Workshop Space. Due to the Federal Inmate Partnership program, the Project has an increased labor force, with the capability of constructing/assembling many

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recreational facilities, at the project's maintenance compound such as tables, grills, shelters, covered benches, fish-cleaning stations, etc. Currently, necessary space requirements are not being met, therefore maximum benefits are not being realized.

An existing storage bay with a side and back wall will be modified to accommodate the inmate crew. To enclose the space, an interior sidewall will be erected and an overhead door will be installed on the front side of the structure. The federal prison labor crew will provide labor for the proposed modifications.

(5) Covered Storage Space. Currently the project does not have adequate covered storage space for necessary equipment, therefore, most equipment is exposed to harsh environmental conditions. In order to protect the Corps' investment and prolong the service life of the Project's equipment, an additional covered storage facility is proposed. The proposed structure will be a 30' x 75' pole barn with a gravel floor. A federal prison labor crew will provide labor for the proposed modifications.

5. Field Estimate of Cost and Financial Analysis: Table 2 presents revenue and cost information and Tables 1 and 3 present cost comparisons to justify rehabilitation of Loop 1. A field estimate of cost is included in Appendix 1, Table 4. Special Recreation User Fee (SRUF) monies will be used to fund the sewer and water hookups. The remaining items are considered necessary for maintaining the existing functions of the project and will be funded with regular O&M.

6. Environmental Compliance:

Coles Creek

All necessary environmental and cultural compliance has been obtained. See attached Enclosure 2.

Maintenance Compound

IEPA compliance measures will be determined following completion of a hazardous materials inspection of the Employee Necessary Building.

7. Technical Review: A technical review of this report was completed in accordance with Planning, Programs and Project Management Division's Quality Management Plan for Planning Products and is included as Enclosure 3.

8. Conclusions:

Coles Creek. The proposed Coles Creek project would increase revenues and reduce O&M costs for the Carlyle Lake Project. The completed project would also be responsive to an expressed demand of the public.

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Maintenance Compound. The proposed modifications would reduce O&M costs, increase efficiency and would gain compliance to regulations and laws.

9. Recommendation: The proposed developments described in this supplement are considered consistent with the Master Plan and related regulations. It is recommended that this supplement to the Master Plan be approved.



TIMOTHY K. GEORGE
Acting Chief, Environmental and
Economic Analysis Branch

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Table 1

Comparison of Costs: Sixth Loop and First Loop		
Sixth Loop Construction - 15 Sites	Unit Cost	Total 15 Sites
Sites with Impact Areas	\$3,000/site	\$45,000
Water and Sewer Hookups	\$3,000 ea.	\$45,000
Extend Access Road 300 Yards	\$6/sq. yd.	\$25,800
Electric service	\$1,000/site	\$15,000
Electrical Panel	\$8,000 ea.	\$8,000
Total		\$138,800
Cost per site Sixth Loop Relocation		\$9,253
Cost per site First Loop Rehabilitation		\$9,192

Table 2

Benefit Cost Analysis Water Sewer Hookups and Campsite Rehabilitation Coles Creek Campground - Loop 1		
<u>Benefits</u>	Annual	Annual
Item	Water & Sewer Hookups	Entire Project
Increased Fee Collection (increase \$6.00/campsite/hookup)	\$21,700 (\$8 additional per campsite; 50% occupancy)	\$54,250 (\$20 per campsite; 50 % occupancy)
Total Revenue	\$21,700	\$54,250
<u>Costs</u>	Annual	Annual
Initial Construction Costs 20 years at 6.875	\$9,271	\$28,139
Benefit/Cost Ratio	2.34	1.93

Table 3

Cost Comparison of Alternatives for Restoration of Loop 1 Rehabilitation					
Alternatives	Annual Project Cost	Repair Costs (Avg. Annual)	O&M Cleanup (Avg. Annual)	Annual Revenue	Total
With Complete Project	\$(27,770)	0	0	\$54,250	+ 26,480
Without Project	0	\$15,000	\$5000	\$20,628	+628
Partial Project: Demolition of campsites, elevation of Loop 1, place berm, rebuild camp pads	\$(13,994)	0	0	\$23,436	+\$9,442

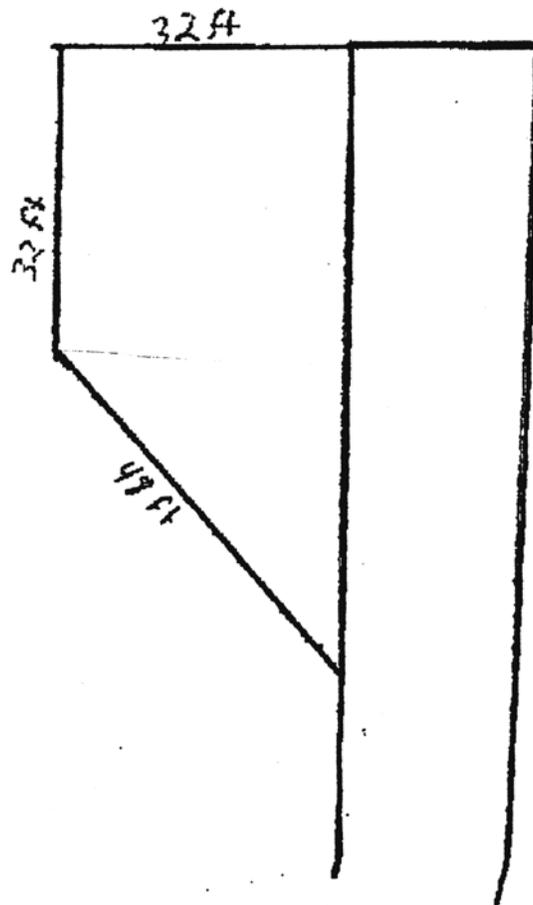
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Table 4

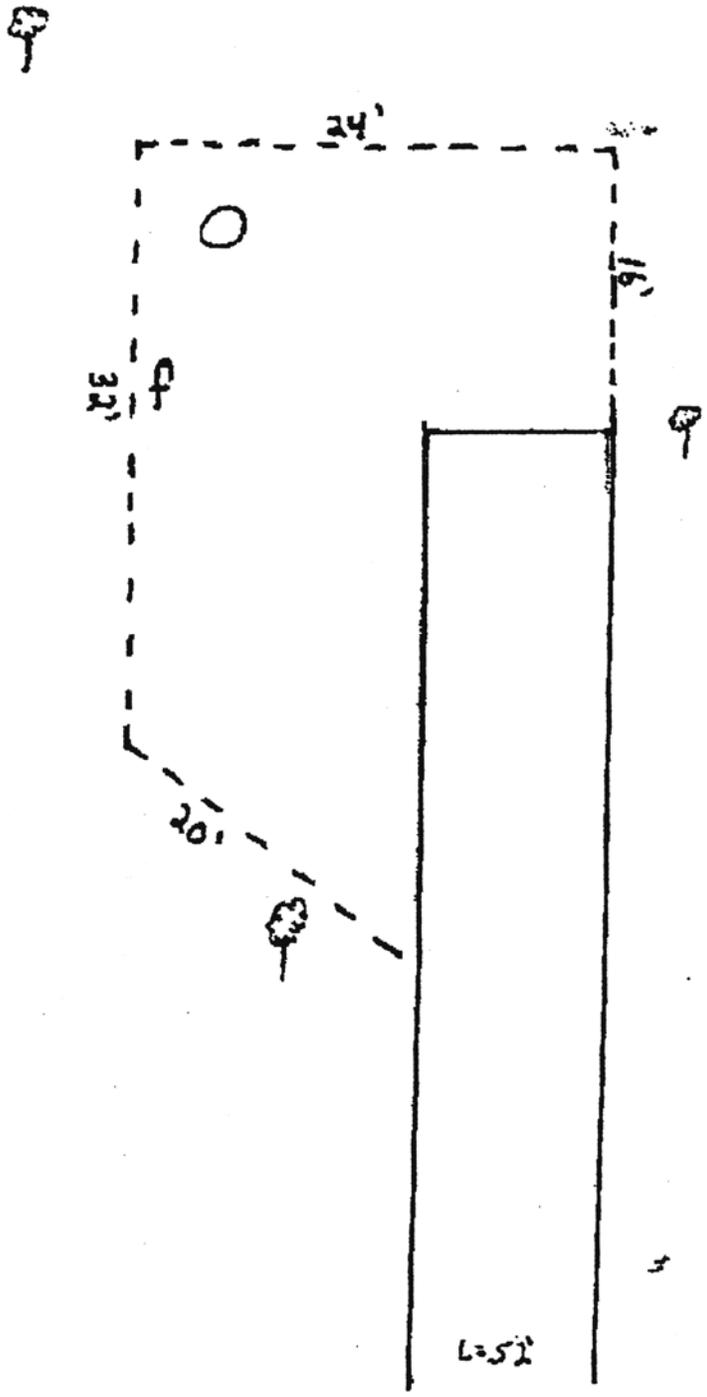
Field Estimate of Cost	
Proposed Items	Cost
Coles Creek Loop 1	
Demolition of campsites	\$4,224
Low level berm and silt replacement	\$105,000
Rebuild all sites with impact sites	\$70,000
Sewer & water hookups at each site	\$106,000
Electrical service rehab to 50 amps	\$36,500
Subtotal 1	\$321,724
Maintenance Compound	
Acquire Oil and Water Separator	\$3,000
Form pad and place separator	\$5,000
Run water and electric to site	\$3,000
Repair Maintenance Compound Lot	\$2,500
Subtotal 2	\$13,500
Necessary Building	
Remove/Install Flooring	\$1,000
Remove/Install Efficient Windows	\$1,500
Shower Removal/Install Toilet	\$2,000
Replace Ceiling Tile	\$500
Subtotal 3	\$5,000
Hazardous Material Storage Building	
Install Concrete Pad	\$1,000
Acquire/Install Metal Hazardous Material Building	\$71,000
Install Fire Suppression System	\$3,000
Subtotal 4	\$75,000
Enclose Workshop Space	
Acquire/Erect Metal Side Wall and Front	\$18,000
Acquire/Install 12x12 Overhead Door	\$1,200
Subtotal 5	\$19,200
Covered Storage Space	
Acquire/Install 30x75 Pole Barn Storage	\$45,000
Subtotal 6	\$45,000
Grand Total (All E&D, S&A and Contingencies Included)	\$479,424

DAM WEST CAMPGROUND - PAD #28
REPAIRS DUE TO FLOOD DAMAGE
IMPACT SITE



#28

REPAIRS DUE TO FLOOD DAMAGE
IMPACT SITE

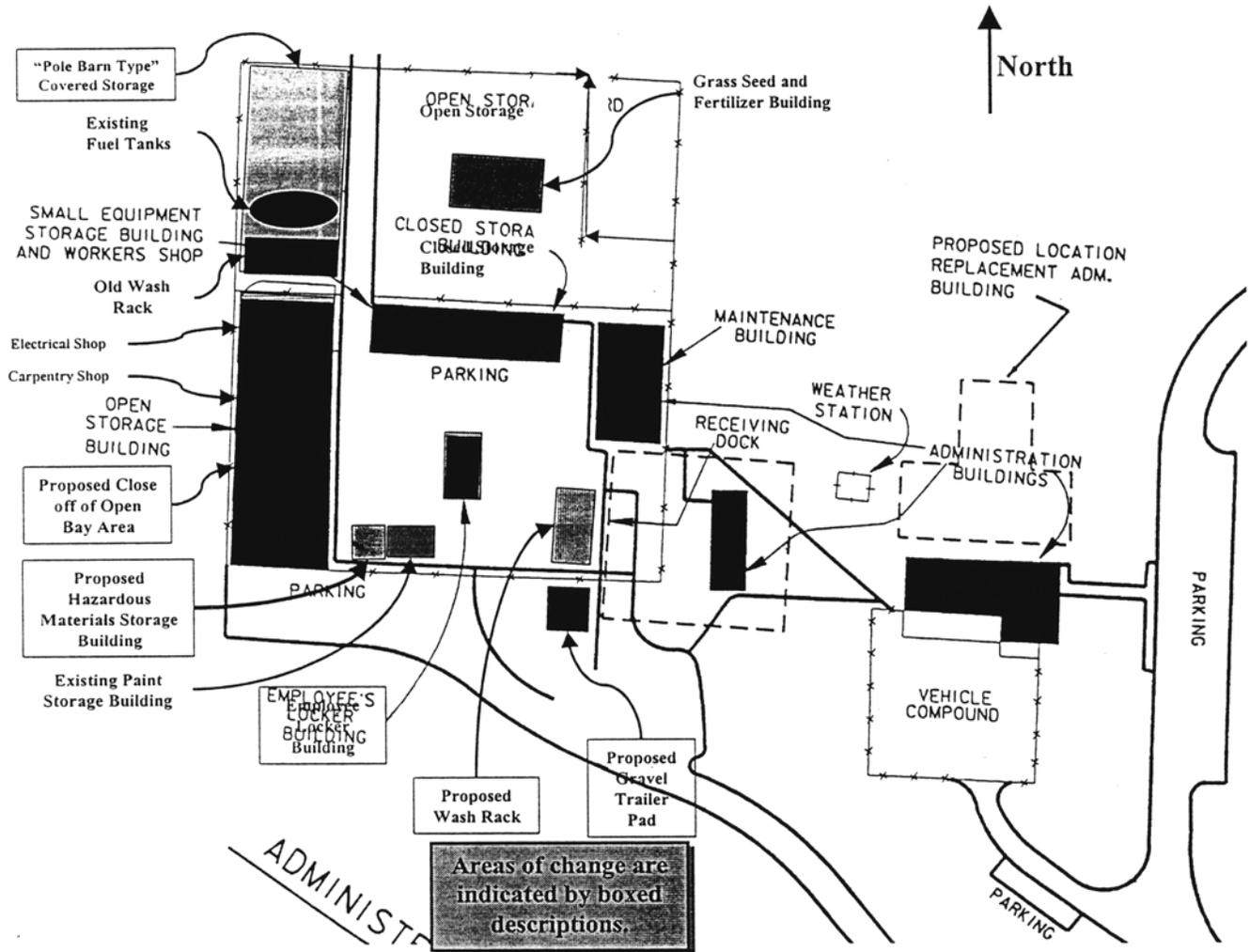


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CARLYLE LAKE MAINTENANCE COMPLEX

PLAN OF ACTION

Work effort can be broken down into five (5) distinct areas. Each area will be listed and discussed separately. Diagram of administration/maintenance work compound is included.



1. Proposed Wash Rack

a. Existing wash rack is located to the north side of the "Electrical Shop". Use of existing rack is limited due to soap and water run off being discharged into grass and wooded area. The installation of an "Oil Water Separator" has been recommended. Current wash rack is not close enough to the local lift station thus the installation of new wash rack is recommended.

b. Concrete or asphalt curbing and slab will need to be installed to facilitate appropriate drainage to collection point.

c. Water/oil separator needs to be installed. Separator shall be a unit easily accessible and serviceable.

Encl 1

- d. Drain piping must be installed to lift station located at the northeast corner of the “Employee Locker Building”.
- e. Electrical outlets are currently available located on the existing loading dock. Ground fault interruption capability must be verified/installed.
- f. Hot and cold water outlets must be made available with mixing capability to allow for adjustment of water temperature.

2. Employee’s Locker Building

- a. Building was originally identified in Master Plan to be removed. Carlyle personnel have identified additional needs and require the building to remain, with slight modifications to be made. Master Plan will be modified to eliminate removal requirements and allowing the retention of structure.
- b. Flooring should be inspected to verify material content and either replaced or repaired, as required by inspections. Question was raised about asbestos in the building. Inspections of the entire building need to be made to identify any problem areas and develop solutions.
- c. Replace all windows with energy efficient windows.
- d. Remove one of the two showers and install a second toilet in its place.
- e. Replace damage/stained drop ceiling panels.

3. Hazardous Material (HAZMAT) Storage Building

- a. Currently paint, oil and chemicals are stored in the same storage building. Existing building currently meets all requirements. During inspection a question was raised. Do herbicides, weed killers, and other chemicals need to be stored in separate facilities away from paint, and oils? If not, how far apart must they be separated? Due to the increased quantity of hazardous materials being stored, an additional building may be required.
- b. New building to be located close to, or adjacent to the existing HAZMAT building. Approximate location is shown on drawing but, exact location has not been selected.
- c. New building will meet all safety requirements. (Spill containment, fire suppression, heating and cooling.)

4. Enclosed Storage Space

- a. Open storage building south of the “Carpentry” shop has been identified as an area to enclose for a sheltered storage space. With this enclosed storage, bulky work requiring more space can be continued during inclement weather. Space will be used in conjunction with adjacent carpentry shop.
- b. The storage bay is an open bay with a side and back wall. To accomplish closure of space, an interior sidewall will be erected at the column lines that define the storage bay itself. This will provide the required third wall. To seal off the access point and provide a fourth closed wall, an overhead roll up door will be installed.
- c. Insulation does not need to be installed. Closure made only to limit effects of rain and snow.

5. Covered Storage Space

a. Extra covered storage for field equipment such as tractors, disks, spray equipment, trailers, etc. This will protect the Corps of Engineers' investment in this heavy-duty equipment.

b. Covered storage shall be a pole barn type construction. Building does not need to have a concrete floor, only gravel.

c. Covered storage is to be installed over top of the existing fuel storage tanks. We need to check out to see if this is against fire codes etc.? What has to be done to do this legally? Should the fuel vents be run up and through the roof of the building?

d. At fuel tank location the building should have a roof, but no front or back enclosed walls. The rest of the cover storage building would have three enclosed walls, and roof but, no front wall or doors.

DEPARTMENT OF THE ARMY PERMIT

Permittee U.S. Army corps of Engineers, Carlyle Lake Management Office

Permit No. P-2124

Issuing Office U.S. Army Engineer District, St. Louis

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.

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

Project Description: Excavation of fill material from waters of the U.S. in conjunction with rehabilitation and construction measures to the Coles Creek Recreation Area.

Project Location: Within the Coles Creek Recreation Area, at Carlyle Lake, near Boulder, Clinton County, Illinois.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2003. 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 the above date is reached.
2. You must maintain the activity authorized by this permit 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.
3. If you discover any previously unknown historic or archeological 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.