

SECTION XI
SPECIAL PROGRAMS

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11-01 HYDRO-POWER (Low-Head Hydroelectric Power Plant)

In 1991, Southwestern Electric Cooperative (Southwestern) proposed the construction of a low-head (35 ft.) hydroelectric power plant on the main dam at Carlyle Lake. Since that time, Southwestern has removed itself from the project and the City of Carlyle purchased Southwestern's interest in the project. The City of Carlyle contracted a second study which determined the project was feasible. License approval and solicitation for bids is expected to be completed in 1997.

The City of Carlyle owns and operates its own municipal electric power generating plant and obtains all its electrical needs from the Illinois Municipal Electric Agency, "IMEA", with offices in Springfield, Illinois. Carlyle is committed to purchase all of its electrical requirements from IMEA, which includes the utilization of Carlyle's power plant by IMEA, with an exception for up to 5,000 KW of hydro-power. The proposed project will be electrically connected to the Municipal Electric Utility of the City of Carlyle, located approximately 3,000 feet from the main dam. The City of Carlyle would operate and construct the power plant. Final approval of the design for the construction of this proposed facility would rest with the Corps of Engineers.

The proposed power plant will be operated as a "Run-of-the-River" type operation. The present water releases called for in the Master Reservoir Regulation Plan VII, or as later may be amended and as adopted by the St. Louis District Office, U.S. Corps of Engineers for Carlyle Lake will remain the guidelines for releases. The feasibility study was prepared on the basis that no additional water will be released for the sole purpose of producing electricity. At a minimum, the plant would produce 51 KW and a maximum of approximately 76,000 KW of hydro-power.

The Corps of Engineers cooperated fully with Southwestern during the preparation of the feasibility study because the project has the potential to reduce operations and maintenance costs and it will help to achieve the national goal of the United States of America for energy independence. This represents the development of an alternative, renewable energy resource. Southwestern received a preliminary permit from the Federal Energy Regulatory Commission (FERC) for the purpose of studying this proposed project. A license application to obtain construction approval from FERC was prepared and submitted by the City of Carlyle upon completion of research and planning.

The site that was chosen for construction from among several alternatives is on the east side of the Kaskaskia near the spillway and gates as indicated on PLATE 9. Each penstock will pass through the dam above flood level. The power plant structure will be located below the spillway on the east bank of the Kaskaskia, south of the trainer wall. A control and maintenance building will be located adjacent and south of the power plant. Project completion time would be approximately 24 months from the time authorization to proceed is received.

Coordination with the Illinois Dept. of Natural Resources, State Historic Preservation Office, U.S. Fish and Wildlife Service, U.S. EPA and Illinois EPA has occurred throughout the study process and interim approval will be sought during application for a construction license. A preliminary environmental assessment has been conducted and no negative impacts were

CARLYLE LAKE MASTER PLAN

identified. The final environmental impact assessment was recently submitted to the Corps for approval. The plant is expected to cost about 10 million and will be paid for through revenue bonds.

11-02 MARINAS

The U.S. Army Corps of Engineers promotes recreational boating at Carlyle Lake by making public land available under lease agreement to private operators for provision of marina facilities and services. There are four existing public marinas on Carlyle Lake. Boulder Access Marina is located on the east side of the lake, six miles north of U.S. 50. Keyesport Marina is located on the west side of the lake in the village of Keyesport and is about five miles east of Illinois 127. West Access Marina is located near the west abutment of the dam, approximately one mile north of the city limits of Carlyle. A sailing harbor, operated by the Carlyle Sailing Association, is located at the extreme southern end of Eldon Hazlet State Park.

Boulder Marina is a full service recreational boating facility, offering not only storage and docking, but also fuel, repairs and long term dry storage. Although future demand for slips is evident, the site is severely constricted and only about thirty additional slips could be placed in the existing harbor. Overflow from the Dam West Area has already reduced vacancies. The most feasible means of adding additional capacity would be dry storage. Possible expansion would be limited to 26 wet slips and 30 for dry storage.

West Access Marina enjoys the greatest demand among the full service marinas and has the potential for expansion of both wet and dry slips. The location of this marina at the most popular destination point on the lake also makes it the most expensive marina to store watercraft and certainly the most crowded. These factors will act to disperse boaters in the future; however, West Access Marina regularly approaches capacity. Even if expansion occurs at the operator's planned rate of development (just 10% increase in slips per year) the marina would be fully occupied as early as the year 2003. Potential expansion is limited to 170 wet slips and 65 in dry storage.

The Carlyle Sailing Association (CSA), a non-profit organization, operates the concession on land leased to the IDNR for Eldon Hazlet State Park. At present, there are no plans to expand the facility or provide in-water storage; however, the potential dry storage capacity of the area is between 512-562. The present storage capacity of 365 is comprised of cabin boats up to 26 feet, catamarans, and boats in the ONE-Design class.

Keyesport marina is a special case and requires greater scrutiny among the marinas at Carlyle Lake. The size and location of the marina does not favor the predominant sailing boater demand. Moreover, the current focus of profit generation is a land patron based restaurant concession and therefore, Keyesport marina is not in an ideal marketing position to take advantage of overflow from the other marinas. It is believed that if the concession was reoriented toward a marina operation, future demand for slip rental at Carlyle Lake would make Keyesport an attractive and viable boat storage and maintenance facility. There is a potential for an additional 30 wet slips and at least 100 units of dry storage, but current demand at this location would not justify such an investment prior to upgrading existing marina facilities.

A 1994 marina market study, included in Appendix I, identified two sites for future marina development on Carlyle Lake. One potential site is the cove between Dam East Boat Access and South Shore State Park and the second potential site is at Allen Branch in Eldon Hazlet State Park. A conceptual

design has been developed for a 400 slip, full-service marina at the South Shore site. The South Shore site has long been considered a good marina site; however, a comparative analysis of both sites does not seem to give a decided preference to one over the other. There are obstacles to overcome at each site. The upper portions of Allen Branch site is important for natural reproduction of fisheries at Carlyle Lake while the South Shore site lacks the costly infrastructure i.e. electric and sewers. Assuming the accuracy of rental projections and the potential for marina expansion, the construction of a new marina at Carlyle Lake is probable within the next ten years. Construction of a new marina will only be considered if marinas are nearing capacity and are not able or willing to expand.

11-03 MAINTENANCE AND REPAIR PLAN

The majority of facilities at Carlyle Lake were constructed in the early 1960's, therefore, most have exceeded their service life. Age of facilities, combined with increasing demands from visitors, have resulted in facility conditions in which routine maintenance is not sufficient. These facilities now require either major rehabilitation or complete replacement in order to remain operational. An extensive inventory and analysis was conducted of all facilities and structures at Carlyle Lake as part of the effort to develop a ten year maintenance and repair plan. The plan recommends necessary maintenance and replacement items for the next ten years. The plan was developed by analyzing conditions of existing facilities and evaluating customer usage trends in an effort to reduce project operation and maintenance costs, better serve our customers, and in some cases, increase user fee revenues. The entire plan is included as Appendix II.

11-04 SHORELINE MANAGEMENT PLAN

The subject of shoreline management is fully addressed in the SHORELINE MANAGEMENT PLAN which is included in the Carlyle Lake Operational Management Plan. The Shoreline Management Plan was prepared and implemented as a management tool to lessen the impact of private exclusive use along the public shoreline of Carlyle Lake. The plan was prepared under authority of Title 16 United States Code 460d; Title 36 Code of Federal Regulations 327.30 Lakeshore Management at Civil Works Projects as implemented by Engineer Regulation 1130-2-406, 31 October 1990. The objective of the plan is to provide policy and guidance for the protection of shorelines. Four basic considerations were used in formulating and updating the Shoreline Management Plan. These were: a) the demand for water oriented recreational facilities is increasing while the amount of shoreline is fixed; b) development of private property adjacent to the project is certain to continue; c) shoreline erosion continues to be a problem at Carlyle Lake, and steps must be taken to minimize shoreline erosion, especially in recreation areas and areas with adjacent development; d) the ownership of land adjoining public projects does not convey special rights or privileges to use public land and waters. The Shoreline Management Plan is presented on Plate 17.

11-05 MINERAL DEVELOPMENT

Two oil leases have been issued since 1987 for underground mineral rights totaling 740 acres. A 20 acre area, near the Coles Creek Recreation Area, is the only site which will provide surface occupancy and where all wells and production and storage facilities for this field will be located.

The Boulder Oil Field was discovered and extensively produced by Texaco from the early 1940's through 1963 when the field, along with the mineral

CARLYLE LAKE MASTER PLAN

rights were purchased for the development of Carlyle Lake. The field had produced approximately 8.1 million barrels of oil at the time of its abandonment.

With the advent of technology that allows companies to directionally drill to an oil reservoir from a location on the surface up to several thousand feet away, the Bureau of Land Management, with the consent of the Corps of Engineers leased the mineral rights beneath Carlyle Lake to maximize recovery of the oil resource while minimizing impacts to the surface.

The wells of the Boulder Field utilize horizontal drilling techniques. This procedure involves directionally drilling a gradual curved hole to the oil zone beneath the lake. By the time the drill bit reaches the prospective oil zone, it is in a horizontal position and drilling continues horizontally through the oil bearing rock. Although substantially more expensive than conventional drilling techniques, horizontal drilling allows a reservoir to be produced more efficiently with fewer wells.

Lease bonuses, rentals and royalties generated from the mineral development on public land are distributed 75% to the State of Illinois for dissemination to county of well location and 25% to the General Fund of the U.S. Treasury. The federal agencies involved do not receive any direct funding from the mineral receipts.

All new leases for federally-owned minerals at Carlyle Lake will be granted and administered by the Department of Interior through the Bureau of Land Management (BLM). Although federally-owned minerals are under the administrative jurisdiction of BLM, consent from the managing agency must be obtained prior to granting a lease.

All privately-owned minerals underlying Carlyle Lake will be regulated by the Illinois Department of Mines and Minerals. The mineral owner and/or his operator must coordinate with the District to use the federally controlled surface. At this time, no privately-owned minerals are being mined at Carlyle Lake.

All mineral development activities at Carlyle Lake will be reviewed by the St. Louis District's Mineral Development Assessment Team (MDAT). All mineral development activities will be in accordance with the St Louis District Policy on Oil and Gas Development with guidance provided by the St. Louis District Handbook on Oil and Gas Development.

11-06 SECTION 1135 PROJECT

Section 1135 of the Water Resource Development Act of 1986 allowed modification of completed projects to restore environmental benefits. The Carlyle Wildlife Management Area was selected as a project and funding was obtained to complete the project. Construction began in FY-95, and will be completed in FY-97.

The completed 1135 project will provide improved water control in subimpoundments 1 and 2 in the compartmentalized interior of the Carlyle Lake Wildlife Management Area as originally intended. Interior levees will be raised to provide several feet of freeboard and adequate compartment separation and set water levels will be established for each compartment. The interior levees will have rock weirs which will be set at one foot above the desired pool elevation. Gated culverts will be placed on the interior at strategic locations to allow adequate water transfer between compartments. The subimpoundments were not functioning as originally intended because of poor

water transfer capacity between pools, low interior levee heights and inherent levee instability during flood overtopping.

The modification is anticipated to increase the biological productivity of the Carlyle Lake Wildlife Management Area by about 20%. The importance of this improvement is highlighted by the fact that the Carlyle Lake Wildlife Management Area has proven to be one of the state's most important waterfowl use areas and is located along one of the most important migration flyways.

The project is being cost-shared 75-25 with the State of Illinois as authorized by Section 1135 of the Water Resource Development Act of 1986. The project is being funded with \$638,000.00 of federal funds and \$212,000.00 of state funds.

A second 1135 cost-share project between the Illinois Department of Natural Resources and the Corps of Engineers is being considered for subimpoundments 3 and 4 to correct original design flaws and allow for better water control in these areas.

11-07 WETLANDS COMPENSATION AREA

A portion of the Boulder Flats area, located near North Fork Branch and east of Boulder Road, PLATE 2, VM-3, is identified as a wetland compensation area. The compensation area is a block of protected land that will be restored to wetland as needed to fulfill wetland replacement needs for potential state and federal projects at Carlyle Lake. The area restored to wetland in the compensation area will be located on prior converted cropland. Consolidating replacement wetlands in a compensation area will assure their continuance as wetland habitat. All regulatory requirements will be determined by the appropriate offices.

11-08 BIKE PATH

Walking and bicycling activities have become very popular. Over 50% of the public, who have access to a walking trail, will use the trail. Over one-third of the public bicycles. These represent some of the greatest users of public lands and facilities.

Development of a bike path between Eldon Hazlet State Park, Dam West Recreation Area and Saddle Dam 3 is highly desirable. The necessary right of way required is one of the limiting factors to development. Between Eldon Hazlet State Park and the Dam West Recreation Area the road dimensions do not allow for a safe incorporation of a bike lane or path. The County is unable to contribute funds to widen the road or create an easement right-of-way. The Corps and the Illinois Department of Natural Resources have no authority to work on this stretch of road.

The Corps is accommodating bicyclists on the project with modified gates that allow easy access to the main dam and saddle dams and choosing road surfaces that enhance cycling.

11-09 USER FEES

Public Law 103-66, the Omnibus Budget Reconciliation Act of 1993, authorized the Corps to expand its recreation user fee program. The act authorizes the charging of user fees for day-use facilities. There is no authority for charging entrance fees at Corps operated recreation areas. Fees will be charged for the use of certain boat launching ramps and designated,

CARLYLE LAKE MASTER PLAN

developed swimming beaches in Corps operated day-use recreation areas. Total day-user fees collected will be no more than \$3.00 per vehicle per day. A day-user fee of \$2.00 will be charged to launch a boat at a ramp in a Corps operated day-use recreation area, provided that the total charge does not exceed \$3.00. A fee will be charged at recreation areas having a boat ramp and one or more of the following facilities: rest rooms, picnicking facilities, swimming facilities, or other developed recreation facilities except where facilities are associated with a campground. No fees will be charged where only a boat ramp and courtesy dock exists or where ramps are located in undeveloped or lightly developed shorelines with minimum security and illumination. A day user fee of \$1.00 per person, whether walk-in or in a vehicle, up to \$3.00 per vehicle, will be charged for the use of a designated, developed swimming beach in a Corps operated day-use recreation area provided a net revenue test is met.

11-10 PRISON LABOR PROGRAM

A Memorandum of Agreement (MOA) between the Corps of Engineers and the Federal Bureau of Prisons is currently awaiting approval in the Pentagon. If the MOA is approved, inmates from the Federal Prison Camp in Greenville, Illinois will be working at the Carlyle project. The inmate workers will accomplish unfunded work such as grounds maintenance, carpentry, landscaping, etc. Civilian inmate labor will not supplant existing in-house resources or contract labor. Inmates will be used on a long-term basis to complete unfunded work and better serve our customers.

11-11 ENVIRONMENTAL COMPLIANCE

Actions and activities that the Corps proposes must comply with all applicable environmental laws and regulations. Chief among these is the National Environmental Policy Act (NEPA), which directs that public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. Public involvement is to be encouraged and facilitated for decisions that will affect the quality of the human environment. Environmental consequences of proposed actions and alternatives are to be described in NEPA documents, which are circulated for public review.

According to Corps regulations, many of the items proposed in this Master Plan are categorically excluded from the need for preparation of NEPA documents, because they do not individually or cumulatively have a significant effect on the human environment. Replacement or rehabilitation of existing facilities, or construction of new facilities in developed recreation areas, such as vault toilets, comfort stations, and picnic tables, are examples of categorical exclusions. On the other hand, the preparation of an environmental assessment (EA) is required for actions that will have substantial environmental effects. Examples of such actions are expansion of a campground into an undeveloped wooded area, or construction of water control structures in natural habitats for the purpose of vegetation management. Before construction can proceed for actions requiring an EA, the review of environmental consequences must conclude in a Finding of No Significant Impact (FONSI). If the review process results in a finding of significant impact, then an Environmental Impact Statement needs to be prepared before construction can commence.

NEPA documentation will be prepared in the future for all actions proposed in this Master Plan that are not categorically excluded. It is the Corps policy to identify and avoid adverse impacts as early in the planning

process as possible. Recreational and resource management projects will be designed to avoid and minimize adverse environmental impacts.

11-12 WATER SUPPLY

Interest in a future regional water treatment plant, to be located somewhere on the east side of Carlyle lake has been shown by community leaders in Alma, Centralia, Farina, Flora, Hoffman, Hoyleton, Iuka, Junction City, Odin, Patoka, Sandoval, Vernon, Walnut Hill and Carlyle. Several water districts have expressed an interest: East, Clinton County; E.J., Fayette County; FMC, Jasper; Northeast Marion County; Northeast Mt. Vernon; Raccoon; Western Wayne and Carlyle Southwest. From these groups, Gateway Water Company, a not-for-profit corporation has been formed which is comprised of all the users of the area. Phase I of the project could require as much as 10 million gallons of treated water per day. The Corps of Engineers supports this project and will cooperate with the water districts when project development occurs.

11-13 PARTNERING

Federal reservoirs provide an important recreation resource in the United States. Facilities for support of recreation are expensive to build and operate. Federal involvement is presently limited to provide minimum facilities to meet health and safety requirements of the visiting public. Federal investment of 50 percent of costs is available if non-Federal participating agencies provide 50 percent and operate and maintain the facilities. Marinas are the best known non-federally supplied public recreation service at Corps reservoirs. Scarce funds and other priorities have limited non-Federal participation in recreation at federal reservoirs. New Corps regulations allow non-federal partners greater opportunities to participate in the operation and management of recreation facilities and environmental stewardship.

The Carlyle Lake Project continues to seek new partnerships and strengthen existing ones as a means to accomplish project initiatives. The following Memoranda of Agreement (MOA) have been initiated with our partners.

The St. Louis District has entered into an MOA with the IDNR for the purpose of making improvements to the Carlyle Lake Wildlife Management Area, by utilizing existing St. Louis District administered Indefinite Quantity Contracts. The MOA is a mechanism for the IDNR to complete projects on lands leased from the Corps at Carlyle Lake by utilizing resources that would not be available without the MOA.

The Carlyle Lake Project Office has also entered into a MOA with the Greenville College, Institute for Environmental Studies. This agreement will allow the Corps to work with the College to accomplish resource management objectives. The college will also enhance and augment the Corps' interpretive services and outreach program goals and objectives by providing educational and outreach programs and assistance with visitor center exhibits.

As stated above in Section 11-10, a MOA between the Corps and the Federal Bureau of Prisons will permit inmate workers to accomplish unfunded work such as grounds maintenance, carpentry projects, and landscaping.