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US Army Corps
of Engineers
Kansas City District

Multiple-Purpose Project
Kansas River Basin
Saline River
Kansas

Wilson Lake

Master Plan

Design Memorandum No. 12A

November 1984

09

ED-X Record Copy

DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106

REPLY TO
ATTENTION OF:

MRKOD-RP

SUBJECT: Wilson Lake, Kansas; Design Memorandum 12A, Master Plan

Commander, Missouri River Division
ATTN: MRDPD-ER

1. The updated Wilson Lake Master Plan is submitted in accordance with ER 1120-2-400 and procedures established in MRDPD-ER letter of 29 December 1982, subject: Experimental Revised Guidelines for Preparation of Updated Master Plans. This planning document presents the policies, objectives and programs essential for the preservation, improvement, development, maintenance, administration and management of project resources.

2. National Environmental Policy Act documentation was prepared on the proposed planning design memorandum in accordance with ER 200-2-2. A signed Finding of No Significant Impact and an accompanying Environmental Assessment are on file in the Kansas City District.

3. Approval of the updated Master Plan is recommended as submitted.

Encl

ROBERT M. AMRINE
Colonel, Corps of Engineers
Commanding

OP-R

MRDPD-ER (25 Nov 84) 1st Ind
SUBJECT: Wilson Lake, Kansas; Design Memorandum 12A, Master Plan

DA, Missouri River Division, Corps of Engineers, PO Box 103,
Downtown Station, Omaha, Nebraska 68101-0103 11 FEB 1985

TO: Commander, Kansas City District, ATTN: MRKOD

1. Subject updated Master Plan is approved.

2. The revised Section IV is an improved treatment of land use allocation discussion. Resources and attributes of each allocation unit are described to some extent, providing specific foundation for the selected resource use objectives. The improved specificity provides guidance and support for implementation goals in Operational Management Plans, and project utilization reports can be related to the management framework which these resource use objectives set for each allocation unit. We believe this is an important step forward in improving project Master Plans.

3. Continued innovation and streamlining to improve Updated Master Plans is encouraged. Each project presents unique problems, opportunities, and challenges, and no existing plan, including this one, should be regarded as a model for another project.

FOR THE COMMANDER:

LEE W. TUCKER
Colonel, Corps of Engineers
Deputy Commander

Incls
wd

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DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106

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Colonel, Corps of Engineers
District Engineer

MULTIPLE-PURPOSE PROJECT

WILSON LAKE
KANSAS RIVER BASIN
SALINE RIVER, KANSAS

PREVIOUS DESIGN MEMORANDUMS

Design Memo No.		Dated	Date Approved
1	Hydrology	31 Mar 58	23 Jul 58
2	General Project Development	27 Feb 59	12 Jun 59
Supp 1	Boundary Surveys and Marking	17 Jun 66	6 Oct 66
3	Real Estate	6 Sep 60	1 Dec 60
4	Sedimentation & Degradation Ranges	17 Aug 60	22 Sep 60
5	Sources of Construction Materials	3 Nov 60	15 Dec 60
6	Earthwork	4 Nov 60	23 Jan 61
Supp A	Earthwork	1 Feb 61	20 Feb 61
Supp B	Earthwork	5 Apr 63	8 Jul 63
7	Access Roads	22 Jan 60	18 Apr 60
8	Outlet Works and Spillway	22 Dec 60	21 Feb 61
9	Administrative Facilities	29 Nov 60	21 Feb 61
10	County Road Relocations	8 Feb 61	7 Apr 61
Supp A	County Road Relocations	19 Jun 63	19 Jul 69
Supp B	County Road Relocations	22 Nov 68	24 Feb 69
11	Reservoir Clearing	9 Apr 62	20 Jun 62
12A	Master Plan	31 May 62	22 Aug 62
	Supp 1	16 Sep 65	21 Oct 66
	Supp 2	18 Dec 67	1 Mar 68
	Supp 3	20 Jul 70	10 Sep 70
	Supp 4	28 Dec 70	26 Feb 71
	Supp 5	14 Sep 79	18 Dec 79

PREVIOUS DESIGN MEMORANDUMS -- con.

Design Memo No.		Dated	Date Approved
12A	Operational Management Plan	30 Jul 82	2 Nov 82
	Appendix A-E	29 Jun 76	28 Sep 76
	Appendix F	9 Jun 76	16 Aug 76
13	Operator's Quarters	12 Jan 62	13 Mar 62
14	Power & Telephone Line Relocations	7 Mar 62	18 May 62
Supp A	Smoky Hill Electric Cooperative Association, Inc. Powerline Relocation	7 Feb 63	17 Apr 63
15	Fallout Protection	11 Apr 62	11 May 62
16	Cemetary Relocation Plan	18 Sep 62	4 Jan 63
17	Landing Strip	18 Aug 64	
18	Feature DM, Shower Bldg., Otoe Park	Feb 81	12 Mar 81

MULTIPLE-PURPOSE PROJECT

WILSON LAKE, KANSAS
SALINE RIVER

DESIGN MEMORANDUM NO. 12A

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WILSON LAKE

SALINE RIVER

KANSAS RIVER BASIN

DESIGN MEMORANDUM NO. 12A

MASTER PLAN

PERTINENT DATA

Location:

Mile 153.9, Saline River. The damsite is in eastern Russell County, about 45 miles west of Salina and 10 miles north of Wilson, Kansas.

Drainage Areas:

Mouth, Saline River	3,283 square miles
Controlled area above Wilson damsite	1,917 square miles

Reservoir Capacity (Acre Feet):

Full Pool	776,000
Multipurpose Pool	225,000
Flood Control Pool	511,000
Sedimentation	40,000

Reservoir Surface Area:

Water area at full pool	20,000 acres
Water area at multipurpose pool	9,000 acres
Shoreline at multipurpose pool	100 miles

Elevations (feet, m.s.l.)

Top of Dam	1,592
Spillway Crest	1,582
Valley Floor	1,465
Full Pool	1,554
Multipurpose Pool	1,516
5-Year Flood	1,525
10-Year Drawdown	1,496

Embankment:

Type	Rolled earthfill
Base width	1,750 feet
Crown width	40 feet

Maximum height above streambed	160 feet
Maximum height above valley floor	127 feet
Total length	5,600 feet

Outlet Works:

Type	12 ft. circular tunnel
Capacity at top of flood control pool	6,480 c.f.s.
Length portal to portal	1,124 feet
Control gates: Two 6 ft. x 12 ft. hydraulically operated slide gates with built in low flow gates	

Spillway:

Location	Right abutment
Type	Uncontrolled
Width	450 feet
Spillway crest	1,582 feet m.s.l.

PREFACE

Over the past 30 years, the recreation program at Corps-built lakes and waterways has grown from an incidental amenity to a major program providing outdoor recreation opportunities for millions of Americans. Today, recreation is considered a major project purpose in calculating costs and benefits of potential projects. While flood control provides the ultimate benefit, it is in the enjoyment of recreation opportunities that people are served by the Corps on a daily basis. The attraction of water as a backdrop for participation in outdoor recreation activities cannot be over emphasized. The Corps emphasizes diversification in recreation planning in order to satisfy as many different types of users as possible and to use project resources in the most appropriate way.

Planning for the orderly development, management and use of the resources is accomplished over a considerable period of time and involves many different elements. One of the documents emanating from this planning process is the project master plan. The completion of a viable master plan requires that a high degree of coordination and integration of efforts be maintained between varied office elements. This document establishes the policies, objectives and programs for the preservation, enhancement, development, administration and management of the project resources and facilities.

SUMMARY

The project Master Plan for Wilson Lake, DM 12A, dated May 1962, was prepared to assure a continuing guide for administration and operation of the recreation use of the project, to assure continued preservation of its scenic, biological and recreation resources, and to assure coordination of these objectives with interested Federal, State and local agencies. The updated Plan, as presented herein, has evaluated past experience at Wilson Lake relating to visitation, resource problems, lake operation and physical demographic, legislative and other factors which influence and constrain recreation management. In conjunction with comments and recommendations from other agencies, these evaluations were used in formulating revised guidance for the operation of the project during the foreseeable future.

This plan includes a comprehensive description of the project. All existing development is cataloged and future proposed development is described. A major section of the Master Plan is devoted to the physical plan of development. This physical plan of development has two components, land and water use and site plan development of public use areas. The land and water use section is a complete zoning and land use allocation plan presenting specific recommendations for interim and future uses to which all land and water area will be dedicated. The site plan translates the land and water allocation plan into specifics for actual facilities development, as required over the life of the project. Site plans for areas showing the most desirable and feasible locations of types and numbers of recreation facilities needed are presented on plan drawings.

DEPARTMENT OF THE ARMY
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MULTIPLE-PURPOSE PROJECT

WILSON LAKE
SALINE RIVER, KANSAS

DESIGN MEMORANDUM NO. 12A
MASTER PLAN

I. INTRODUCTION

1-1. Project Authorization.

a. Wilson Lake was authorized as a part of the comprehensive plan for the Missouri River Basin by the Flood Control Act approved 22 December 1944 (Public Law 534, 78th Congress, Second Session). The comprehensive plan for the Missouri River Basin was developed by the Corps of Engineers and the Bureau of Reclamation. Wilson Lake was originally authorized as a Bureau of Reclamation Project. In May of 1956, authority for the construction, operation and maintenance of Wilson Dam and Reservoir was transferred from the Secretary of the Interior to the Secretary of the Army by Public Law 84-505. Wilson Lake was authorized for flood control, silt control and irrigation.

b. Authority for recreation development of flood control projects such as Wilson Lake, is in Section 4 of the Flood Control Act of 1944 which authorizes the Chief of Engineers "...to construct, maintain and operate public parks and recreation facilities in project areas under the control of the Secretary of the Army, and to permit the construction, maintenance and operation of such facilities." In 1959, the Chief of Engineers issued instruction for inclusion of recreation development at lakes as a project purpose under specific limitations. The Flood Control Act of 1962 broadened the 1944 authority to include all water resource projects. Approval by the President in May 1962 of new policies and standards for evaluation of Federal water resources development (Sen. Doc. 97, 87th Congress) recognized long-term recreation development as a full-scale project purpose on an equal basis with other established purposes of water resources development.

c. Authority to prepare a master plan for the continuing development of recreation potential is contained within ER 1120-2-400. A master plan, Design Memorandum No. 12A, dated May 1962, was approved 22 August 1962 and provided specific planning guidelines for initial and future recreation facilities at Wilson Lake. This document constitutes an update of the original master plan to incorporate new information and guidelines and to address additional problems and opportunities clarified through operating experience.

1-2. Resource Use Objectives.

Resource use objectives are written statements specific to a given project which specify the attainable options for resource use. They are determined from study and analysis of resource use capabilities and public needs. The following are the resource use objectives for Wilson Lake.

a. To provide overnight camping facilities for both transient and destination users.

Project experience and other pertinent factors indicate that there is a continuing need to provide camping facilities at Wilson Lake. This need includes facilities ranging from highly developed areas with shower buildings and electrical hookups to mere primitive areas with minimum facilities. To continue to meet this need, natural resource disturbance would be minor since most of the required facilities are already available in presently developed areas of the parks, and any future development would also take place in these same parks.

b. To provide adequate day use picnic facilities.

Past use and future projections indicate that there will continue to be a need for picnicking facilities at Wilson Lake. Most of the demand for these areas comes from local counties. The demand is well established and should change very little over the next 10-20 years. Present facilities are adequate to meet this demand so any future changes would be minor, such as consolidating lesser used facilities into more popular areas. If this were done, it would involve little if any resource disturbance since allocations would be within presently developed areas of the parks.

c. To provide adequate swimming beach areas.

Past use and future projections indicate that there is now, and will continue to be, a demand for developed swimming beach areas with accompanying facilities. Demand is well established and will probably remain relatively stable for the next 10-20 years. It comes from both campers and day users. If new beach areas are needed, the natural resource impact can be minimized by locating them within the existing parks.

d. To provide the public with adequate lake access.

Boating has been, and will continue to be, an integral part of the recreation scene at Wilson Lake. It takes place mainly in the form of pleasure boating and boating as a part of other activities such as fishing and water skiing. As with other activities at Wilson, the demand is well established and should change little in the next 10-20 years. It will continue to be important to provide and maintain adequate boat ramps and related facilities (parking lots, sanitary facilities, courtesy docks, and in some cases flood lights) to provide access to the lake.

e. To provide the public with hiking and nature trails.

The demand for hiking and nature trails has increased in the last few years. Many people who are concerned about fitness have viewed walking as a means of exercise and enjoyment. The demand for hiking and nature trails is well established and increasing at Wilson Lake. The development of additional hiking or nature trails will involve little if any resource disturbance.

f. To provide the public with hunting opportunities.

Past experience at Wilson and other lakes in the Kansas City District area indicate an increasing demand for both upland and waterfowl hunting opportunities.

The major reason for the increasing pressure is probably the closing of more and more private land to hunters and accelerated loss of wildlife habitat on private lands. Proper management of the available habitat at Wilson Lake will maintain the existing hunting opportunities.

g. To provide the public with quality fishing opportunities.

There is a strong demand in this portion of Kansas for flat water (lake) fishing as evidenced by past experience at Wilson and other area lakes. This demand is well established and should remain at about the present level for a number of years if the fishery remains strong. To help insure this goal, it will be important to continue to maintain good water quality and to cooperate closely with the Kansas Fish and Game Commission on fisheries management.

h. To maintain the integrity of project natural resources.

The long term maintenance of project natural resources is a basic Corps responsibility. It includes a number of areas among which some of the more important are vegetative management, erosion control and water quality. The proper management of these resources is essential if the above resource use objectives are to be met. For example, if good vegetative management is not practiced, the quality of wildlife habitat will decline,wildlife populations will decrease and the resource use objective of supplying quality hunting opportunities will not be met. Another good example concerns erosion control. If, for example, erosion is not controlled in camping areas, picnicking areas, or along trails, damage can occur which can have a significant impact on the stated resource use objectives of supplying quality picnicking and camping opportunities as well as good trails.

i. To develop quality interpretive programs and facilities.

Good interpretive programs and facilities have been found to complement nearly all phases of project management if developed properly. Examples of interpretive programs include water safety programs, campground presentation, programs for community organizations and schools and tours of project facilities. Examples of interpretive facilities that can be developed include amphitheaters, bulletin boards, interpretive signing and exhibits and self-guided trails.

1-3. Previously Issued Master Plans. Previously issued Master Plans and pertinent Design Memorandums issued prior to this updated Master Plan are as follows:

Design Memorandum No. 12A, Master Plan, August 1962.
Design Memorandum No. 12A, Supplement 1, October 1966.
Design Memorandum No. 12A, Supplement 2, March 1968.
Design Memorandum No. 12A, Supplement 3, September 1970.
Design Memorandum No. 12A, Supplement 4, February 1971
Design Memorandum No. 12A, Supplement 5, December 1979.
Design Memorandum No. 12A, Master Plan, Appendices A,B,C,D,E, September 1976.
Design Memorandum No. 12A, Master Plan, Appendix F, August 1976.
Design Memorandum No. 12A, Master Plan, Operational Management Plan, November 1982.

1-4. Purpose and Scope of the Master Plan.

a. Purpose of the Master Plan. The Wilson Lake Master Plan has been formulated to provide a guide for the continuing operation, administration, and development of the Wilson project. Objectives regulated by this guidance include:

(1) The preservation of unique and important ecological, aesthetic, and cultural values of our national heritage.

(2) The conservation and wise usage of the natural resources of our nation for the benefit of present and future generations.

(3) The enhancement, maintenance and restoration of the natural and manmade environment in terms of its productivity, variety, spaciousness, beauty and other measures of quality.

(4) The creation of new opportunities for the American people to use and enjoy their environment.

The updated Wilson Master Plan is based on the latest available information and presents a plan for development to meet public use needs to assure a coordinated program of development for full use of available project land. This Master Plan has been prepared in accordance with guidance contained in ER 1120-2-400.

b. Scope of Report. The original Master Plan for Wilson Lake was prepared in May of 1962 and together with various supplements and appendices, outlined a program for land use allocations and development of recreation facilities for the project. The scope of the updated Master Plan includes several areas.

(1) The review of previous planning documents in relation to past management, development and public use of project resources;

(2) The evaluation of the latest information concerning population, socioeconomic trends, user preferences and other aspects of the market area for Wilson Lake, including past use records from the project itself;

(3) The determination of visitor use to be expected at Wilson Lake, in terms of magnitude, distribution and type;

(4) The reevaluation of land and water use allocations as compared to the resources available to accommodate the anticipated demand for various recreation pursuits;

(5) The determination of an optimal plan for development and management of the project to provide the greatest public use while preserving the natural condition of the lake; and

(6) The coordination of private and public interest activities in the use and development of Wilson Lake.

II. FACTORS INFLUENCING RESOURCE MANAGEMENT AND DEVELOPMENT

2-1. General.

Wilson Dam is located at mile 153.9 on the Saline River, in Russell County, in north central Kansas. The damsite is about 45 miles west of Salina and 10 miles north of Wilson, Kansas. The location of the lake with respect to other lakes in the Kansas City District is shown on plate 1.

The lake primarily lies in eastern Russell County, although a small portion extends into western Lincoln County. The entire project lies entirely within the central Mixed Prairie region. The prairie is dominated by a mixture of tall and short grasses, with tree cover restricted to narrow strips along the Saline River and tributary streams. The Saline River basin is long and narrow with a total drainage of 1,917 square miles above Wilson Dam. At multipurpose pool, the lake has 9,000 surface acres and a 100 mile shoreline. There are 12,842 acres of fee land above multipurpose pool elevation of 1,516.0 feet mean sea level.

The area of Russell and Lincoln counties has often been subjected to the extremes of the Central Plains' weather patterns. Temperatures and precipitation vary from month to month and more generally from year to year. The average January and July temperatures are 29° F. and 82° F., respectively. The annual average precipitation for the area is 24 inches. January is the driest month and May is the wettest. Droughts, which may occur at any time during the year, are most serious during July and August. Most flooding occurs in the spring and early summer. Prevailing winds are from the south during the spring and summer and from the north during the winter. High winds are not uncommon. The average annual snowfall is about 17 inches.

Uplands adjacent to the Saline River Valley are generally too steep for extensive cultivation. These areas are used for grazing and hay production. The fertile valley lowlands have normally been cultivated. Winter wheat is the predominant crop raised on the uplands surrounding the lake. The small town surrounding the lake area and the farmsteads are generally located near rivers or smaller drainages.

2-2. Accessibility.

Access to Wilson Lake is excellent. Interstate 70 is located approximately 10 miles south of the project, U.S. 281 is approximately 7 miles west of the project, and Kansas State Highway 18, located 10 miles north of the lake, provide the primary access to the Wilson Lake area. Direct access to the lake is provided by Kansas 232 which crosses over the dam and connects Interstate 70 and Kansas 18. Access to the lake is also provided by Kansas 181 and numerous county roads on the north and south sides on the lake. The Dorrance Road, which connects with Interstate 70, and South Shore Drive are paved county roads that provide access to the parks on the south side of the lake. Other county roads are well maintained gravel roads. This system is expected to provide access over the life of the project. A map showing the primary area and lake access roads is shown on Plate 2.

2-3. Socio-Economic Characteristics.

The major portion of Wilson Lake is located in Russell County. Russell County is basically a rural county. The city of Russell, with a population of 5,427, is the

largest city in Russell County. Based on the Bureau of the Census the 1980 population in Russell County was 8,868. This is a decline in population of -5.9% since 1970. Population census reports from 1950 to 1980 for the twenty-three counties within 75 miles of Wilson Lake, indicate a slight increase in total population. See Table 1.

TABLE 1

Population Statistics for
Counties within 75 Miles of Wilson Lake

County	1950	1960	1970	1980	% Change 1970 to 1980
Russell	13,406	11,348	9,428	8,868	-5.9
Lincoln	6,643	5,556	4,582	4,145	-9.5
Saline	33,409	54,715	46,592	48,905	+5.0
Rice	15,635	13,909	12,320	11,900	-3.4
Ellsworth	8,465	7,677	6,146	6,640	+8.0
Barton	29,909	32,368	30,663	31,343	+2.2
Rush	7,231	6,160	5,117	4,516	-11.7
Ellis	19,043	21,270	24,730	26,098	+5.5
Rooks	9,043	9,734	7,628	7,006	-8.2
Osborne	8,558	7,506	6,416	5,959	-7.1
Mitchell	10,320	8,866	8,010	8,117	+1.3
Reno	54,058	59,055	60,765	64,983	+6.9
Stafford	8,816	7,451	5,943	5,694	-4.2
Pawnee	11,041	10,254	8,484	8,065	-4.9
McPherson	23,670	24,285	24,778	26,855	+8.4
Ottawa	7,265	6,779	6,183	5,971	-3.4
Cloud	16,104	14,407	13,466	12,494	-7.2
Jewell	9,698	7,217	6,099	5,241	-14.1
Smith	8,846	7,776	6,757	5,947	-12.0
Phillips	9,273	8,709	7,888	7,406	-6.1
Graham	5,020	5,586	4,751	3,995	-15.9
Trego	5,868	5,473	4,436	4,165	-6.1
Ness	6,322	5,470	4,791	4,498	-6.1
Totals	327,643	341,571	315,973	318,811	+0.01

A close analysis of the data in Table 1 reveals that the slight increase in the areas population can be attributed to the growth of counties that have significant urban areas. Rural counties in most instances continued to decline in population. This trend of a population shift from rural to urban areas is characteristic, not only of this areas, but of the entire United States. Urban growth in this area is shown in Table 2.

TABLE 2

URBAN GROWTH

City	Population	Change from Preceding Census Number	Percent
Great Bend			
1980	16,608	+475	+2.9
1970	16,133	-537	-3.2
1960	16,670	+4,005	+31.6
1950	12,665	+3,621	+40.0
Hays			
1980	16,301	+905	+5.9
1970	15,396	+3,449	+28.9
1960	11,947	+3,322	+38.5
1950	8,625	+2,240	+35.1
Hutchinson			
1980	40,284	+3,399	+9.2
1970	36,885	-689	-1.8
1960	37,574	+3,999	+11.9
1950	33,575	+3,562	+11.9
McPherson			
1980	11,753	+902	+8.3
1970	10,851	+855	+8.6
1960	9,996	+1,307	+15.0
1950	8,689	+1,495	+20.8
Salina			
1980	41,843	+4,129	+10.9
1970	37,714	-5,488	-12.7
1960	43,202	+17,026	+65.0
1950	26,176	+5,103	+24.2
Total increase 1970 to 1980		9,810	+8.4%

Wichita, located in Sedgwick County, was not included in Table 1 or 2, because it is 110 miles from Wilson Lake. However, Wichita, with a population of 279,272, is the closest metropolitan area to Wilson Lake.

The economy in the Wilson Lake vicinity is primarily based on agriculture. Wheat, milo and cattle are the most important agricultural products. Most jobs in the cities are service oriented or involve various light industries. The oil industry provides employment in the cities of Great Bend and Russell. Fort Hays State College in Hays is also a major employer in the region. Continued growth of light industries in the cities will be necessary if the population of this region is to remain stable.

The 1977 Nationwide Outdoor Recreation Survey and the Kansas State Comprehensive Outdoor Recreation Plan indicate that the sharpest changes in recreation

participation in the future will be due to broad underlying demographic trends. Our nation's population is aging steadily and future recreation planning must adapt to meet new demands. The median age topped 30 years in 1980 and is projected to reach 35.5 by the year 2000. The median age in the state of Kansas reached 30.1 in 1980. Birth rates are expected to remain low, so that those in prime recreation years from 12 to 25 will continue to decline through the year 2000. However, the increasing emphasis on health and physical fitness will probably extend the popularity of traditionally active recreation pursuits beyond the traditional ages of decline.

Income is also directly related to participation in recreation. The Third National Outdoor Recreation Plan indicates that visitors to Corps of Engineers lands and reservoirs are not a representative cross section of the general population. Users of Federal parks have higher levels of income and education, and are considerably older than their average counterparts in the general population. The per capita income of Kansas residents is 100% of the national average. In counties with urban areas the per capita income normally exceeds the national average and in rural counties the per capita income is normally below the national average. The number of people with the disposable income necessary to participate in recreation activities in the Wilson Lake area, and the availability of passive and active recreation opportunities typically found at Corps of Engineer lakes should insure a continued demand for recreation at Wilson Lake.

2-4. Topography and Geology.

Wilson Lake is located in an area of well defined hills and valleys with numerous sandstone outcrops. Elevation ranges from 1,440 ft. m.s.l. in the area below the dam to a high of 1,780 ft. m.s.l. at the western end of the project. Much of the area around Wilson Lake is characterized by relatively high hills with steep footslopes to the shoreline. Away from the river valley, the topography is less severe with indistinct terraces, dissected escarpments and rolling hills. Wilson Lake occupies a broad, flat, floodplain which is deeply cut into the surrounding uplands. The local geographic unit is the Smoky Hills. The Smoky Hills are made up of a maturely dissected belt some 20 to 40 miles wide lying on the eastern border of the Dissected Hill Plains province which forms the eastern edge of the High Plains. The latter in turn belongs to the Great Plains section. The lake area is characterized by sandstone outcroppings of the Dakota formation. This formation of the Cretaceous Age is the oldest bedrock exposed in the lake area. The sandstone appears in most cases to weather rapidly, but in some instances has become case hardened and quite resistant to weathering. The Saline River has, in the past, undercut the channel sandstone causing massive blocks of the sandstone to separate along the vertical jointing and to slump toward the river. Steep sandstone walls and ledges line the valley and adjoining canyons throughout this part of the Saline Valley. On the western edge of Lucas Park is an interesting concentration of rock formations resembling a small scale city. These formations, known as Rocktown, are comprised of a soft sandstone ranging in color from white to bright red. In the lake areas there are also deposits of limestone, gravel, lignite, and various clays. For the most part, these deposits are buried beneath overburden or water and so are not readily observable.

2-5. Scenic Qualities.

The steep rolling hills around the clear blue waters of Wilson Lake provide many areas for striking views of the lake. This open grass area is characterized by sharply defined valleys, rolling uplands with irregular, weathered sandstone

outcrops. The Rocktown area in western Lucas Park features vertical sandstone rock formations with colors ranging from white to red, and sheer vertical bluffs can be found throughout the reservoir. Three overlooks have been provided at the project to provide scenic vistas of the lake. This region of Kansas is also known as post rock country. Wood was so scarce in this region that early settlers used rock to build their homes, barns and fences. Many old rock structures still exist on private property around the lake and many remnants of fence have been left on project lands. Project personnel have also utilized post rock for park benches and in barricades and fences. The preservation and use of this natural material ties the project in with the past and has enhanced the scenic quality of the lake. To the casual visitor the scenic qualities of Wilson Lake generally far exceed their expectations.

2-6. Environment.

a. Ecological. Wilson Lake lies entirely within the central Mixed Prairie region. The prairie is dominated by a mixture of tall and short grasses, with an intermingling of native forbs. Native grasslands around Wilson are in good to excellent condition. Such native prairie associations throughout the central plains have survived for centuries because of two conditions. Native warm season grasses grow well in the heat of the summer thus providing excellent competition for moisture with various woody and forb species. These grasses are, therefore, effective in limiting invasion by undesirable trees and brush. The second factor has been periodic wild fires sweeping across the prairie, killing back young wood growth and stimulating additional grass production as the soil was laid bare. Fish and wildlife resources at Wilson Lake are in good condition. Part II of the Operational Management Plan for Wilson Lake provides a detailed description of the ecoligical habitat and fish and wildlife species that inhabit the area. Wilson Lake is within the ranges of the bald eagle, peregrine falcon and the whooping crane, all of which are listed as endangered species.

b. Cultural Resources.

(1) Previous Investigations. Cultural resource surveys and excavations of archaeological sites at Wilson Lake began in 1947 under the direction of the River Basin Surveys, Smithsonian Institute. Investigations have identified 23 archaeological and paleontological sites in the project area, nine of which were inundated by Wilson Lake. Table 3 chronicles the completed cultural resource work at the lake project. Table 4 lists the reports relating to these investigations.

TABLE 3

Completed Cultural Resource
Investigations at Wilson Lake, Kansas

Year	Institution	Investigation
1947	Smithsonian River Basin Surveys	Survey and identification of six archaeological and paleonotological sites
1952	Smithsonian River Basin Surveys	Survey and identification and testing of twelve archaeological sites
1957	Museum of Natural History, University of Kansas	Recording of Petroglyph Site (14RU12)
1960	Kansas State Historical Society	Excavation or testing of five sites, recording two sites
1979	Kansas State Historical Society	Inventory of Petroglyphs
1979	Kansas State Historical Society	Survey and identification of three sites

TABLE 4
Cultural Resource Reports
Wilson Lake, Kansas

1948 Kivett, M.F. and J.M. Shippe
Preliminary Approval of the Archaeological and Paleontological Resources of the Proposed Reservoirs in the Smoky Hill Sub-Basin, Kansas. Manuscript on file, Midwest Archaeological Center, National Park Service, Lincoln.

1952 Solecki, R.S. and J.M. Shippee
Approval of the Archaeological Resources of the Wilson Reservoir, Russell County, Kansas, Supplement. Manuscript on file, Midwest Archaeological Center, National Park Service, Lincoln.

1957 Horr, D. and A.E Johnson
Petroglyphs of Central Kansas. Manuscript on file, Museum of Anthropology, University of Kansas.

1962 Witty, T.A., Jr.
Archaeological Investigations of the Hell Creek Valley in the Wilson Reservoir, Russell and Lincoln Counties, Kansas. Kansas State Historical Society Anthropological Series No. 1.

Table 4 (Con.)

1978 Ungar, C.A.
A Preliminary Cultural Resources Management Plan. Report submitted to the Kansas City District, Corps of Engineers.

1982 Rowlison, D.D.
Cultural Resources Survey of Public Use Areas at Wilson Lake, Kansas. Report submitted to the Kansas City District, Corps of Engineers.

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(2) Future Cultural Resource Work.

(a) Coordinate with the Kansas State Historic Preservation Office and the Advisory Council on Historic Preservation to obtain a Programmatic Memorandum of Agreement for the project area.

(b) Test site 14RU14 for National Register eligibility.

(c) Conduct an archaeological survey of the entire shoreline; a40% survey of the wildlife management and Kansas Fish and Game lands; an additional 25% survey of public use area.

(d) Monitor archaeological sites in public use areas by the Cultural Resource Field Coordinator. These sites include: 14LC303, 14RU7, 14RU9 and 14RU303.

(e) Conduct a historical survey to determine eligibility of historic properties for the National Register of Historic Places.

(f) Evaluate petroglyph sites and coordinate compliance activities with the Kansas State Historic Preservation Office.

(g) Update the Cultural Resources Management Plan so that it reflects the current status of recommendations for identified cultural resources.

(3) Interpretation of Cultural Resources.

(a) Expansion of the Administration Building to house displays on natural resources including archaeological materials of the project area would ensure maximum exposure of these resources to the public. Artifacts for these displays may be obtained from the Kansas State Historical Society and the Midwest Archaeological Center, National Park Service, Lincoln, Nebraska.

(b) Erect markers at the location of former townsites, historic trails and structures to provide information on significant events in the area.

(c) Compile data on the prehistory/history of the Wilson Lake area to be used in a publication discussing in layman's terms the area's cultural history.

(d) Continue training of the Cultural Resource Field Coordinator (CRFC) in archaeological field and laboratory methods and the history/prehistory of

the region. These data would be used for oral presentation to project visitors and local historical and archaeological societies.

(4) Protection of Cultural Resources. Utmost caution will be used during any project-related activity to avoid alteration or destruction of any archaeological/historical site, feature or object. The effects of these activities on project resources should be considered during the planning stage. For some routine activities, such as the seedling planting or camp pad resurfacing, no indepth investigation should be necessary; monitoring of the work by the CRFC will suffice. Generally, an investigation will cause no work changes or delays. The decision on the level of study required will be made by the District Office. For more extensive ground disturbance activities, such as construction of shower/latrine, beaches, sewage lagoons and boat ramps, an indepth cultural resources survey is necessary and will be undertaken by District Office personnel or contract labor.

2-7. Water Quality.

Fifteen water quality observation stations have been established on Wilson Lake with the water quality parameters. These parameters are periodically sampled and checked by District Water Quality personnel. All water quality readings are well within the State of Kansas water quality criteria and are suitable for the support of a diversity of aquatic life. Currently all data are being compiled and an updated comprehensive report should be available in FY 1985.

Because of low turbidity, nutrient loading is an important facet of water quality at Wilson. Concentration of phosphorus and nitrogen have decreased to levels that prevent algal blooms. Yearly nitrogen-phosphorus ratios in the lake since 1969 have remained near 10:1, indicating that the probability of nuisance algal production is limited.

The fecal coliform sampling of the lake has yielded reading of 10 to 100 organisms per 100 ml. This is within the State of Kansas water quality standards for water used for body contact recreation.

Recorded ph values have ranged from 7.3 to 8.2 and the lake is well buffered. Typical Secchi Disk reading have ranged from 3 to 20 feet. The zone of photosynthesis activity normally extends to a depth of 5 to 6 feet.

At Wilson Lake, sulfate and chloride parameters are very important. The lake and its releases have reached a state of equilibrium following considerable post-impoundment fluctuation. In general, the concentration of inflowing dissolved solids was reduced substantially within the lake. Although dissolved solids in the lake are higher than most impoundments, they are not detrimental to recreational use of the lake. They would, however, affect water supply and irrigation uses.

Ground water fulfills the needs of nearly 100% of the area populations. Many of the wells in the Saline River Valley tap aquifers in the Dakota sandstone strata. A new rural water district, Post Rock District, is in the formative stages. This district will obtain water from Kanopolis Lake and will serve portions of seven counties. The new district will serve portions of Russell County and will reduce the dependence of the area upon ground water.

Problems associated with inflowing sediments stem mainly from agricultural lands in the associated watersheds. The drainage from cultivated cropland picks up and

transports soil particles containing residuals of the fertilizers used in farming operations. Since 90% of the sediments contributed by the watershed are silt and clay size particles, a large percentage of the nutrients derived from the fertilizers will be tied up with the fine-grained sediments. The estimated volume of sediments derived from the watershed per year totals 400-acre-feet. This volume does have a limiting effect on aquatic production at all levels.

High phosphorus concentrations initially favored a large blue-green algae population, but this dominance was short lived. Phosphorus levels declined significantly and green algae replaced blue-greens as the dominant class in the lake. No nuisance conditions are expected in the lake. The standing crop shows a good base for continued production of food organisms for fish.

Both upstream and downstream areas have moderate benthic densities, but the diversity of organisms is less downstream. The dominant organisms downstream are now more related to a clean water environment. The benthic community in the Saline River upstream from the lake is dependent upon the concentration of dissolved solids and the high salt concentrations in this area limit the variety and density of bottom animals. Lower salt concentrations in the lake lead to a more diverse benthic population. Lake benthos populations now are dominated by midges and oligochaete worms. Downstream populations are similar but also include caddis flies.

2-8. Lake Operations.

Wilson Lake is operated to provide flood control and a diversity of recreation opportunities consistent with sound conservation and aesthetic values. Wilson Lake is one unit in a system of multipurpose projects which make up the comprehensive plan for flood control and water resource development in the Missouri River Basin. The flood control capacity of Wilson Lake is used in coordination with the flood storage potential of all storage projects in the Kansas River Basin to provide flood protection on the Saline, Smoky Hill, Kansas and lower Missouri Rivers. Accumulated storage is evacuated at rates not to exceed downstream criteria. Regulation plans limit the maximum controlled outflow from the flood control pool to 6,500 cubic feet per second. The normal low flow release from the multipurpose pool is five cubic feet per second.

The pool elevation is regulated by agreement between the Corps of Engineers, Kansas Water Office, and the Kansas Fish and Game Commission. The purpose of this agreement is to make optimum use of available water for fish and wildlife, recreation, and consumptive uses. The plan attempts to maximize benefits for specific users, without adversely affecting other aspects of the lake resource. The lake fluctuation plan is not a fixed plan, but is a flexible plan subject to change annually based on prevailing conditions at that time. Basically the present plan consists of storing water in the spring to increase habitat for fish, release water in the summer to allow revegetation of the shoreline, store water in the fall to provide waterfowl benefits, and to release water in the winter to prevent ice damage and to prepare for spring inflow. Low rainfall in Saline River Basin caused the initial lake fluctuation plan implemented at Wilson Lake to produce less than the desired results. The initial plan called for, what proved to be, a too drastic fluctuation in the pool elevation. The current plan calls for a more stable pool fluctuation which reflects the low rainfall experienced in this basin. The plan calls for a rise in the spring to 1,516.5, a return to conservation pool (1,516) in the summer, hold any fall rises to benefit waterfowl, and release water to elevation 1,515 in the winter to provide for spring inflow.

The fluctuation plan also calls for periodic water releases to enhance the Saline River below Wilson Lake. In April and May the plan calls for a water discharge of 800 cubic feet per second for eight hours. During June through October the discharge should be between 50 to 400 cubic feet per second for 24 hours. These discharges are made once a month normally on the 10th of each month.

Fluctuations in the flood pool are normally viewed by the public as a necessity and, due to relatively short retention period, no real damage to recreation interests is expected. Prolonged periods of operation in the flood pool would have a negative impact on recreation and could cause severe shoreline erosion. When the pool elevation drops below the multipurpose elevation (1,516) recreation interest is expected to decline. Previous experience indicates that drawdowns of 3 feet or more begin to curtail aquatic sports and associated recreation uses. This effect increases with the amount of drawdown. The maximum and minimum pool exceedence frequency curves and the area capacity curves are shown in Figures 1 and 2. Table 5 shows the storage allocations and elevations for Wilson Lake.

TABLE 5

Storage Allocations and Elevations
Wilson Lake

Storage Zone	Elevation Top of Zone in Feet M.S.L.	Surface Area in Acres	Storage Allocation in Acre Feet
Flood Control	1,554	20,000	511,000
Multipurpose	1,516	9,000	225,000
Sedimentation			40,000

2-9. Borrows and the Relocations of Roads, Cemeteries, and Utilities.

Borrow areas and the relocations of roads, cemeteries, and utilities have had no apparent effects, adverse or beneficial, on the programs for public use.

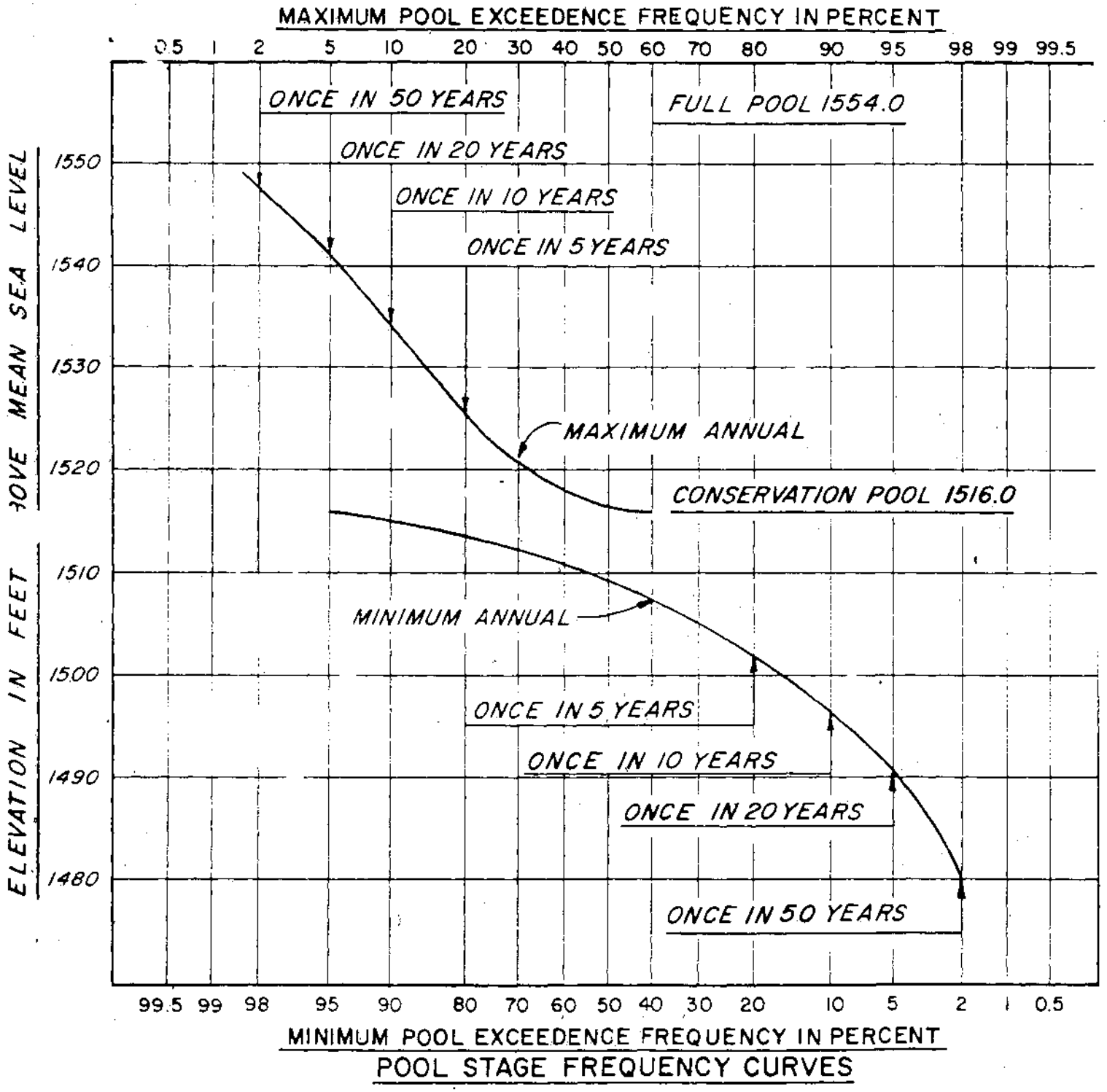
2-10. Adaptability of Project Structures.

The recreation use of the dam, outlet, spillway and control tower is not extensive. The greatest use of these structures for recreation is for fishing. Fishing from the riprap on the dam is popular in the spring when walleye are spawning. The outlet area is a popular fishing area throughout the recreation season. Interpretive tours are given of the control tower to schools and organized groups on request. The dam, spillway and the outlet are also used on interpretive tours of the project. The control tower is not accessible for general public use on a continuous basis for safety and security reasons.

2-11. Minerals and Timber.

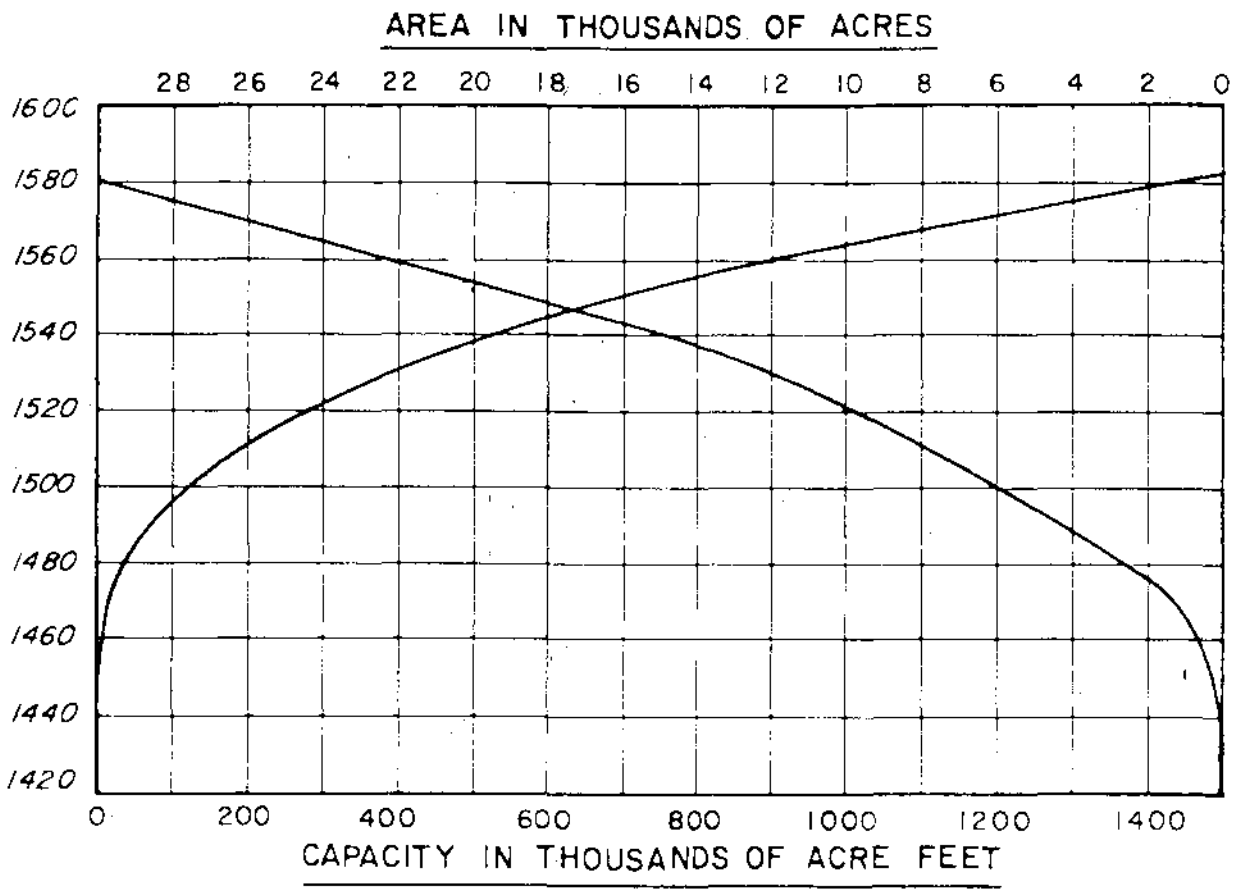
Most of the project land was used for agriculture and grazing purposes prior to the project's construction. There was no significant pre-project exploitation of timber or mineral resources. This region of Kansas does contain known oil supplies. Numerous oil wells are in operation in this region, particularly

FIGURE 3



POOL STAGE FREQUENCY CURVES

FIGURE 2



ELEVATION - AREA - CAPACITY CURVES

between Russell and Bunker Hill, Kansas. Requests have been received from oil companies to lease tracts of land for oil exploration. These requests are being studied. Any oil and gas leases granted will contain conditions and restrictions designed to protect the natural and aesthetic environmental features of the lake.

2-12. Related Recreation - Historic - Scientific Areas.

The recreation, historic, and scientific resources of this region are quite varied. The related recreation facilities in this region, particularly the large lakes in the region, have the most significant impact on visitation at Wilson Lake.

a. Related Recreation Areas. There are six large lakes located within 75 miles of Wilson Lake. These are Kanopolis, Waconda, Lovewell, Kirwin, Webster, and Cedar Bluff. Kanopolis Lake is the only one of these six lakes that is operated by the Corps of Engineers. The other five lakes are operated by the Bureau of Reclamation. The primary purpose of the Bureau of Reclamation lakes is for irrigation, therefore, all of these lakes, except for Waconda Lake, have a fluctuating pool. Kanopolis and Waconda lakes have the biggest impact on visitation at Wilson Lake. There are also two state parks in this region, Mushroom Rock and Pawnee Rock State Parks. These two parks receive only light visititation and do not have a significant impact on Wilson Lake because they are not associated with water resources development.

b. Historic Areas. The most important historic sites in the area are the Eisenhower Center in Abilene and Ft. Larned National Historic Site. Other historic sites of interest include the Garden of Eden in Lucas, Old Abilene town, and Old Ft. Hays. These sites receive light visitation and do not have a significant impact on use at Wilson Lake.

c. Scientific Areas. There are three wildlife refuges located within 75 miles of Wilson Lake. They are the Kirwin National Wildlife Refuge, Quivira National Wildlife Refuge and Cheyenne Bottoms Wildlife Refuge. These areas are developed for fish and wildlife and therefore have a very limited impact on visitation at Wilson Lake.

2-13. Recreation Trends.

Research concerning changing travel patterns for the 1980's is inconclusive at this time. However, U.S. Bureau of Census data reveals that the percentage of outdoor recreation trips for round trip distances less than 400 miles increases 12.6 percent from 1972 to 1977. All recreation trips exceeding a round trip distance of 400 miles declined in the same period.

This change in travel patterns can be attributed to the fuel shortages and dramatic fuel price increases that occurred in the mid 70's. The relatively stable supply and price for fuel in the early 80's could result in the resumption of longer trips. Regardless, the availability and price of fuel will continue to have a significant impact on travel patterns and recreation.

The sharp fuel price increases coupled with supply interruptions have affected the use of recreation vehicles. In response to fuel problems there has been an increasing trend for park visitors to leave their recreation vehicles in close proximity to the parks and drive their more fuel efficient autos to travel to their recreation vehicles. This is in sharp contrast to the practice to driving

the recreation vehicle from origin to destination. Storage of recreation vehicles in proximity to parks also tends to limit visitors to a specific park. The price and availability of fuel will be the most important factor influencing recreation trends in the 1980's and 1990's. However, it is a safe assumption that outdoor and water related recreation activities, in some form, will remain popular.

2-14. Visitation.

The first full year of operation for recreation purposes at Wilson Lake was considered to be 1965. Visitation statistics have been compiled since 1965. A summary of these statistics is presented in Table 6.

TABLE 6

Visitation Statistics for Wilson Lake

Year	Attendance	Year	Attendance
1965	101,639	1974	543,000
1966	142,312	1975	615,000
1967	197,729	1976	807,000
1968	268,509	1977	740,500
1969	369,630	1978	831,000
1970	466,800	1979	704,900
1971	459,000	1980	732,800
1972	536,000	1981	700,600
1973	547,000	1982	754,300

Visitation, as projected by the Master Plan dated May 1962, was expected to reach 982,000 visitor days within the first three years. The visitation statistics in Table 6 reveal that Wilson Lake has never reached their projected visitation. Obviously this projection is too high. The slow steady growth in visitation at Wilson Lake was the result of the slow filling of the reservoir. Wilson Lake did not reach multipurpose pool until March of 1973. Since reaching multipurpose pool, Wilson Lake has had a fairly stable yearly visitation with a low of 543,000 in 1974 to a high of 831,000 in 1978. The average visitation in the last 5 years is 744,720. This region of Kansas has in the past decade shown the first increase in population since the 1960 census. Population continues to drop in rural counties, but the increased oil business and the development of light industries in counties with urban areas have offset the loss of population in rural areas and provided a small net gain in population for the twenty three county region. The movement of the population from rural areas to urban areas is a trend that is expected to continue. The population in this region will remain fairly stable in the future due to the continued growth of the cities. However, the total population growth in this region is expected to be very small.

The major limiting factors to visitation at Wilson Lake are the influence of Kanopolis Lake, Waconda Lake and the low regional population. The anticipated visitation to Wilson Lake is estimated to be 750,000 visitor days by the year

2000. The future visitation estimate is based on a projection of little or no growth in the area population, the number of other lakes in the area, past attendance trends, economic trends and recreation trends.

The 1982 visitor use survey, conducted during the 1982 recreation season, indicates the relative popularity of recreation activities at Wilson Lake. Swimming, boating and camping are three of the most popular activities at Wilson Lake. See Table 7.

TABLE 7

Popular Recreation Activities

Activity	% of Visitation Per Activity
Swimming	62%
Boating	33%
Camping	24%
Fishing	19%
Picnicking	19%
Water Skiing	16%
Sightseeing	13%
Hiking	0.3%

To determine facility requirements to meet visitor demand, it is first necessary to establish the period in which the greatest demand occurs. Project visitation figures in visitor days by month for the last 5-year period are presented in Table 8. This period appears to be representative of present and anticipated visitation trends.

TABLE 8

Monthly Visitation 1978 - 1982
Wilson Lake

Month	1978	1979	1980	1981	1982	Average	% of Visitation
Jan	10,394	5,515	5,929	7,050	8,578	7,493	1%
Feb	8,422	4,128	5,325	7,071	7,476	6,484	0.9%
Mar	9,471	9,221	9,428	11,646	12,011	10,355	1.4%
Apr	41,716	46,681	41,763	31,718	42,316	40,839	5.5%
May	144,906	75,932	139,592	73,846	112,193	109,294	14.7%
Jun	130,636	127,430	113,915	111,290	122,462	121,147	16.3%
Jul	128,607	133,806	126,894	130,660	121,750	128,343	17.2%
Aug	162,657	123,940	111,547	121,727	113,324	126,639	17%
Sep	92,364	91,190	89,503	103,436	104,305	96,160	12.9%

TABLE 8 (Cont.)

Month	1978	1979	1980	1981	1982	Average	Visitation
Oct	43,065	36,058	42,533	44,666	46,950	42,645	5.7%
Nov	41,939	38,184	40,691	42,254	45,975	41,809	5.6%
Dec	16,344	12,768	15,604	15,274	16,957	15,389	2.1%
Total	830,560	704,897	732,759	700,681	754,333	744,630	

An analysis of data presented in Table 8 shows that Wilson Lake enjoys a relatively long recreation season. Over 79% of the total visitation occurs during the five month summer recreation season (May through September). The peak month at Wilson Lake is July. The number of peak days in July can vary from as few at 9 to as high as 11 days; for planning purposes, 10 days will be used. Other factors normally used to compute facilities required to accommodate future demand include the results of a visitation survey. The 1982 visitor survey, conducted during the summer recreation season at Wilson Lake, indicates that 66 percent of the visitation occurs on weekends and holidays, and there is an average of 3 people per vehicle at Wilson Lake. By applying the survey statistics and past project visitation trends to the projected visitation of 750,000, future demand for camping, boating and picnicking facilities can be anticipated. Projected facility requirements are based on the following formula:

$$\frac{\text{Annual Visitor} \times \% \text{ Peak Month} \times \% \text{ Peak Days} \times \% \text{ Activity Use}}{\text{No. of Peak Days} \times \text{No. of Persons} \times \text{Turnover Factor}} = \text{Number of Facilities}$$

The following definitions apply to this formula:

Annual Visitors: Projected visitation by the year 2000.

% Peak Month: Percent of visitation occurring during the peak visitation month of the year. At Wilson Lake this month is July.

% Peak Days: Percent of visitation occurring on weekends and holidays (taken from the 1982 visitor survey).

% Activity Use: Percent of visitors participating in that activity (taken from the 1982 visitor survey).

No of Peak Days: Average number of weekend days and holidays that occur in July.

No. of Persons Per Group: Obtained from the 1982 survey.

Turnover Factor: Average number of times a facility will be used during one day (taken from EM 1110-2-400.

Applying this formula to each of the recreation activities yields the following results:

Camping: $\frac{750{,}000 \times .17 \times .66 \times .24}{10 \times 3.0 \times 1} = 673$ Campsites

Picnicking: $\frac{750,000 \times .17 \times .66 \times .19}{10 \times 3.0 \times 2}$ = 266 Picnic Sites

Boating: $\frac{750,000 \times .17 \times .66 \times .33}{10 \times 3.0 \times 40}$ = Boat Launching Lanes

These results project the approximate number of facilities that will be required to accommodate the projected visitation at Wilson Lake. The results are based on a number of variables, and these variables are subject to change. Therefore, figures should be blended with project experience and common sense when applied to actual development. Table 9 shows the existing and proposed facilities for Wilson Lake.

TABLE 9

Existing and Proposed Facilities

	Existing Facilities	Projected Needs	Proposed Development
Campsites	410	673	250
Picnic Sites	200	266	66
Boat Launching Lanes	17	23	4

The projected needs and proposed development in Table 9 are not equal. However, based on project experience, the proposed development will meet visitor needs unless the level of visitation increases significantly. Many picnic sites at Wilson are poorly located on hilltops and in isolated areas and receive very little use. The consolidation and relocation of these picnic facilities to existing picnic areas near the lake will greatly enhance their appeal and visitor use. The additional sites proposed will be added as the demand for picnic facilities increase.

2-15. Applicable Public Laws.

Public Laws applicable to Wilson Lake Master Plan are as follows:

a. P.L. 534-78th Congress, (58 Stat. 887) The Flood Control Act of 1944, as amended, provides for the construction of facilities for flood control and other purposes to preserve and protect established and potential uses from flooding. This law further provides for comprehensive and coordinated development for recreation at such flood control facilities.

b. P.L. 89-80, 9 Stat. 244, Water Resources Planning Act, 1965. The Congressional statement demands for water throughout the Nation, it is hereby declared the policy of Congress to encourage the conservation, development and utilization of water and related land resources of the United States on a comprehensive and coordinated basis by the Federal Government, states, local government, individuals, corporations, business enterprises and others concerned.

c. P.L. 85-624, 72 Stat. 563, Fish and Wildlife Coordination Act, 1958. The declaration of purpose of the act is: For the purpose of recognizing the vital contribution of our wildlife resources to the Nation, the increasing public interest and significance thereof, due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation in the United States, its territories and possessions, the Secretary of the Interior is authorized:

(1) To provide assistance to, and cooperate with Federal, State and public or private agencies and organizations in the development, protection, rearing and stocking of all species of wildlife, resources thereof and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from over abundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto and in carrying out other measures necessary to effectuate the purpose of said sections;

(2) To make surveys and investigations of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States and;

(3) To accept donations of land and contributions of funds in furtheration of the purposes of this law.

d. P.L. 86-717, 74 Stat. 817, Reservoir Areas - Forest Cover. This public law provides for the protection of forest cover for reservoir areas under the jurisdiction of the Secretary of the Army and the Chief of Engineers. In accordance with this law, a forestation program was implemented by contract at Wilson Lake in May 1966, and was completed in June 1975. Since that time the Corps of Engineers has had a consulting contract for the forestation program at Wilson Lake.

e. P.L. 89-72, Federal Water Project Recreation Act of 1965. This act required sharing the cost of development and enhancement of recreation and fish and wildlife resources of Federal water projects with no more than half of the cost being borne by the Federal Government. In accordance with OCE policy, all new recreation development at Wilson Lake after 30 June 1976 will be cost-shared in the manner prescribed by P.L. 89-72.

f. P.L. 93-303, 88 Stat. 192, Land and Water Conservation Fund Admission and Use Fees. This act was passed in 1974 to amend the Land and Water Conservation Fund Act to provide for collection of special recreation use fees at additional campgrounds and for other purposes.

2-16. Management Trends.

Past and present economic trends indicate that lake project operation and maintenance costs will be rising rapidly. This will require that Wilson Lake be operated with increased efficiency if present services are to be maintained or improved. One of the factors directly affecting the cost and efficiency of operations is park design. The existing parks at Wilson were designed with little emphasis on the cost and efficiency of operation after development. Lucas and Mirooka Park contain large acreages, excessive road mileage, large open spaces and

give little, if any, emphasis to the separation of day use and camping activities. With this in mind, a major emphasis of the Master Plan is to relocate and consolidate facilities in a more efficient manner and to separate day use and overnight activities.

III. COORDINATION WITH OTHER AGENCIES

3-1. General.

Coordination has been maintained throughout the planning process with those Federal, state, county, municipal, organizations and individuals that might have an interest in the recreation development of Wilson Lake. A summary of their comments and recommendations is presented below.

3-2. Federal Agencies.

The only Federal agency response was received from the Soil Conservation Service, U.S. Department of Agriculture. The comments and recommendations of the Soil Conservation Service are presented below. Additional recreation facilities should be provided on the north side of the lake. Several parks are experiencing shoreline erosion in areas that should be protected. Many areas around the lake are subject to wind and water erosion. Good soil conservation practices should be followed closely. There presently exists opportunities for development of unique areas such as Rocktown at Lucas Park. This area should be used as a natural area and for outdoor classroom activities. We urge the continuation and future development of the Bur Oak Nature Trail and related interpretive services at Wilson Lake.

Additional recreation facilities are planned for the north side of the lake in Lucas Park. Rip-rapping of the shoreline in Minooka Park was completed in the spring of 1983. Additional areas needing bank stabilization to protect sizable Government capital investments have been identified and recommended for rip-rapping in the Master Plan. Good soil conservation principles will continue to be practiced at Wilson Lake in accordance with the conservation plan developed in cooperation with the Soil Conservation Service. The Rocktown area in Lucas Park will be designated as a natural area. The Wilson Lake staff will continue the interpretive program that has been established and maintain and improve the Bur Oak Nature Trail.

3-3. State Agencies.

a. Kansas State Park and Resources Authority. The Kansas State Park and Resources Authority provided with their comments a set of blue line prints of Wilson State Park, including a development plan and a utility plan. Development plans in the state park call for an expansion of the existing campgrounds. There are no plans at this time to expand the day use area or day use facilities. The Kansas State Park and Resources Authority also expressed an interest in annexing the Corps of Engineers operated Otoe Park.

In response to this request a meeting was arranged with state park officials to discuss the possibility of transferring the operation of Otoe Park to the state.

b. Kansas Fish and Game Commission. The Kansas Fish and Game Commission made the following comments. The Duvall Road, Sawhill Road and other county roads should remain open and maintained to insure adequate access to the north side of the lake. An additional boat ramp should be constructed on the north side of the lake, possibly in Duvall Cove. Excellent fishing occurs along the shoreline of Lucas Park, and access to this park should continue to be available without charge. Shoreline erosion in areas that are particularly bad, such as the east

side of Minooka Park, should be controlled with rip-rap or other means wherever it is feasible. We concur with efforts to have Rocktown in Lucas Park designated as a natural area.

The Duvall, Sawhill and other roads on Government property will be maintained by the Corps of Engineers to insure access to the lake. The maintenance of these roads off of Government property is the responsibility of local townships and Russell County. A new boat ramp for the north side of the lake is proposed in the Master Plan for Lucas Park. Being as Lucas Park is such an expansive area and maintenance costs are spiraling, this Master Plan proposes to change it's free status to a fee area to help defray maintenance costs through the fee program once that day use and camping is separated. The Sylvan Grove Park will be designated as the free area. A large portion of the shoreline in Minooka Park was rip-rapped in the spring of 1983. Additional portions of the shoreline in the Minooka Park have been identified for rip-rapping, and this work has been recommended in the Master Plan. The western portion of Lucas Park has been allocated at a natural areas in this Master Plan and will be proposed to the state for designation as a state natural area.

c. Kansas Department of Transportation. The Kansas Department of Transportation acknowledged our letter but offered no comments regarding present facilities or future development at Wilson Lake.

d. Kansas State and Extension Forestry. The Kansas State and Extension Forestry Agency recommended that the Rocktown area at Lucas Park be closed to vehicular traffic and dedicated as a natural and scientific area.

The Rocktown area has been allocated as a natural area in this Master Plan.

3-4. Barton County.

The Barton County Board of County Commissioners commented that musk thistle, bind weed and other noxious weeds at Wilson Lake need to be treated in an ongoing program.

An ongoing program to control noxious weeds has already been implemented at Wilson Lake. The Corps of Engineers will continue to work closely with the state and counties in the control of noxious weeds.

3-5. Organizations.

a. Lake Wilson Development Association. The Lake Wilson Development Association recommended that a broader range of recreation facilities be provided at Wilson Lake. Specific recommendations included facilities for tennis, volleyball, softball and golf. The Development Association also recommended that boat ramp facilities be expanded in Minooka Park.

This Master Plan does contain provisions to provide multipurpose courts, volleyball courts and open playfields. The Corps of Engineers does not have the authority to construct or operate golf courses. Access to the west boat ramp in Minooka Park will be improved. This will help alleviate the over crowding on the central ramp in Minooka Park.

b. National Audubon Society. The National Audubon Society comments on the Master Plan are as follows. Specifically, the National Audubon Society would like

to endorse the concept of including approximately 400 acres in the Kansas Natural and Scientific Area program. We would like to see the area commonly referred to as Rocktown designated as a natural area and protected from intrusive development and use which would endanger the natural and geologic value of this area of public land. We believe that it should be closed to vehicular access but made available for scientific study and nature appreciation and interpretation. The area has unique qualities and includes a variety of plant and animal species which are otherwise uncommon in this part of Kansas. This plant and animal community should be protected, and the recreation master plan for Wilson Lake should take into account the natural values of this piece of real estate.

The Rocktown area has been allocated as a natural area in the Master Plan.

c. The Society of American Foresters. The Society of American Foresters comments on the Master Plan are as follows. The Rocktown area at Wilson Lake is a very unique ecological area. The Society of American Foresters has been interested in this area for quite some time, and we would at this time like to endorse efforts for a natural area designation for Rocktown. The area contains many unique and interesting species of plant and animal life and is in need of protection and specialized management. The area is highly erodible and is in need of protection from fire and vehicular traffic. The area offers much potential for public use through hiking and nature study. The Kansas Division of the Great Plains Society of the Society of American Foresters wishes to go on record as giving full support to the designation of Rocktown as a natural area in order to protect it for use by present and future generations.

The Rocktown area has been allocated as a natural area in this Master Plan.

d. The University of Kansas. The University of Kansas commented that the rock carvings and hieroglyphics and use of this area of Kansas by Indians should be more fully explained by the use of signs or a leaflet. The University of Kansas also recommended that the Rocktown area at Lucas Park be designated as a natural area.

There are no plans at this time to provide a leaflet or sign concerning the use of this area by Indians. The Rocktown area has been designated as a natural area in this Master Plan.

e. Smoky Hills Audubon Society. The Smoky Hills Audubon Society comments are as follows. Our Board of Directors feels that the 299 acres of Rocktown are unique because of their sandstone formations and the flora and fauna found there. Many members have enjoyed this area as a place of special beauty and interest. It is native prairie, a habitat that is fast disappearing in this area. It needs to be protected. We strongly endorse a natural area designation for Rocktown.

The Rocktown area has been designated as a natural area in this Master Plan.

f. The Land Institute. The Land Institute also recommended that the Rocktown area in Lucas Park be designated as a natural area. The sandstone formations at Rocktown not only provide many habitats for animals, but are also the basis of the sandy soil which harbors many plant species typical of sandhill communities, such as Penstemon buckleyi, Telinum calycinum, Liatris glabrata, and Calamovilfa longifolia. Rocktown also contains two stands of Cassia marilandica, an uncommon wild legume that is of great value to our agricultural

research at the Land Institute. Rocktown should be a protected area and designated as a natural area.

The Rocktown area has been designated as a natural area in this Master Plan.

g. Grassland Heritage Foundation. The Grassland Heritage Foundation recommended that the Rocktown area be designated as a natural area. They also recommended that the Corps of Engineers use a combination of controlled burning and hay leases in restoring the good features of natural prairie. Trails and riding areas where off road vehicles are used should be closely monitored to prevent serious erosion.

The Rocktown area has been designated as a natural area in the this Master Plan. The Corps of Engineers will continue to use a combination of controlled burning and hay leases in managing prairie lands at Wilson Lake. Many trails have been closed at Wilson Lake, and this will continue to be a management priority to prevent erosion.

h. Save the Tallgrass Prairie, Inc.. This organization's comments are as follows. Save the Tallgrass Prairie, Inc. supports the efforts to have the Rocktown area in Lucas Park designated as a natural area. The environmental education and interpretation program at Wilson Lake is excellent and should be expanded to other Corps of Engineers Lakes. We recommend that you continue to use fire as a management tool in managing prairie lands at Wilson Lake. The open, beautiful prairie is a rare sight to most people. Although many campers enjoy shaded campsites, we encourage you to use caution in attempting to create Colorado for us here.

The Rocktown area has been designated as a natural area in this Master Plan. Interpretive programs have proved to be very successful and are being recognized as a management tool throughout the Kansas City District. Fire will continue to be used as a vegetative management tool at Wilson Lake. Tree plantings will be confined to park areas.

i. Kansas Wildflower Society. The Kansas Wildflower Society made the following comment. The Rocktown area at Wilson Lake has many wild flowers and native grasses. Due to the sandy soil, it is subject to erosion and should be protected. We encourage you to designate the Rocktown area as a natural area in the Wilson Lake Master Plan.

The Rocktown area has been designated as a natural area in this Master Plan.

3-6. Individuals.

Comments received from individuals included a suggestion that a walkway be provided along the rip-rap of the dam to provide safe access for fisherman and a recommendation that the Rocktown area in Lucas Park be designated as a natural area.

The amount of fishing that occurs along the face of the dam does not justify the expense of providing a walkway. The Rocktown area has been designated as a natural area in this Master Plan.

3-7. Public Workshop.

A public workshop was held on July 29, 1983 to allow members of the general puolic, interested agencies and organizations an opportunity to review and comment on the draft master plan. Only 15 people attended the workshop. Of these 15, 8 individuals were representing agencies or organizations. Comments received at the workshop were as follows: support for the proposal to designate the Rocktown area in Lucas Park as a natural area, suggestion that a fish cleaning station be provided at the Otoe Park boat ramp, opposition to the proposed take over of Otoe Park by the Kansas Park and Resources Authority, and the suggestion that areas for primitive camping be provided.

During the 30-day period for written comments, 31 letters and a petition were received in opposition to the proposal to convert the Marshall Cove Area in Minooka Park to day use only. In response to the amount of interest n the plans for Marshall Cove and the confusion regarding these plans, an additional public meeting was held on September 15, 1983. Approximately 100 people attended this meeting. Dock owners were assured that the Corps of Engineers would honor past commitments and that camping would be permitted in Marshall Cove until private docks are removed. Other issues raised at the puolic meeting included plans to convert a camping area in Minooka Park to group camping, rip-rapping of the shoreline and the closing of some lake access roads on project lands operated by the Kansas Fish and Game Commission. In response to a suggestion, a committee was formed to represent the views of the local community to address the remaining issues raised by the draft Master Plan.

On December 2, 1983, representatives of the Corps of Engineers met with the Lake Wilson committee to discuss the draft Master Plan for the project. Six of the seven committee members attended the meeting. The proposals for each park were presented in detail and discussed with the committee. Through this process, we were able to reach agreement on the major issues affecting park development and park management at Wilson Lake.

IV. LAND USE ALLOCATIONS AND RESOURCE USE OBJECTIVES

4.1. Zoning of Project Lands and Waters.

Land allocations are in accordance with categories set forth in ER 1120-2-400, dated 1 November 1971. Plate 3 illustrates these land allocations. The categories, the acreage assignd to them, and their classifications are listed in Table 10.

TABLE 10

LAND USE ALLOCATIONS

Allocation	Acres
Project Operations	475
Operations: Recreation - Intensive Use	2,906
Operations: Recreation - Low Density Use	2,101
Operations: Natural Areas	299
Operations: Wildlife Management	6,990
Water	9,000
Total Fee Acquisition	21,771

All project lands are managed in an attempt to provide ultimate resource preservation and enhancement while fulfilling project purposes.

a. Project Operations. Lands in this category are allocated to provide for safe, efficient operation of the project. This includes the lands upon which project operational structures are located. These are operations buildings, personnel quarters, maintenance facilities, storage yard, dam and appurtenant works.

b. Operations: Recreation-Intensive Use. Recreation-intensive use areas are those lands which are allocated for use as developed parks for intensive recreation activities by the visiting public, including areas for concession operations.

c. Operations: Recreation-Low Density Use. Lands allocated in this category function as areas for low density recreation activities and as a buffer zone between incompatible uses or as open space between intensive recreation developments.

d. Operations: Natural Areas. Land acquired for project operations and allocated for preservation of scientific, ecological, historical, archaeological or visual values. Lands managed to protect rare and endangered species of flora or fauna will be allocated as natural areas. Normally limited or no development is contemplated on land in this allocation. No agricultural uses are permitted on this land.

e. Operations: Wildlife Management. These are lands acquired for project operations and allocated as habitat for fish and wildlife or for the propagation of such species. The Kansas Fish and Game Commission licenses 6,990 acres of land at Wilson Lake for fish and wildlife purposes. Lands that are allocated for wildlife management are also available for low density recreation activities.

4-2. Land Use Allocation Revisions.

The following are explanations of land use allocation revisions made in this Master Plan. Land use allocations are shown on Plate 3.

a. Operations: Recreation-Intensive Use to Operations: Natural Areas. Two hundred ninety-nine acres in the northwestern portion of Lucas Park is reallocated as a natural area. This portion of the park is known as the Rocktown area. Rocktown contains numerous unusual sandstone formations. The sandy soil in this area is highly erodible and also harbors many unusual and ecological features of this regime.

The Rocktown area has been reallocated as a natural area in order to preserve this unique area from further degradation from erosion caused by vehicular trails meandering throughout this portion of Lucas Park. Rocktown is particularly rich n unique geological sandstone formations accompanied by native flora typical to this region of Kansas. An educational trail is proposed to allow pedestrian traffic only into this area.

It is the intention of this Master Plan to recommend preservation of the Rocktown area for future generations enjoyment and education.

Plate 4 shows the boundary for Lucas Park and the Rocktown Natural Area.

b. Priority 2 and 3 Areas to Operations: Recreation-Low Density Use.

Lands identified and allocated as Priority 2 and 3 lands in the preceding Master Plan are reallocated as Operations: Recreation-Low Density Use.

4-3. Resource Use Objectives - Land Use Allocations.

The resource use objectives for Wilson Lake are discussed in paragraph 1-2. The following are the resource use objectives for each land use allocation.

a. Project Operations.

(1) To provide land for the administrative facilities, operational structures and other purposes to assure that authorized project purposes will be met and to insure public safety.

(2) To interpret project structures such as the dam, control tower and spillway that are of interest to the public. The functions of these structures can be interpreted through displays, brochures, slide presentations and guided tours.

b. Operations: Recreation - Intensive Use.

(1) To provide overnight camping facilities for both transient and destination users.

(2) To provide quality day use picnic facilities.

(3) To provide quality swimming beach areas.

(4) To provide the public with adequate lake access.

(5) To provide the public with hiking and nature trails.

(6) To provide the public with quality fishing opportunities.

(7) To properly manage project natural resources.

(8) To develop quality interpretive programs and facilities.

c. Operations: Recreation-Low Density Use.

(1) To provide the public with quality recreation experience in an unstructured natural environment.

(2) To provide for a buffer zone between conflicting land uses.

(3) To properly manage project natural resources.

(4) To provide for flood storage.

d. Operations: Natural Areas.

(1) To properly manage project natural resources.

The management of project natural resources in areas to be maintained in their natural state is extremely important. Management of the Rocktown area at Wilson Lake will consist largely of restricting vehicular access, vegetative management and erosion control.

(2) To maintain scenic values.

A large portion of the Rocktown area appears today much as it probably did when this area was first settled. To improve the scenic qualities of this area it is necessary to eliminate access to this area by vehicles. Access to this area will be by foot or by boat. With proper management, the Rocktown area will continue to provide the public with a natural scenic area.

e. Operations: Wildlife Management.

(1) To provide the public with quality hunting opportunities.

(2) To provide the public with quality fishing opportunities.

(3) To properly manage project natural resources.

The proper use of recognized wildlife management techniques will insure healthy area wildlife populations of game and non-game species. Lands allocated for this purpose at Wilson Lake are managed by the Kansas Fish and Game Commission.

V. DEVELOPMENT NEEDS

5-1. General.

Many factors were considered in determining the development needs for Wilson Lake. The area population, economic trends, recreation trends, visitation and the environmental characteristics of the individual parks are some of the factors used to determine the recreation facilities needed. The existing parks, their acreages and the plate number depicting the existing and proposed facilities in the parks are presented in Table 11.

TABLE 11

Wilson Lake Parks

Park	Acreage	Plate
Lucas	1,071	Plate No. 4
Minooka	871	Plate No. 5
Otoe	157	Plate No. 6
Wilson State Park	770	Plate No. 6
Sylvan	37	Plate No. 7

In determining the camping and day use facilities needed at Wilson Lake, it was necessary to determine the point of origin of our park visitors. An analysis of 218 camping receipts from 1982 was used to determine the point of origin of campers using the Otoe Park. This analysis confirmed many of our basic assumptions concerning the origination of campers at Otoe Park which is representative of the other parks at Wilson Lake. The majority of campers (81%) using the park were Kansas residents. The unusually high percentage of out of state campers is due to the close proximity of Interstate 70 (only 3 states were not represented in this data). The majority of these campers come from south of the lake which reflects the larger population base and the lack of large reservoirs south of Wilson Lake. The majority of campers travel 100 miles or less to arrive at the lake. The relatively high percentage of out of state campers in Otoe Park is not typical of all the parks at Wilson Lake. However, with the exception, Otoe Park does present a representative sample of camper origination. The distance traveled by campers, considered with other factors, indicates that highly sophisticated campgrounds with full hookups are not necessary at Wilson Lake. Therefore, recommendations for facility development in the campgrounds are general in nature and consist of relocating poorly located facilities, the provision of electrical hookups at approximately 40% of campsites at Wilson Lake, additional support facilities and additional recreation facilities such as playfields and multipurpose courts. Table 12 shows the point of origin of campers using Otoe Park in 1982.

TABLE 12

1982 Camping Receipts Otoe Park

Kansas Counties	County Seat	% of Total Campers
Barton	Great Bend	16
Saline	Salina	10
Ellis	Hays	9
Sedgwick	Wichita	6
Reno	Hutchinson	4
Finney	Garden City	3
Rice	Lyons	2
Ellsworth	Ellsworth	2
Lincoln	Lincoln	2
Stafford	St. John	2
Russell	Russell	2
Pawnee	Larned	1.5
Seward	Liberal	1.5

No other counties made up 1.5% or more of the total visitation

States	% of Total Campers
Missouri	2.8
Colorado	2.4
Illinois	1.4
California	1.1
Oklahoma	.9
New York	.7
Nebraska	.6
Florida	.5

No other states made up .5% or more of the total visitation

A random survey of day use origination was conducted in the spring and summer of 1983. This survey was conducted by recording license plates of vehicles using day use facilities. All Kansas license plates identify the owner's county residence. The results of this survey are shown in Table 13.

TABLE 13

Points of Origin for
Day Users at Wilson Lake

Kansas Counties	County Seat	% of Total Day Users
Barton	Great Bend	22.5
Russell	Russell	13.2
Ellsworth	Ellsworth	10.5
Ellis	Hays	10.5
Saline	Salina	9.9
Lincoln	Lincoln	6.5
Sedgwick	Wichita	3.3
Rice	Lyons	2.9
Reno	Hutchinson	2.1
Rooks	Stockton	1.7
McPherson	McPherson	1.3
Pawnee	Larned	1.1
Osborne	Osborne	1.1
Edwards	Kinsley	1.0
Trego	Wakeeney	1.0
All other vehicles (38 counties)		11.8

As shown in Table 13, the counties making up the highest percentage of total day users were from counties with large populations and counties that are close to the project. The relatively low percentage of visitors from north of the project is a reflection of the low population in that area and the influence of Waconda Lake. A total of 1,095 vehicles were recorded in this survey, and although it was a random survey, it appears to be consistent with previous project experience. The willingness of day users to travel for water based recreation activities indicates that many visitors are probably spending a large portion of the day at the lake. This would indicate a continued need to provide picnic facilities and to also provide more diverse recreation activities.

5-2. Lucas Park (Plate 4).

Lucas Park is located near the left abutment of the dam and is the only park located on the north side of the lake. Access to the area is provided by Kansas Highway 232. However, the main traffic flow at Wilson Lake is concentrated on the south side of the lake and visitation in Lucas Park is not heavy. The steep hills located in this park provide many scenic views of the lake and the native grass prairie stands found in this area.

a. Existing. Due to the relatively low visitation in this park, it has not been extensively developed. Existing facilities in Lucas Park include 2 camp areas, 2 picnic areas, a boat access area, a swimming beach area and an overlook area. Camp area 1 contains 31 camp units, 2 water spigots and 2 single vault toilets. Camp area 2 contains 9 camp units and 1 water spigot. Picnic area 1 facilities include 20 picnic units and 6 individual shelters. Picnic area 2 provides 25 picnic units, individual shelters, 1 group shelter and 2 single vault

toilets. Picnic facilities are also provided along the entrance road to the boat ramp. These facilities include 1 group shelter, 7 individual shelters, 1 water spigot and 2 single vault toilets. The boat access area consists of a 4 lane boat ramp, a courtesy dock, courtesy light and 2 single vault toilets. The swimming area contains a swimming beach, 2 change houses, 1 playground, 5 individual picnic shelters, a water spigot and 2 single vault toilets. The overlook area provides an overlook shelter and 2 single vault toilets. There are also two overlook areas and two fishing access areas at each end of the dam that are shown in Plate 7.

b. Future. Lucas Park is the largest and least developed park at Wilson Lake. Development in Lucas Park will emphasize the separation of camping and day use facilities, consolidating and relocating poorly sited facilities and protecting the primitive and scenic qualities of the park. Camp Area 1 will be operated with an entrance station, the swimming beach will be relocated to the new swimming area and the 5 individual picnic shelters will be relocated to the proposed Picnic Area 3. Additions to the camping area include 100 camp units, 50 electrical hookups, 1 amphitheater, 2 playgrounds, 1 central shower, 5 water spigots, a sanitary dump station, 4 double vault toilets and a stabilization pond. No further development is proposed at this time in Camp Area 2. The camp units in camp area 2 was not consolidated into Camp Area 1 because of the insistence of the Wilson Lake Planning Committee. Picnic Area 1 will be converted to a group camp area. The group camp area will be available on a reservation basis and will be gated for security. Additional facilities for the group camp area include a water spigot and a double vault toilet. Picnic facilities in the area will be relocated to Picnic Area 3.

With the exception of one group shelter in Picnic Area 1, all picnic facilities will be relocated to Picnic Area 3. The relocation of these facilities and the relocation of the swimming area will effectively separate overnight and day use activities in Lucas Park. Additional facilities for Picnic Area 3 include 30 picnic units, 1 playground, 2 water spigots and 2 double vault toilets. Facilities at the relocated swimming area will consist of a swimming beach, 2 change houses, 1 playground, 1 water spigot and 1 double vault toilet. The proposed boat access area will provide a 4-lane boat ramp, 2 courtesy docks, 1 courtesy light, 1 fish cleaning station and a double vault toilet.

The northwest portion of Lucas Park, known as Rocktown, will be reallocated as a natural area. The Rocktown area contains unusual rock formations, native prairie grasses and several rare species of plants. Natural area designation for this area will protect the fragile scenic and biological characteristics of the Rocktown area. The only facilities proposed for this area include a parking area, water spigot, a double vault toilet and a nature trail to provide access in the Rocktown area.

5-3. Minooka Park (Plate 5).

Minooka Park is located on the south shore of the lake approximately 5 miles from the dam. This park is easily accessible from the south or east by paved county roads. The Dorrance Road provides access from the south or from Interstate 70. The South Shore Drive provides access from the east. Minooka Park is the closest park to the cities of Russell and Hays, Kansas. The easy accessibility and close proximity of this park, especially to Russell, has made the Minooka Park popular for overnight and day use activities. Visitation in Minooka Park is usually heavy during the summer recreation season, especially on weekends.

a. Existing. Minooka Park has been developed for camping and day use activities. However, overnight and day use facilities are not separate. Existing facilities in Minooka Park include 3 camp areas, a picnic area, 3 boat access areas and a shelter. Camp Area 1 contains 123 camp units, 19 individual shelters and a group shelter. Camp Area 2 contains 29 camp units, a shower latrine building and a water spigot. Camp Area 3 contains 20 camp units and 2 single vault toilets. The picnic area consists of 45 picnic units, 6 individual shelters, a well and water spigot and 2 single vault toilets. Boat Access Areas 1 and 3 both provide 2-lane boat ramps and parking areas. Boat Access Area 2 provides a 2-lane boat ramp, courtesy dock, courtesy light and 2 double vault toilets. The swimming area consists of a swimming beach, a playground and 2 single vault toilets. The Marshall Cove area is a grandfathered dock zone which has been used as a random camping area and day use area. The only facilities provided in the Marshall Cove area are 4 single vault toilets.

b. Future. Future development in Minooka Park will be concentrated on separating camping and day use activities, consolidating and relocating poorly sited facilities and stabilizing the shorelines of the park. Camping in the park will be consolidated in Camp Area 1. Facilities in Camp Area 2 will be relocated to Camp Area 1. The shoreline around Camp Area 3 is eroding and will threaten the camp pads located in this area. The facilities in Camp Area 3 will be relocated to Camp Area 1 as they are threatened by shoreline erosion. Eventually, this area will be closed and all facilities will be relocated to Camp Area 1. Other facilities planned in Camp Area 1 include an entrance station, 1 amphitheater, 70 electrical hookups, 2 playgrounds, a central shower, 17 water spigots, a sanitary dump station and 5 double vault toilets. To meet the future demand for camping in Minooka Park, an additional camping area has been proposed. Camp Area 4 will provide 100 camp units, 50 electrical hookups, 2 playgrounds, 1 wash house, 1 comfort station, 10 water spigots and 4 double vault toilets. A primitive walk-in/boat-in camping area has also been proposed for the western portion of Minooka Park. The only facilities that would be provided for this area would be a parking lot, 1 water spigot, 1 double vault toilet and a hiking trail. Shoreline erosion has made the existing swimming beach almost unusable. Because of this erosion, the swimming beach will be relocated. The site of the existing swimming beach will be converted to a tent camping area, and the shoreline stabilized. Additional facilities at this site include 25 tent units and 1 water spigot. Boat Access Area 3 will be available for use by campers, and additional facilities include a courtesy dock, 1 fish cleaning station, courtesy light and a double vault toilet. The group shelter in Camp Area 1 will be relocated to the proposed picnic area.

The existing picnic facilities are poorly sited and seldom used. These facilities will be relocated in the vicinity of Boat Access Area 1. The swimming beach will also be relocated in the wind protected cove near the west boat ramp. The relocation of the swimming beach to this area will increase the demand for picnic facilities in this area. Additional facilities in the picnic area include 25 picnic units, 10 individual shelters, 2 group shelters, 2 playgrounds, 1 playfield, 2 water spigots and 2 double vault toilets.

Facilities at the proposed swimming area consist of a swimming beach, 2 change houses, a playground and a double vault toilet. Additional facilities at Boat Access Area 1 include a courtesy dock, courtesy light and a fish cleaning station. The parking area at Boat Access Area 2 will be expanded and a fish cleaning station is proposed.

The Marshall Cove Area, a grandfathered boat dock zone, will be retained in the park for future development. No development is proposed at this time due to the number of private docks that are still located in this cove. Camping and day use will be permitted until private docks are removed.

An active sports area is proposed to replace the existing picnic area. Two multipurpose courts, two horseshoe pits and two volleyball courts are proposed for this area in addition to the existing remaining well and water spigot.

5-4. Otoe Park (Plate 6).

The Otoe Park is located approximately 2 miles upstream from the dam on the east side of the lake. This park enjoys excellent accessibility and is located in the wind sheltered Hell Creek Cove. The close proximity of the park to Interstate 70 has had an obvious influence on visitation. In 1982, campers from 47 states used the overnight facilities at Otoe Park. As shown in Table 12, the number of out of state campers made up a significant percentage of the overall camping use in the park. Because of the many attractive features of the Otoe Park, overnight and day use visitation is normally heavy throughout the summer recreation season.

a. Existing. The 157 acre Otoe Park has been extensively developed. Overnight and day use facilities are separate. Existing facilities available in Otoe Park consist of a camp area, picnic area, boat access area and a swimming area. The Otoe Camp Area contains an entrance station, 84 camp units, 4 individual shelters, 1 group shelter, a central shower, comfort station, well house, sanitary dump station and 2 single vault toilets. The picnic area consists of 35 picnic units. The boat access area provides a 2 lane boat ramp, courtesy dock, courtesy light and 2 single vault toilets. The swimming area contains a swimming beach, 4 individual shelters and 2 single vault toilets. As of 1 October 1984, operation and maintenance of Otoe Park was taken over by the Kansas Park and Resources Authority to be incorporated into the Wilson State Park.

5.5 Wilson State Park (Plate 6).

Wilson State Park is located on the south shore of the lake approximately 3 miles upstream from the dam. The park is located on Hell Creek just across the cove from Otoe Park. Access to the area is excellent. The only marina at Wilson Lake is located in the park, and the state park also is the only park at Wilson Lake that presently offers any hookups at camp sites. Visitation in the state park is usually heavy during the summer recreation season.

a. Existing. Wilson State Park provides camp areas, picnic areas, boat access areas, swimming areas and a marina. The camping areas in the park contain 125 camp units with electrical hookups, 2 shower buildings and a sanitary dump station. The picnic area contains 55 picnic units, 11 individual shelters, 2 group shelters and a double vault toilet. The boat access areas provides a 3 lane boat ramp, courtesy dock and a double vault toilet. The swimming area consists of a swimming beach and a bathhouse.

b. Future. The Kansas Park and Resources Authority plans for Wilson State Park consist of the expansion of camping facilities in the park. No new day use facilities are planned at this time. The time and size of the expansion of camping facilities in the park are dependent upon future budgetary allowances and future visitation.

5-6. Sylvan Park (Plate 7). Sylvan Park is located below the dam adjacent to the Saline River. The wind protection provided by the dam and the good fishing below the dam in the spillway has made this area popular with campers and day users. Access to the park is provided by Kansas highways 232 and 181. Visitation in the park is generally light to moderate, often dependent on the fishing conditions in the spillway.

a. Existing. Camping and picnic facilities are separate. The camping area contains 19 camp units, 2 individual shelters and 2 water spigots. The picnic area contains 2 picnic units, 6 individual shelters, 1 group shelter, a playground, 1 water spigot and 2 single vault toilets. The Saline River is not a large stream, and therefore, this park does not have a boat access area or swimming area.

b. Future. Due to the relatively low visitation in Sylvan Park, no additional camping facilities are proposed. A playfield in the picnic area is the only proposed addition for the day use area. The existing facilities will adequately meet the needs of the park visitors in Sylvan Park unless there is an unexpected increase in visitation.

c. Bur Oak Nature Trail. The Bur Oak Nature Trail is located just west of the Sylvan Park boundary on Plate 7. This trail has proven to be very popular with the general public and school groups. The Bur Oak Nature Trail has been designated as a National Recreation Trail.

REVISED
JULY 1970

REVISED
OCTOBER 1974

LIMIT OF KANSAS CITY DISTRICT

LIMIT OF KANSAS CITY DISTRICT

WILSON LAKE

75 MILES

VICINITY OF KANSAS CITY

SCALE IN MILES

SCALE IN MILES

LEGEND

LAKES

COMPLETED

UNDER CONSTRUCTION

PLANNING

AUTHORIZED

RECOMMENDED

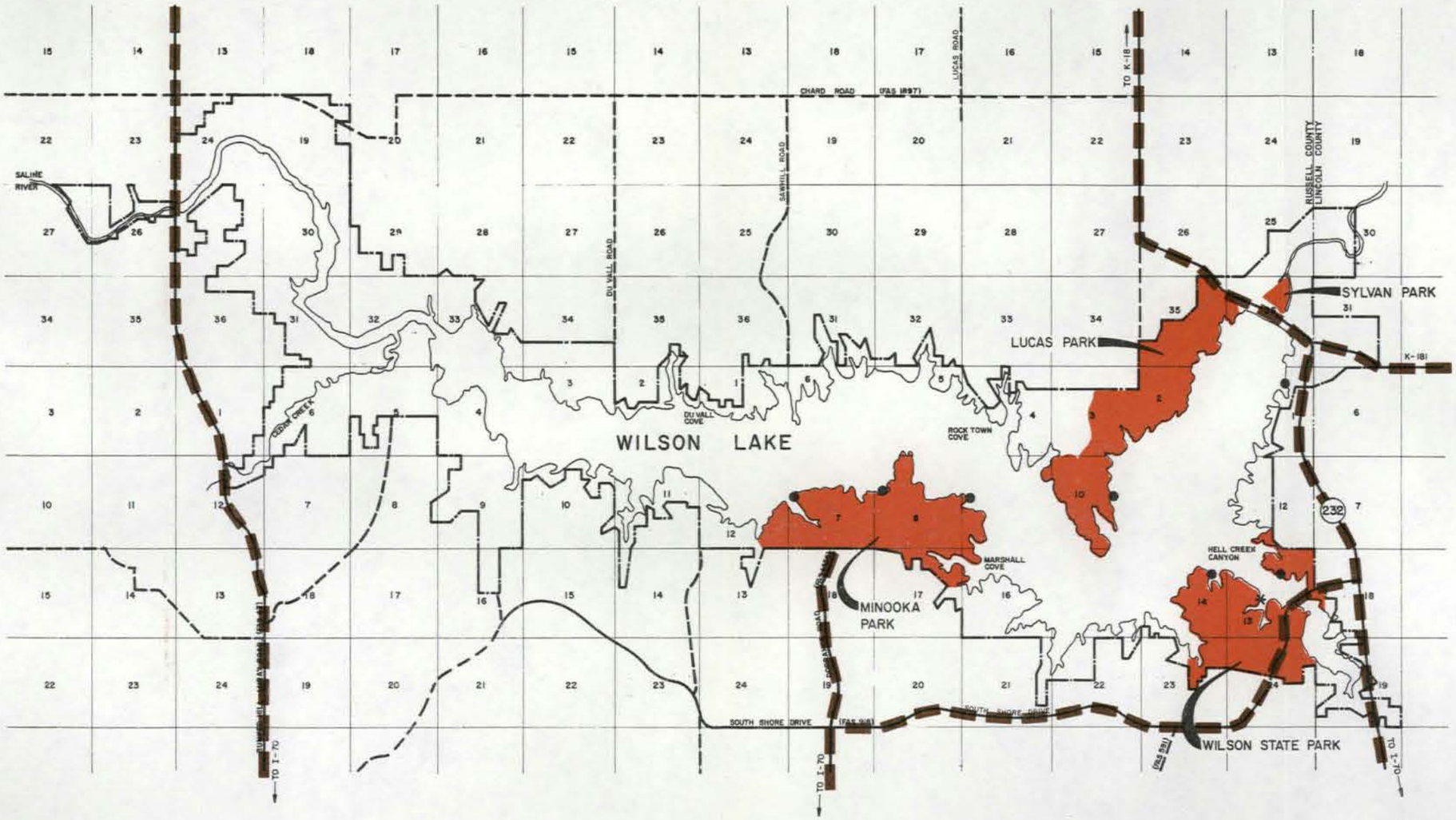
OTHERS OF NOTE

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.	SALINE RIVER, KANSAS WILSON LAKE MASTER PLAN
Drawn by: J.W.P.	LOCATION MAP AND ZONE OF INFLUENCE
Checked by: K.R.D.	Scale: AS SHOWN
Submitted by: M.W.C.	Date: JANUARY 1984
	Dwg. No.: 1 — DM-12 — File No.: E-1-1071

PLATE NO. 1



LEGEND

MAJOR THOROUGHFARES

PUBLIC USE AREAS

MARINA *

BOAT ACCESS AREAS ●

NORTH

0 2500 5000 7500 10000

SCALE IN FEET

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.
Drawn by: J.W.P.
Checked by: K.R.D.
Submitted by: M.W.C.

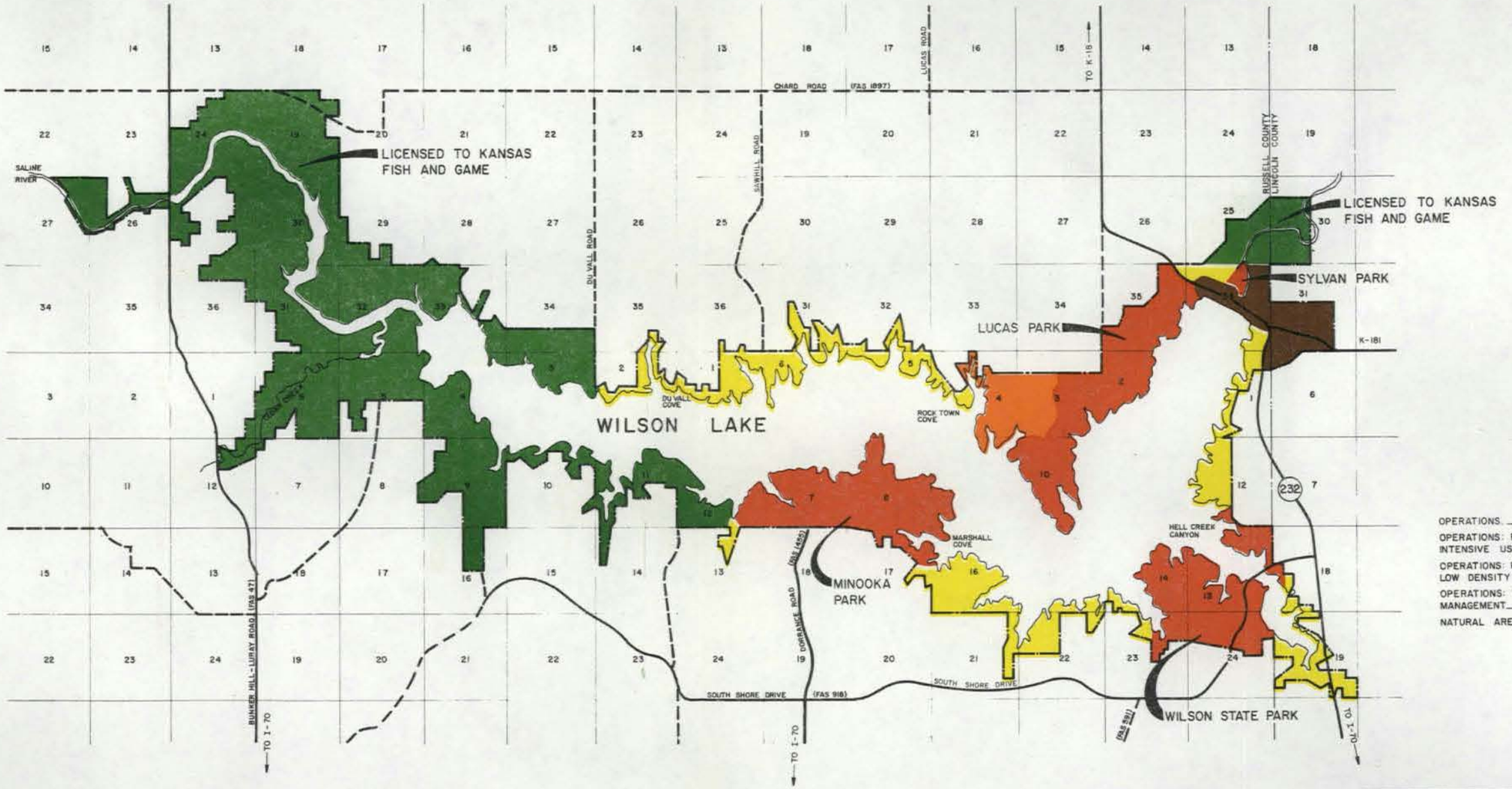
US Army Corps of Engineers

SALINE RIVER, KANSAS
WILSON LAKE
MASTER PLAN

MAJOR THOROUGHFARES

Scale: AS SHOWN
Date: JANUARY 1984
Dwg. No.: 2
DM-12
File No.: E-1-1079

PLATE NO. 2



Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.	SALINE RIVER, KANSAS WILSON LAKE MASTER PLAN
Drawn by: J.W.P.	LAND USE ALLOCATION
Checked by: K.R.D.	Scale: AS SHOWN
Submitted by: M.W.C.	Date: JANUARY 1984
	Dwg. No.: 3 — DM-12 — File No.: E-1-1092

PLATE NO. 3

MATCH LINE PLATE NO. 7

US GOVERNMENT PROPERTY BOUNDARY LINE

KEY MAP

LUCAS PARK

HANG GLIDER AREA

PICNIC AREA (REMOVE)
4 INDIVIDUAL SHELTERS
(RELOCATE FACILITIES TO PROPOSED PICNIC AREA 3)

ENTRANCE STATION

REMOVE ROAD

SWIMMING AREA
(RELOCATE TO PROPOSED SWIMMING AREA)
1 SWIMMING BEACH
1 WATER SPIGOT
2 CHANGE HOUSES
1 PLAYGROUND
1 WELL & HAND PUMP
5 INDIVIDUAL SHELTERS
(RELOCATE TO PROPOSED PICNIC AREA 3)
2 SINGLE VAULT TOILETS

ROCK TOWN NATURAL AREA

TRAIL HEAD PARKING AREA
1 DOUBLE VAULT TOILET
1 WATER SPIGOT

NATURE TRAIL

CAMP AREA 1
31 CAMP UNITS
2 WATER SPIGOTS
2 SINGLE VAULT TOILETS
100 CAMP UNITS
4 DOUBLE VAULT TOILETS
1 CENTRAL SHOWER BLDG.
5 WATER SPIGOTS
2 PLAYGROUNDS
50 ELECTRIC HOOKUPS
1 STABILIZATION POND
1 SANITARY DUMP STATION
1 AMPHITHEATER

MULTIPURPOSE POOL EL. 1516.0

PUBLIC USE AREA BOUNDARY

NATURAL BEACH

SWIMMING AREA
1 SWIMMING BEACH
2 CHANGE HOUSES
1 DOUBLE VAULT TOILET
1 WATER SPIGOT
1 PLAYGROUND

PICNIC AREA 3
30 PICNIC UNITS
2 DOUBLE VAULT TOILETS
23 INDIVIDUAL SHELTERS
(RELOCATED FROM WITHIN PUBLIC USE AREA)
2 WATER SPIGOTS
1 PLAYGROUND
2 GROUP SHELTERS
(RELOCATED FROM WITHIN PUBLIC USE AREA)

PICNIC AREA (REMOVE)
3 INDIVIDUAL SHELTERS
1 GROUP SHELTER
2 SINGLE VAULT TOILETS
1 WATER SPIGOT
(RELOCATE FACILITIES TO PROPOSED PICNIC AREA 3)

WELL AND WELL HOUSE

WILSON LAKE

BOAT ACCESS AREA
4 LANE BOAT RAMP
1 COURTESY LIGHT
1 COURTESY DOCK
2 SINGLE VAULT TOILETS

BOAT ACCESS AREA
4 LANE BOAT RAMP
1 DOUBLE VAULT TOILET
1 FISH CLEANING STATION
2 COURTESY DOCKS
1 COURTESY LIGHT

GROUP CAMP AREA
1 DOUBLE VAULT TOILET
1 WATER SPIGOT
1 GROUP SHELTER

PICNIC AREA 1 (RELOCATE TO PICNIC AREA 3)
20 PICNIC UNITS
6 INDIVIDUAL SHELTERS

CAMP AREA 2
9 CAMP UNITS
1 WATER SPIGOT
2 SINGLE VAULT TOILETS

PICNIC AREA 2 (RELOCATE TO PICNIC AREA 3)
25 PICNIC UNITS
6 INDIVIDUAL SHELTERS
1 GROUP SHELTER

N

SCALE IN FEET 400 0 400 800

LEGEND

EXISTING FACILITIES

- Lake Pool, Elev. (M. S. L.)
  - Multipurpose Pool — 1516.0
  - Flood Control Pool — 1554.0
- Wooded Area
- Roads
  - Federal, State and County Route Markers
  - Improved
- Government Property Line
- Public Use Area Boundary
- Concession Boundary

LEGEND

PUBLIC USE AREA FACILITIES

	Existing	Future
Interior Roads		
Gravel		
Chip and Seal		
Asphalt		
Parking Areas		
Auto Only		
Auto, Boat Trailer		
Water System		
Water Spigot	▲	
Distr. System	—W—	
Electrical Lines		
Underground	—E—	
Overhead	—E—	
Sanitary Facilities		
Sewage Lift Station	LS	
Well	⊠	
Single Vault Toilet	L■	
Double Vault Toilet	L■■	
Waterborne Toilet	L■■/WBT	
Bathhouse	L■■/BH	
Shower Latrine	L■■/SL	
Shower Building	L■■/SB	
Comfort Station	L■■	
Washhouse	●	
Marine Dump Station	MS	
Sanitary Dump Station	SS	
Stabilization Pond		
Sewer Lines	—S—	
Force Main	—FM—	
Water Treatment Plant	SWTP	
Group Shelters	GS	
Individual Shelters	IS	
Table Shelters	TS	
Camping Units		
Group Camping Units		
Tent Areas		
Courtesy Docks	CD	
Amphitheater	AT	
Playfield	PF	
Playground	PG	
Swimming Beach		
Change House	CH	
Entrance Station		
Information Center		
Trails		
Nature Paved		
Nature Unpaved		
Hiking		
Equestrian		
Handicap Access		

FUTURE DEVELOPMENT

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.
Drawn by: J.W.P.
Checked by: K.R.D.
Submitted by: M.W.C.

US Army Corps of Engineers

SALINE RIVER, KANSAS
WILSON LAKE
MASTER PLAN
PUBLIC USE AREA

LUCAS PARK

Scale: AS SHOWN
Date: JANUARY 1984
Dwg. No.: 4
DM-12
File No.: E-1-1075

PLATE NO. 4

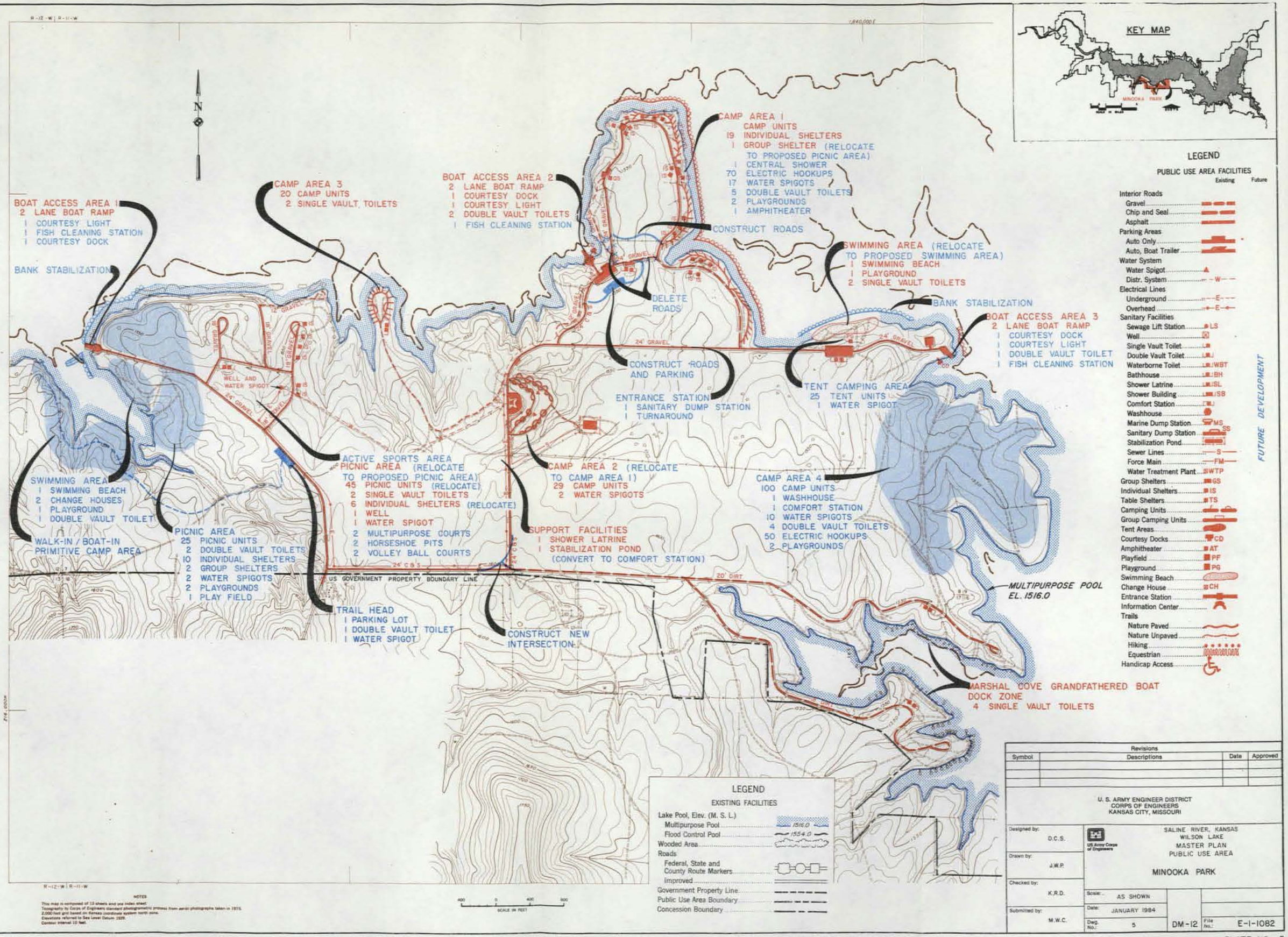
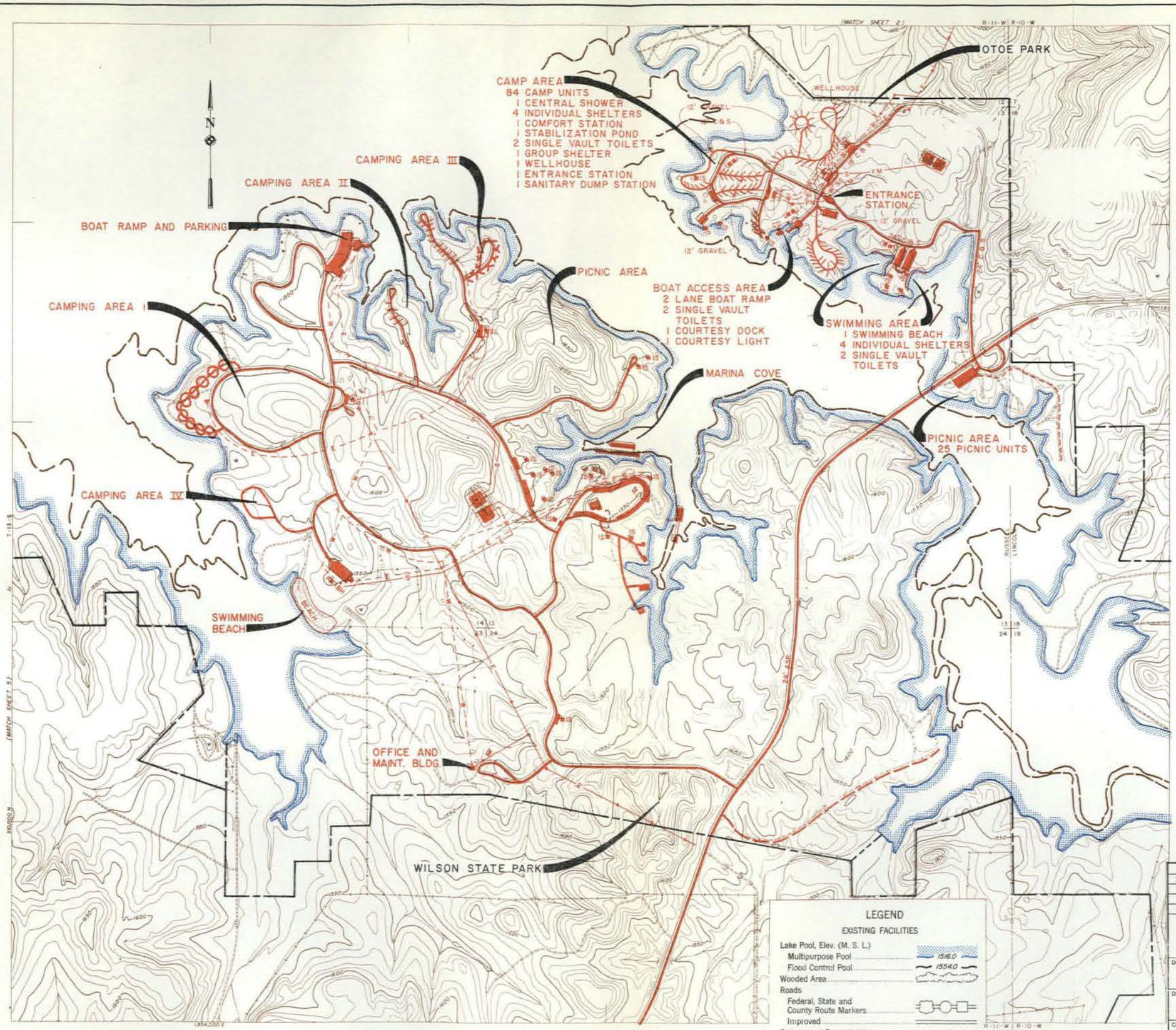
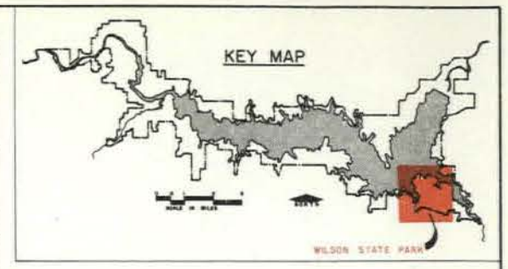

KEY MAP
MINOOKA PARK
N
BOAT ACCESS AREA 1
2 LANE BOAT RAMP
1 COURTESY LIGHT
1 FISH CLEANING STATION
1 COURTESY DOCK
BANK STABILIZATION
CAMP AREA 3
20 CAMP UNITS
2 SINGLE VAULT TOILETS
BOAT ACCESS AREA 2
2 LANE BOAT RAMP
1 COURTESY DOCK
1 COURTESY LIGHT
2 DOUBLE VAULT TOILETS
1 FISH CLEANING STATION
CAMP AREA 1
CAMP UNITS
19 INDIVIDUAL SHELTERS
1 GROUP SHELTER (RELOCATE TO PROPOSED PICNIC AREA)
1 CENTRAL SHOWER
70 ELECTRIC HOOKUPS
17 WATER SPIGOTS
5 DOUBLE VAULT TOILETS
2 PLAYGROUNDS
1 AMPHITHEATER
CONSTRUCT ROADS
SWIMMING AREA (RELOCATE TO PROPOSED SWIMMING AREA)
1 SWIMMING BEACH
1 PLAYGROUND
2 SINGLE VAULT TOILETS
DELETE ROADS
BANK STABILIZATION
BOAT ACCESS AREA 3
2 LANE BOAT RAMP
1 COURTESY DOCK
1 COURTESY LIGHT
1 DOUBLE VAULT TOILET
1 FISH CLEANING STATION
CONSTRUCT ROADS AND PARKING
ENTRANCE STATION
1 SANITARY DUMP STATION
1 TURNAROUND
TENT CAMPING AREA
25 TENT UNITS
1 WATER SPIGOT
SWIMMING AREA
1 SWIMMING BEACH
2 CHANGE HOUSES
1 PLAYGROUND
1 DOUBLE VAULT TOILET
WALK-IN / BOAT-IN PRIMITIVE CAMP AREA
PICNIC AREA
25 PICNIC UNITS
2 DOUBLE VAULT TOILETS
10 INDIVIDUAL SHELTERS
2 GROUP SHELTERS
2 WATER SPIGOTS
2 PLAYGROUNDS
1 PLAY FIELD
ACTIVE SPORTS AREA
PICNIC AREA (RELOCATE TO PROPOSED PICNIC AREA)
45 PICNIC UNITS (RELOCATE)
2 SINGLE VAULT TOILETS
6 INDIVIDUAL SHELTERS (RELOCATE)
1 WELL
1 WATER SPIGOT
2 MULTIPURPOSE COURTS
2 HORSESHOE PITS
2 VOLLEY BALL COURTS
CAMP AREA 2 (RELOCATE TO CAMP AREA 1)
29 CAMP UNITS
2 WATER SPIGOTS
SUPPORT FACILITIES
1 SHOWER LATRINE
1 STABILIZATION POND
(CONVERT TO COMFORT STATION)
CAMP AREA 4
100 CAMP UNITS
1 WASHHOUSE
1 COMFORT STATION
10 WATER SPIGOTS
4 DOUBLE VAULT TOILETS
50 ELECTRIC HOOKUPS
2 PLAYGROUNDS
MULTIPURPOSE POOL EL. 1516.0
US GOVERNMENT PROPERTY BOUNDARY LINE
TRAIL HEAD
1 PARKING LOT
1 DOUBLE VAULT TOILET
1 WATER SPIGOT
CONSTRUCT NEW INTERSECTION
MARSHAL COVE GRANDFATHERED BOAT DOCK ZONE
4 SINGLE VAULT TOILETS
LEGEND
PUBLIC USE AREA FACILITIES
Existing Future
Interior Roads
Gravel
Chip and Seal
Asphalt
Parking Areas
Auto Only
Auto, Boat Trailer
Water System
Water Spigot
Distr. System
Electrical Lines
Underground
Overhead
Sanitary Facilities
Sewage Lift Station LS
Well
Single Vault Toilet
Double Vault Toilet
Waterborne Toilet WBT
Bathhouse BH
Shower Latrine SL
Shower Building SB
Comfort Station
Washhouse
Marine Dump Station MS
Sanitary Dump Station SS
Stabilization Pond
Sewer Lines S
Force Main FM
Water Treatment Plant WTP
Group Shelters GS
Individual Shelters IS
Table Shelters TS
Camping Units
Group Camping Units
Tent Areas
Courtesy Docks CD
Amphitheater AT
Playfield PF
Playground PG
Swimming Beach
Change House CH
Entrance Station
Information Center
Trails
Nature Paved
Nature Unpaved
Hiking
Equestrian
Handicap Access
FUTURE DEVELOPMENT
LEGEND
EXISTING FACILITIES
Lake Pool, Elev. (M. S. L.)
Multipurpose Pool 1516.0
Flood Control Pool 1554.0
Wooded Area
Roads
Federal, State and County Route Markers
Improved
Government Property Line
Public Use Area Boundary
Concession Boundary
SCALE IN FEET
NOTES
This map is composed of 13 sheets and one index sheet.
Topography by Corps of Engineers standard photogrammetric process from aerial photographs taken in 1975.
2,000-foot grid based on Kansas coordinate system north zone.
Elevations referred to Sea Level Datum 1929.
Contour interval 10 feet.
Revisions
Symbol | Descriptions | Date | Approved
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: D.C.S.
Drawn by: J.W.P.
Checked by: K.R.D.
Submitted by: M.W.C.
US Army Corps of Engineers
SALINE RIVER, KANSAS
WILSON LAKE
MASTER PLAN
PUBLIC USE AREA
MINOOKA PARK
Scale: AS SHOWN
Date: JANUARY 1984
Dwg. No.: 5
DM-12
File No.: E-1-1082

PLATE NO. 5





LEGEND

PUBLIC USE AREA FACILITIES

	Existing	Future
Interior Roads		
Gravel		
Chip and Seal		
Asphalt		
Parking Areas		
Auto Only		
Auto, Boat Trailer		
Water System		
Water Spigot	▲	
Distr. System	W	
Electrical Lines		
Underground	E	
Overhead	E	
Sanitary Facilities		
Sewage Lift Station	LS	
Well	⊠	
Single Vault Toilet		
Double Vault Toilet		
Waterborne Toilet	WBT	
Bathhouse	BH	
Shower Latrine	SL	
Shower Building	SB	
Comfort Station		
Washhouse		
Marine Dump Station	MS	
Sanitary Dump Station	SS	
Stabilization Pond		
Sewer Lines	S	
Force Main	FM	
Water Treatment Plant	WTP	
Group Shelters	GS	
Individual Shelters	IS	
Table Shelters	TS	
Camping Units		
Group Camping Units		
Tent Areas		
Courtesy Docks	CD	
Amphitheater	AT	
Playfield	PF	
Playground	PG	
Swimming Beach		
Change House	CH	
Entrance Station		
Information Center		
Trails		
Nature Paved		
Nature Unpaved		
Hiking		
Equestrian		
Handicap Access		

LEGEND

EXISTING FACILITIES

Lake Pool, Elev. (M. S. L.)	
Multipurpose Pool	1516.0
Flood Control Pool	1554.0
Wooded Area	
Roads	
Federal, State and County Route Markers	
Improved	
Government Property Line	
Public Use Area Boundary	
Concession Boundary	

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Elevations referred to Sea Level Datum 1929.
Contour interval 10 feet.

SCALE IN FEET

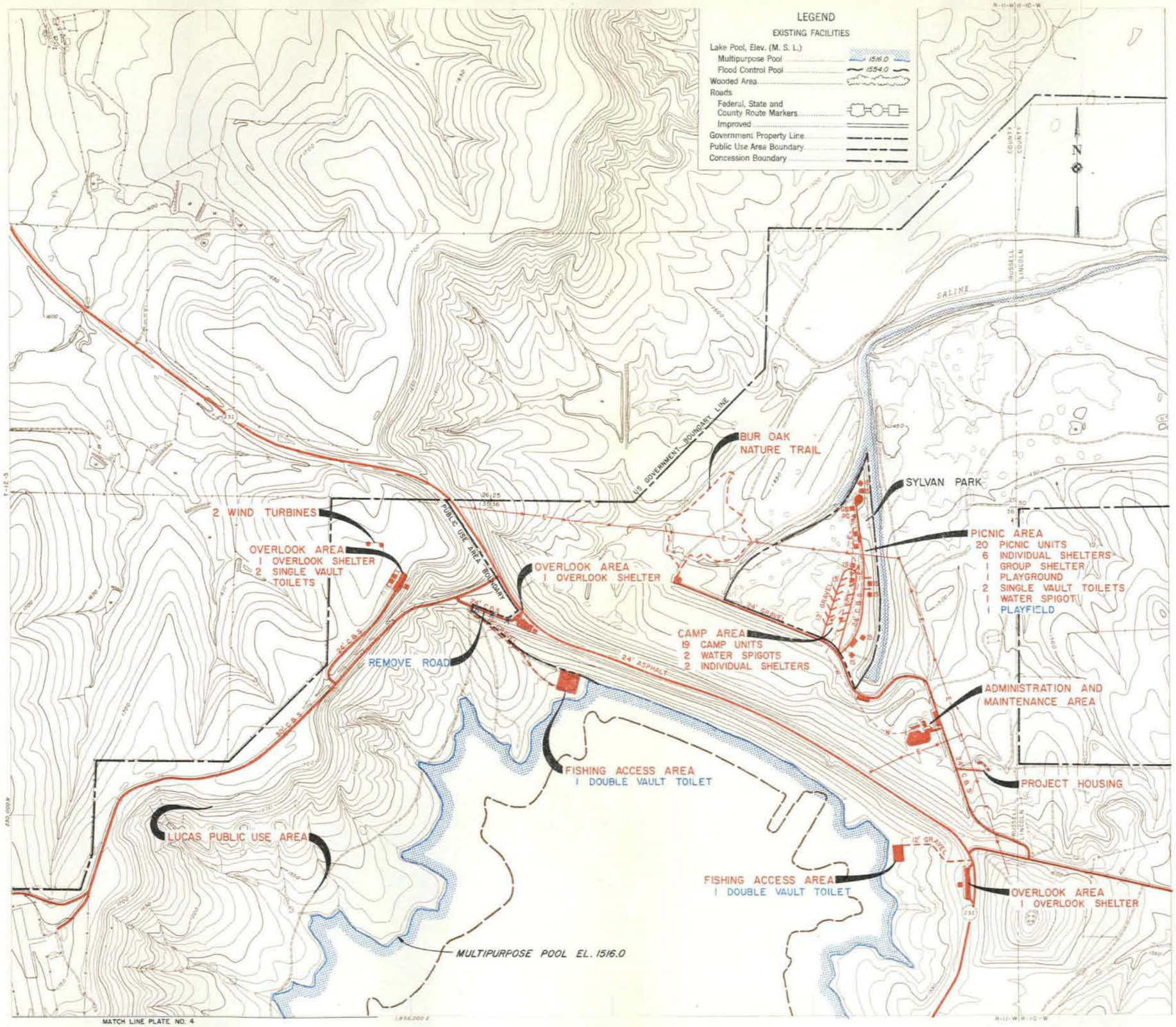
Revisions			
Symbol	Descriptions	Date	Approved

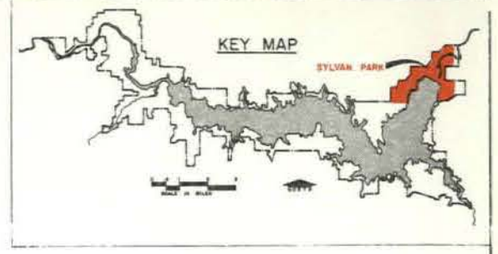
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.	SALINE RIVER, KANSAS
Drawn by: M.D.M.	WILSON LAKE
Checked by: K.R.D.	MASTER PLAN
Submitted by: M.W.C.	PUBLIC USE AREA
	WILSON STATE PARK
Scale: AS SHOWN	
Date: JANUARY 1984	
Dwg. No.: 6	DM-12
File No.:	E-1-1083

US Army Corps of Engineers

PLATE NO. 6





LEGEND

PUBLIC USE AREA FACILITIES

	Existing	Future
Interior Roads		
Gravel		
Chip and Seal		
Asphalt		
Parking Areas		
Auto Only		
Auto, Boat Trailer		
Water System		
Water Spigot		
Distr. System	W	
Electrical Lines		
Underground	E	
Overhead	E	
Sanitary Facilities		
Sewage Lift Station	LS	
Well		
Single Vault Toilet		
Double Vault Toilet		
Waterborne Toilet	WST	
Bathhouse	BH	
Shower Latrine	SL	
Shower Building	SB	
Comfort Station		
Washhouse		
Marine Dump Station	MS	
Sanitary Dump Station	SS	
Stabilization Pond		
Sewer Lines	S	
Force Main	FM	
Water Treatment Plant	WTP	
Group Shelters	GS	
Individual Shelters	IS	
Table Shelters	TS	
Camping Units		
Group Camping Units		
Tent Areas		
Courtesy Docks	CD	
Amphitheater	AT	
Playfield	PF	
Playground	PG	
Swimming Beach		
Change House	CH	
Entrance Station		
Information Center		
Trails		
Nature Paved		
Nature Unpaved		
Hiking		
Equestrian		
Handicap Access		

FUTURE DEVELOPMENT

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Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: D.C.S.	SALINE RIVER, KANSAS
Drawn by: J.W.P.	WILSON LAKE
Checked by: K.R.D.	MASTER PLAN
Submitted by: M.W.C.	PUBLIC USE AREA
	SYLVAN PARK
Scale: AS SHOWN	
Date: JANUARY 1984	
Dwg. No.: 7	DM-12
File No.:	E-1-1080

US Army Corps of Engineers

PLATE NO. 7