INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

April 4, 2014

65-40 LN
Brookville Lake RWD
21 East Union Street
Liberty, IN 47353

Dear Board of Trustees:

Re: Regional District Plan

Pursuant to Indiana Code (IC) 13-26, and as required in the Order forming the Regional District (District), a district plan (Plan) was required to be submitted by the District to the Indiana Department of Environmental Management (IDEM).

IDEM has received and reviewed the District Plan and determined the Plan to be complete. No further action regarding the Plan is required at this time. Please note that the District should send updates to the Plan to IDEM as they occur.

If you have any questions, please feel free to contact me at 800-451-6027, extension (3-0476) or at lnewlon@idem.in.gov.

Sincerely,

Lynne Newlon

Lynne Newlon
Regional District Coordinator
Indiana Department of Environmental Management

INTRODUCTION

NOTES

Brookville Lake Regional Waste District (hereafter called BLRWD) had its beginning in late 1973 with a meeting of common cause between the Franklin and Union County Commissioners. During December, 1973, a meeting was held in the Franklin County Court House. Besides the two County Commissioner groups, there were representatives from the County Planning Commissions, the Indiana Department of Natural Resources and the Health Department.

From this beginning, a steering committee was formed and set forth to establish the BLRWD as provided by Indiana State Law IC 1971, 19-3-1.1.

In May, 1974, a public hearing was held by the Indiana Stream Pollution Control Board at the Union County Courthouse. After further meetings held by the SPCB, the BLRWD was established in August, 1974.

The objective of the BLRWD is to provide sewage collection and treatment throughout its boundaries to protect and enhance the natural environment of the Brookville Lake, and surrounding area.

The purpose of this presentation is to inform all persons of the proposed Sewage Collection and Treatment Facilities as it relates to the area within the boundaries of the BLRWD.

There are four (4) alternatives to be considered: a) planning - no construction; b) service only, on an immediate needs basis, the recreational areas around the lake; c) service immediate and proposed recreational needs -- no more; d) service the full area including communities as well as the recreational areas to preserve, protect and maintain the Brookville Lake and surrounding watershed of the reservoir. The following page shows the BLRWD boundaries.

1975

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

BOARD OF TRUSTEES

PRESIDENT	BURDETTE LEMMON
VICE PRESIDENT	URBAN SELM, JR.
TREASURER	ROBERT CALDWELL
SECRETARY	CHARLES V. KAHL
TRUSTEE	DALE WALKER
TRUSTEE	PHILLIP BECK
TRUSTEE	ELLIS LAFUSE
TRUSTEE	ALLEN MAZE
TRUSTEE	LANCE COX

ATTORNEY	DAVID A. FEDERICO
CONSULTING ENGINEERS	SIECO, INC.

25FEB96 10 INVITED PARTICIPANTS → Plus the President of U.S.I.A.

Indiana Executive Officials

Otis R. Bowen, M.D., Governor

Robert D. Orr, Lt. Governor

Indiana Legislative Officials

✓Gary L. Butler, Representative

✓Robert Gordon, Representative

Wilfrid J. Ullrich, Senator

Indiana Appointed Officials

Joseph D. Cloud, Director, DNR Rsvp

John A. Hillenbrand, Chairman, DNR Commission

Robert A. Holt, Chairman, SPCB

United States Legislative Officials

Birch E. Bayh, Senator Rsvp

Lee H. Hamilton, Congressman Rsvp

R. Vance Hartke, Senator

Philip R. Sharp, Congressman

U.S. Environmental Protection Agency

Todd Cayer, Region # 5 Director Rsvp

U.S. Army Corps of Engineers

LTG William Gribble, Jr., Chief Engineer

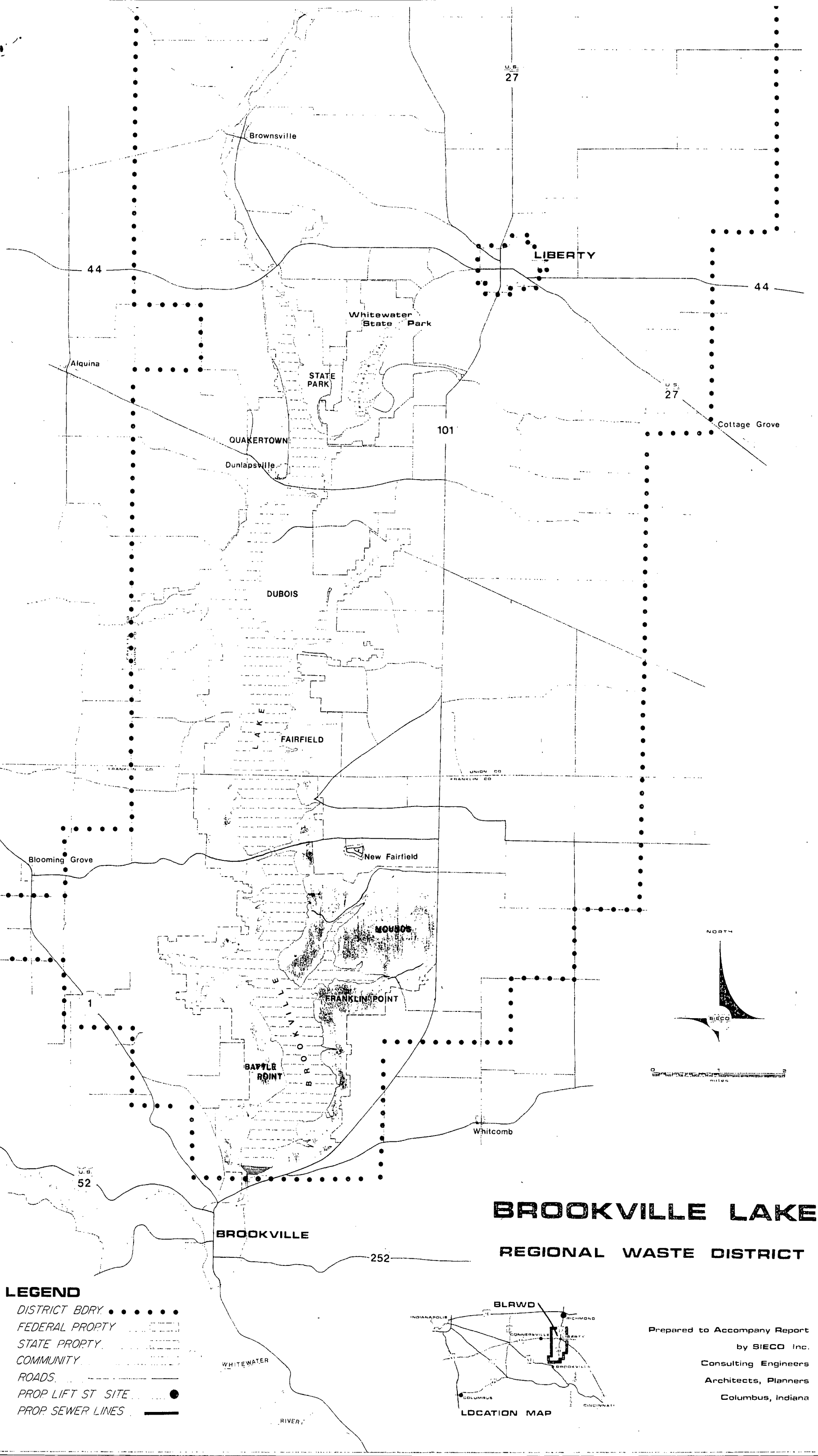
BG Wayne Nichols, Division Chief Engineer

COL James N. Ellis, District Rsvp Chief Engineer

Indiana Town Officials

Robert Feller, President Brookville Town Board of Trustees Rsvp

Kenneth Neal, President Liberty Town Board of Trustees



BROOKVILLE LAKE

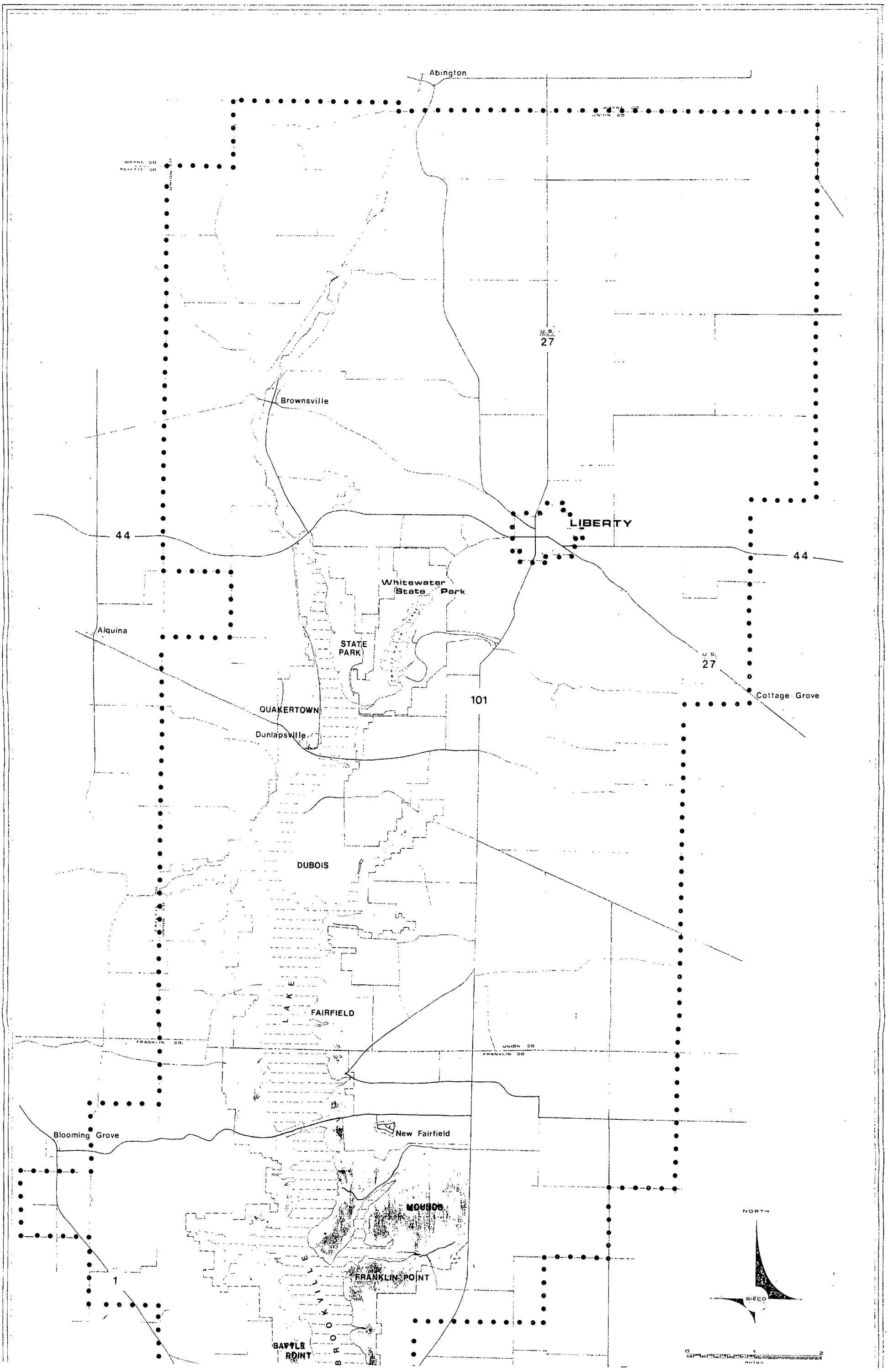
REGIONAL WASTE DISTRICT

LEGEND

- DISTRICT BDRY.
- FEDERAL PROPTY.
- STATE PROPTY.
- COMMUNITY.
- ROADS.
- PROP. LIFT ST. SITE.
- PROP. SEWER LINES.

LOCATION MAP

Prepared to Accompany Report
by SIECO Inc.
Consulting Engineers
Architects, Planners
Columbus, Indiana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LIBERTY
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State Park
Alquina
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Cottage Grove
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QUAKERTOWN
Dunlapsville
DUBOIS
FAYETTE CO
UNION CO
LAKE
FAIRFIELD
FRANKLIN CO
UNION CO
FRANKLIN CO
Blooming Grove
New Fairfield
MOUDDS
FRANKLIN POINT
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BROOKVILLE
BATTLE
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NORTH
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NOTES

General Comments

Brookville Lake is located in Franklin and Union Counties, Indiana. Construction started November, 1965. Outlet works were completed in January, 1968. Construction of the Dam is completed and construction continues on the access roads and recreational facilities. Impoundment started January, 1974. In April, 1974, the project was 77.7 percent completed.

The damsite is on the East Fork of the Whitewater River, 2.2 miles above the confluence with the West Fork and about 1.2 miles north of Brookville, Indiana. Cincinnati, Ohio is 36 miles to the southeast and Indianapolis, Indiana is 65 miles to the northwest.

Brookville Lake Reservoir received it's general authorization for the Ohio River Basin as contained in the Flood Control Act approved June 28, 1938 (Public Law No. 761, 75th Congress, 3rd Session).

The lake will operate as a unit in the general plan for the Ohio River Basin to effect reduction in flood stages at all points downstream from the lake. The area receiving the most positive protection is the overflow area along the East Fork and the Whitewater River to its confluence with the Miami River.

The dam is an earthen type, 3,004 feet in length with a maximum height of 181 feet. The drainage area above the dam is 379 square miles.

Outlet works are comprised of an operating tower with two 5.25' x 12.0' vertical control gates discharging to a 12 foot diameter circular conduit leading to the stilling basin. Two 30-inch low flow bypass pipes will have multiple-level inlets to allow regulation of downstream water temperature in the interest of conservation.

NOTES

General Comments
(Con't)

To accommodate the reservoir it was necessary to relocate 9.8 miles of state highway 10.4 miles of county roads, the Fairfield Township School, Town of Fairfield, numerou citizens, affected pipelines and public utilities, and about 1,000 graves.

We do not want to contrast Brookville Lake with Monroe Lake near Bloomington, Indiana, but BLRWD interfacing with the County, State and Federal planning agencies has the opportunity, responsibility and authority to insure that sewage collection and treatment facilities benefit all communities and recreational areas within its boundaries and prevent wastewater pollution problems.

Alternative No. 1

NOTES

Alternative No. 1 really is only a development plan.

What BLRWD will do as Alternative No. 1 is to develop a Master Sewage Collection and Treatment Plan to be separated into various phases for implementation over several decades.

The use of Public law 92-500 EPA grant funds would be limited to the first phase unless special consideration would be given to the Master Plan and be allowed to develop over a long period of time -- say 5 to 20 years.

BLRWD Board of Trustees would be functioning much in the same manner as the county planning commissions. Reviewing, accepting and denying applications for individual, commercial and private developers' sewage collection and treatment plans, as they would apply and address themselves to the BLRWD Master Plan.

Inasmuch as the Master Plan would be the key document governing future growth within the BLRWD boundaries it would be essential that the Indiana Stream Pollution Control Board and EPA Region # 5 offices approve the Master Plan.

BLRWD wants it known that the creation of this district was for the purpose of preserving, protecting, and maintaining Brookville Lake as a quality water source and a recreational asset for the State of Indiana, with the intent that the area would be developed and used by as many people as practical without endangering the environment by uncontrolled wastewater distribution.

NOTES

Alternative No. 2 is to service the immediate recreational area needs.

The immediate needs of the area would constitute collecting the Mounds area sewage and routing it to Brookville for treatment.

Since this would be a newly developed area, eligibility for EPA grant monies is questionable because of restrictions in the Law.

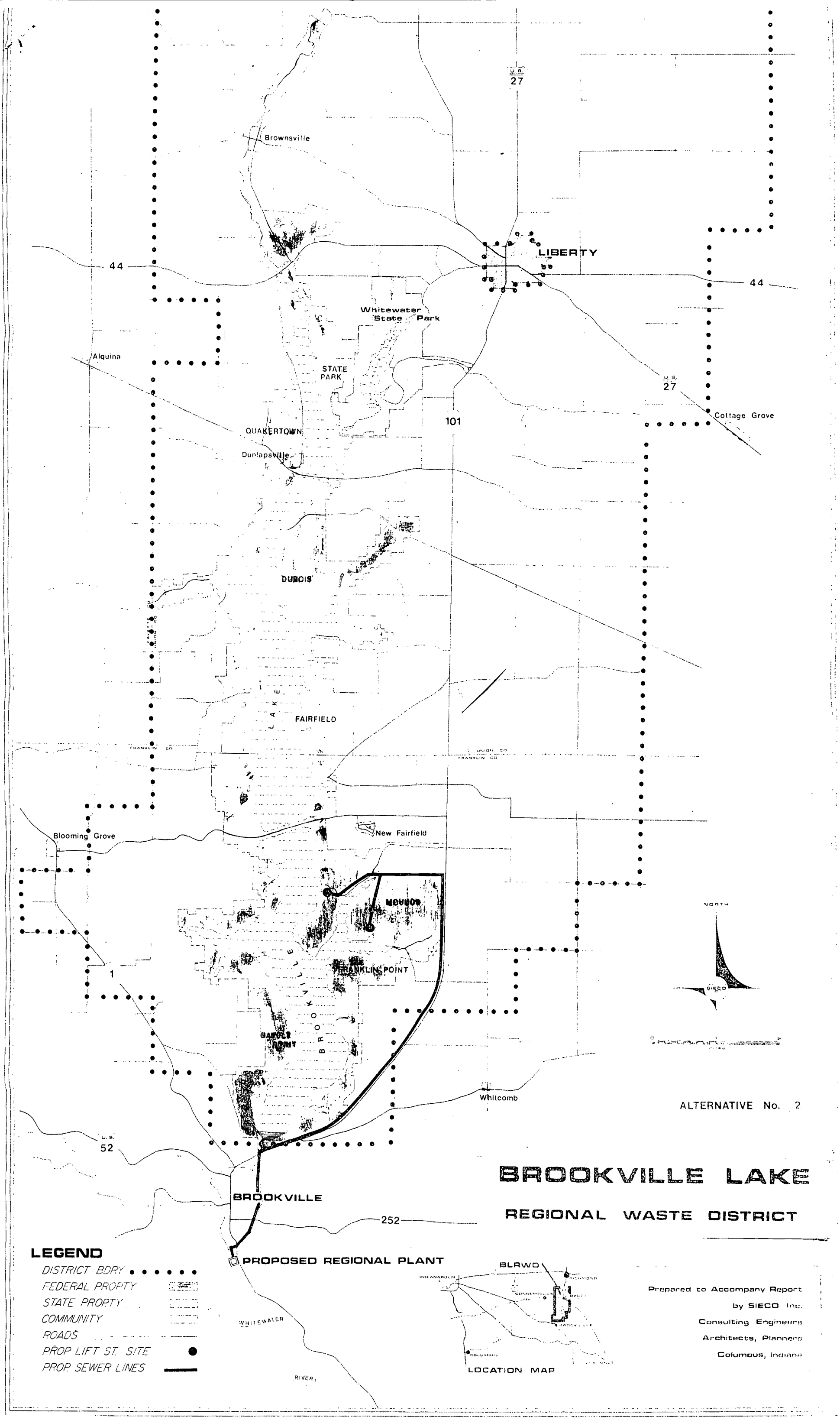
A second consideration is - could Brookvill accept the Mounds area flows? Certainly Brookville would be unable to handle the ultimate flow predicted which is 128,500 gallons average daily flow.

This still leaves the BLRWD with developing a plan that would include a regional wastewater treatment plant. In this plan it would be anticipated that Brookville would eventually flow into the Regional Plant and thereby shut down their existing treatment plant.

The balance of the BLRWD activities in relation to wastewater collection and treatment would be to insure developments within its boundaries adhere to the Master Plan. This certainly will reduce the desireability of developing around the Brookville Lake because of the high cost of sewage collection and treatment.

Individual treatment plants throughout the BLRWD will not be permitted to outflow into the reservoir. MAY 1976

With the total cost of the Brookville Reservoir and recreational facilities totalling over $87,000,000 as indicated by Corps of Engineers overall plan certainly a regional sewage collection and treatment facility is the only way modern recreational areas can be completed.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SIECO
ALTERNATIVE No. 2
BROOKVILLE LAKE
REGIONAL WASTE DISTRICT
LEGEND
DISTRICT BDRY
FEDERAL PROPTY
STATE PROPTY
COMMUNITY
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PROP LIFT ST. SITE
PROP SEWER LINES
PROPOSED REGIONAL PLANT
BLRWD
INDIANAPOLIS
RICHMOND
CONNERSVILLE
BATESVILLE
BROOKVILLE
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LOCATION MAP
Prepared to Accompany Report
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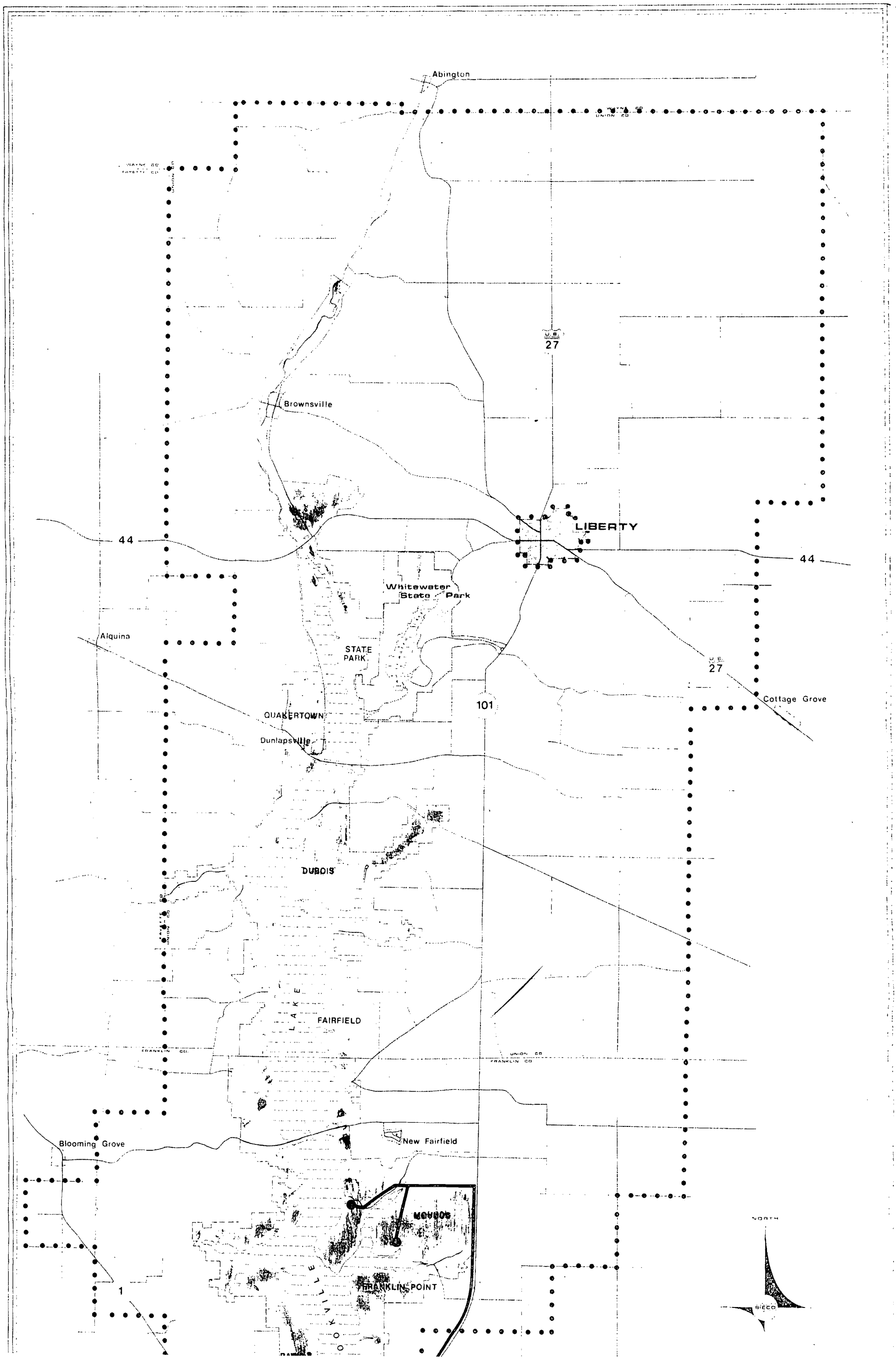
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Alternative No. 3

NOTES

Alternative No. 3 addresses itself to just the recreational areas as planned. Wastewater from these areas would be collected and pumped to Brookville for treatment.

Knowing the current capacity of the Brookville treatment plant and what its maximum design capacity is we know right now that it will not be able to handle the present and planned recreational capacities.

Thus a regional plant would have to be built under this scheme. This will require special legislation by both the Indiana Legislature and the Federal Legislature to allocate special funds for such a plant as EPA grant funds will not be available to such a project.

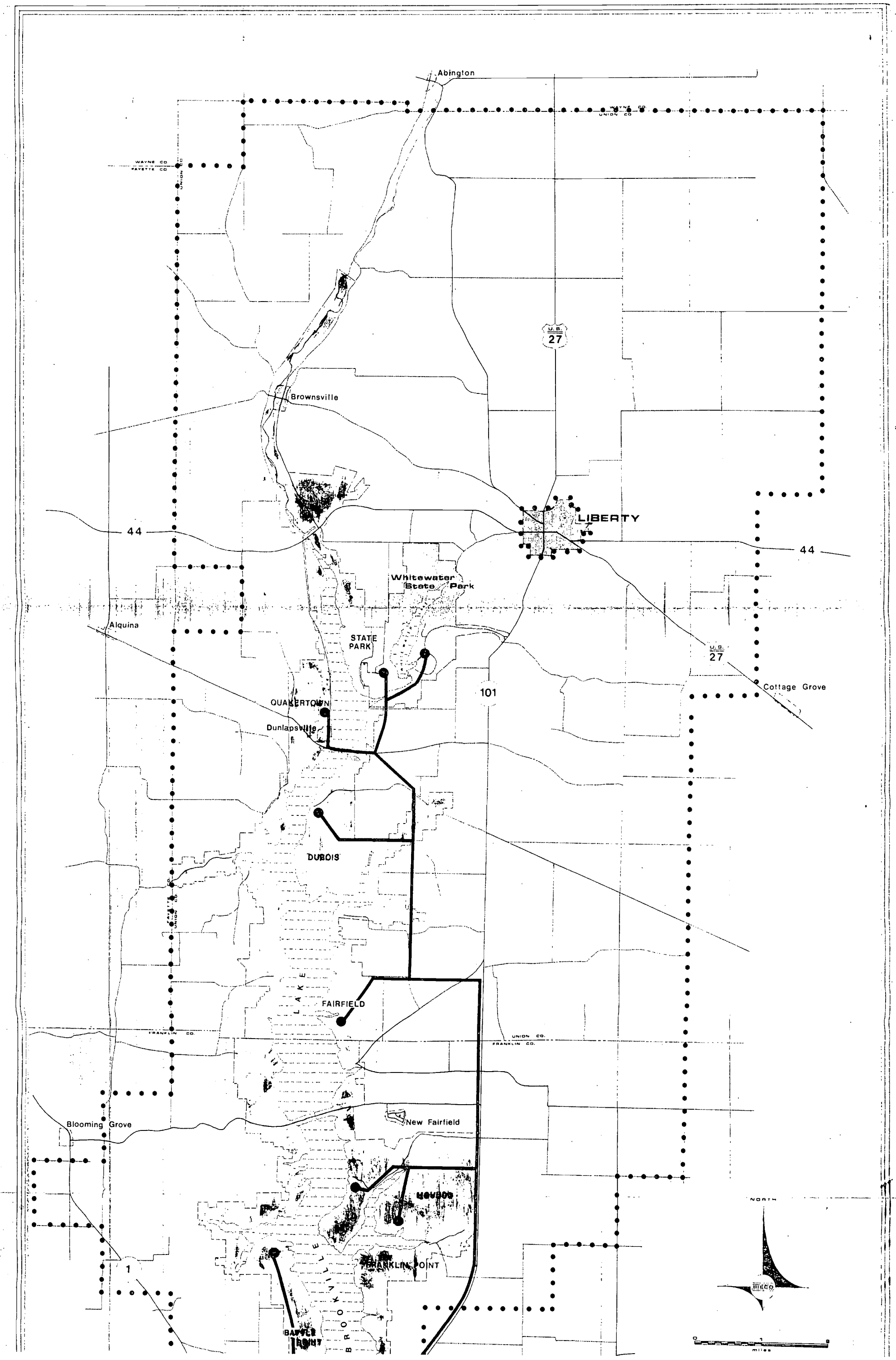
Brookville Treatment Plant can be an interim plant for 3 or 4 years while a regional treatment plant is being designed and built.

Perhaps special consideration or deviation could be forthcoming from EPA that would allow grant funds to be used for a regional sewage collection and treatment plant for a newly developed area as Alternative No. 3 proposes.

It must be recognized that there is no population density to help support the collection lines or plant operational cost when considering the recreational areas by themselves. This operational cost would have to be borne by the agencies operating the facilities.

BLRWD would operate the treatment plant and develop policies that would establish connection fees for private enterprises as developments are planned in the areas.

However, assistance is needed to bring Brownsville and Liberty into the collection and treatment system, as Brownsville and Liberty sit at the headwaters of the reservoir and certainly can influence the water quality at the northern end of the lake. This alternative does not deal with that problem.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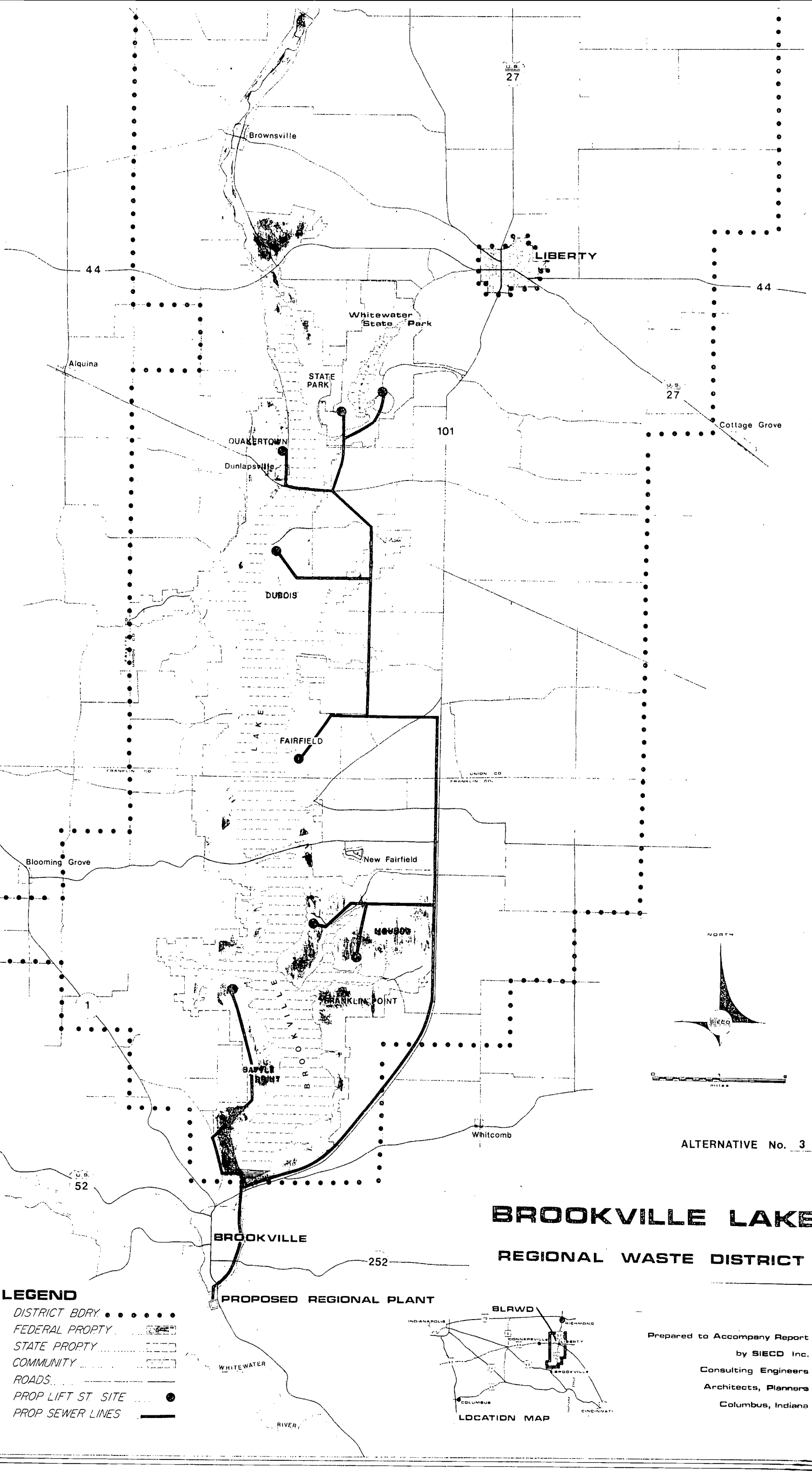
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COLUMBUS
CINCINNATI
LOCATION MAP
Prepared to Accompany Report
by SIECO Inc.
Consulting Engineers
Architects, Planners
Columbus, Indiana

Alternative No. 4

NOTES

Alternative No. 4 presents the ultimate system for the BLRWD and for the Brookville Lake Reservoir Recreational area.

The collection system would service as far north as Brownsville and include Liberty, Dunlapsville, New Fairfield, Brookville, and all the recreational sites now identified as having or going to have sewage collection and treatment facilities.

Knowing the Corps of Engineers and the State of Indiana plan to spend, over the next decade or so, approximately $3,000,000 for sewage collection and treatment, BLRWD believes that a savings in project cost could be as much as $375,600 should the Corps and State agree to support this alternative.

Economy of scale helps keep the operation cost at a low level for all users. This alternative proposes to service existing facilities such as, Whitewater State Park, Liberty, Brookville, planned recreational sites around the reservoir, and new facilities for Brownsville, New Fairfield and Dunlapsville. All future development by private enterprises will be borne by private enterprises and amortized into their project cost.

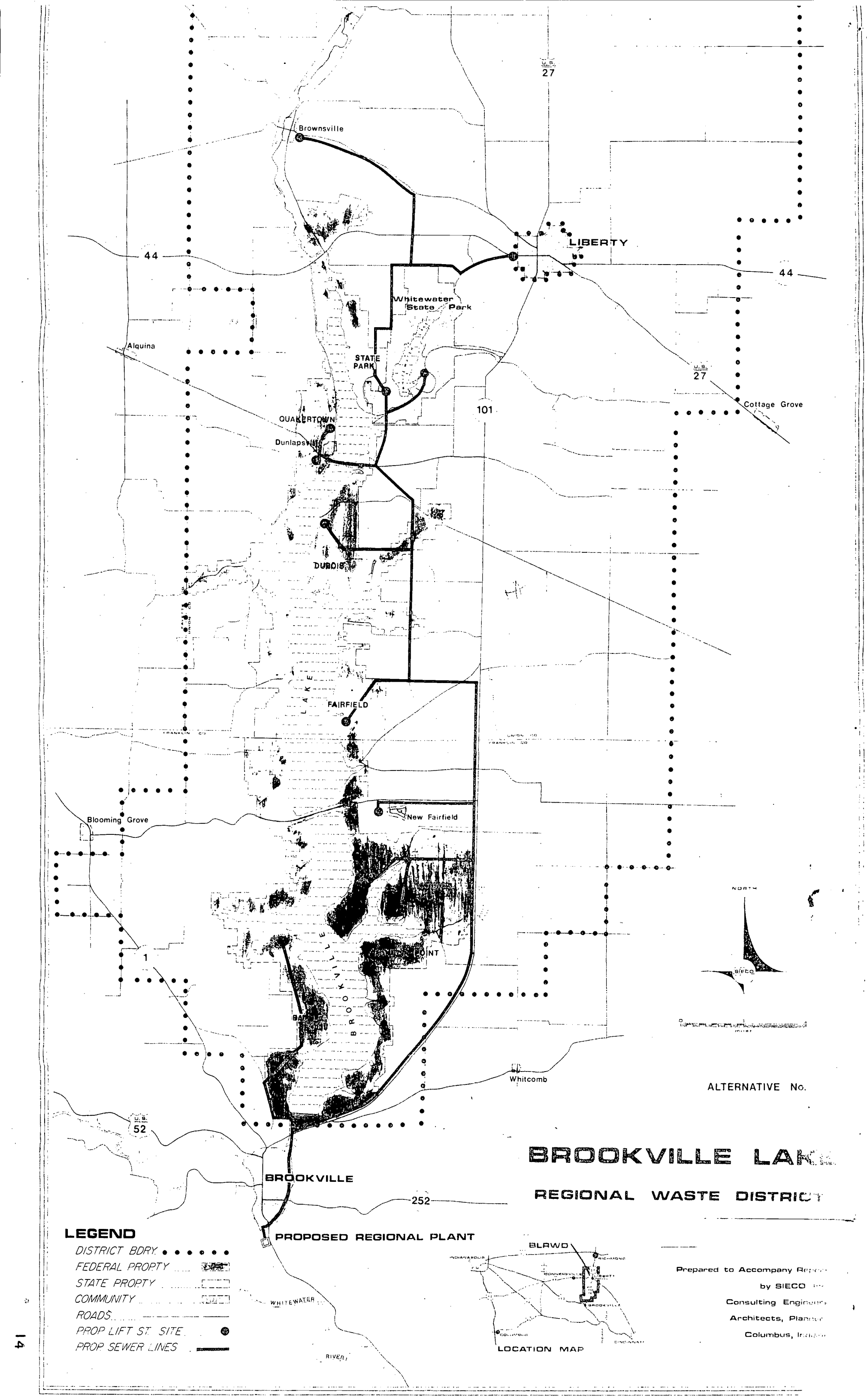
It is germain to this alternative that the communities of Liberty and Brookville petition to become part of the BLRWD. BLRWD believes there would be benefits to these communities as members of the District.

Existing sewage collection customers should experience a reduction in the operational cost for treating their sewage because of the lower operating cost per gallon of sewage treated by the larger and more effective regional treatment plant.

NOTES

The implementation of a master sewage collection and treatment plant in relation to land use plans would become more realistic because there would be service lines designed with the master plan as a guide.

What makes BLRWD feel that Alternative No. 4 is realistic? It is the approach to how the project can be funded. Because of the overall low density population Federal and State EPA grant funds are not enough to make the plan economically feasible and therefore a financial proposal has been developed.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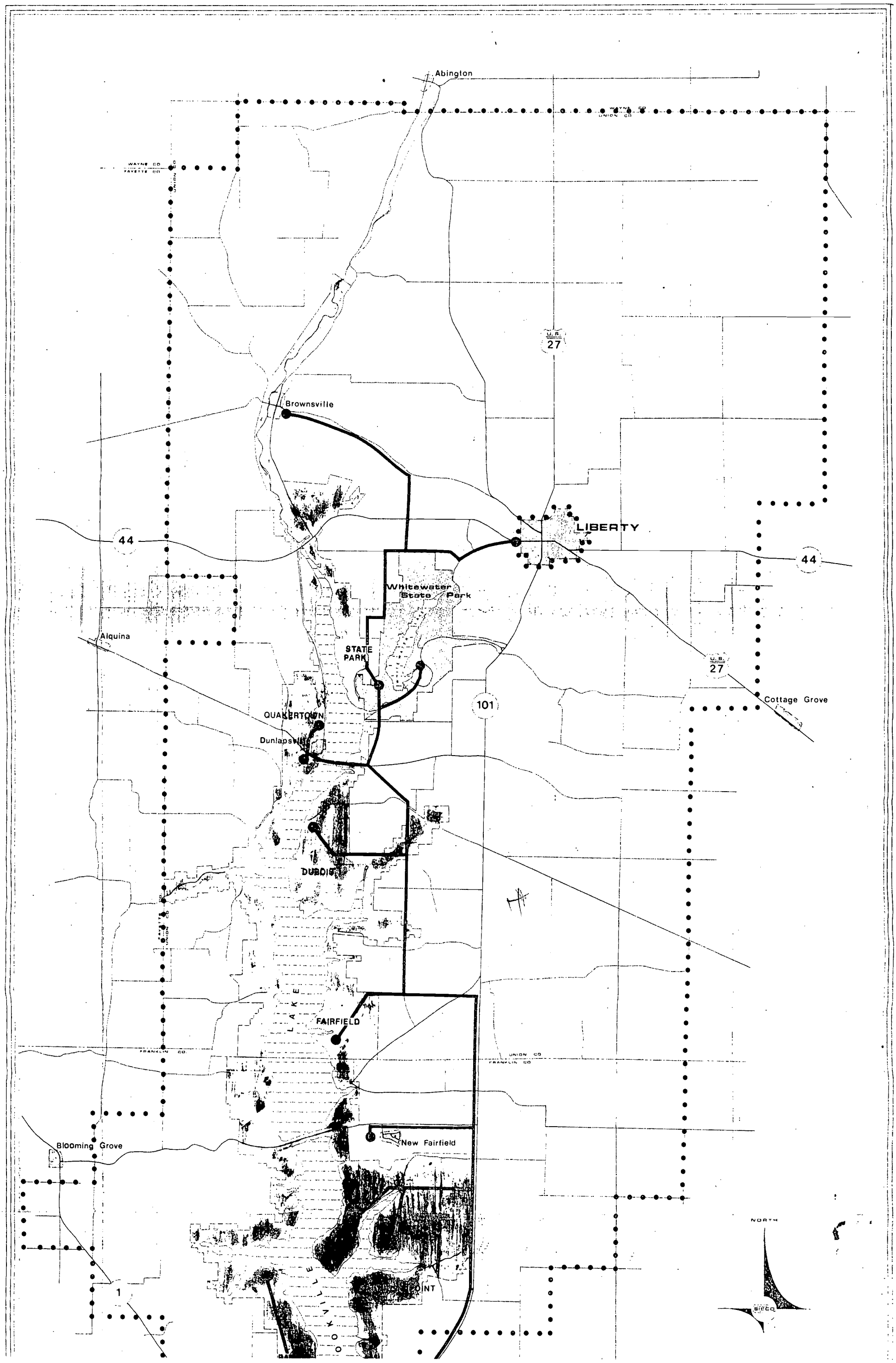
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ESTIMATED POPULATION & SEWAGE FLOWS

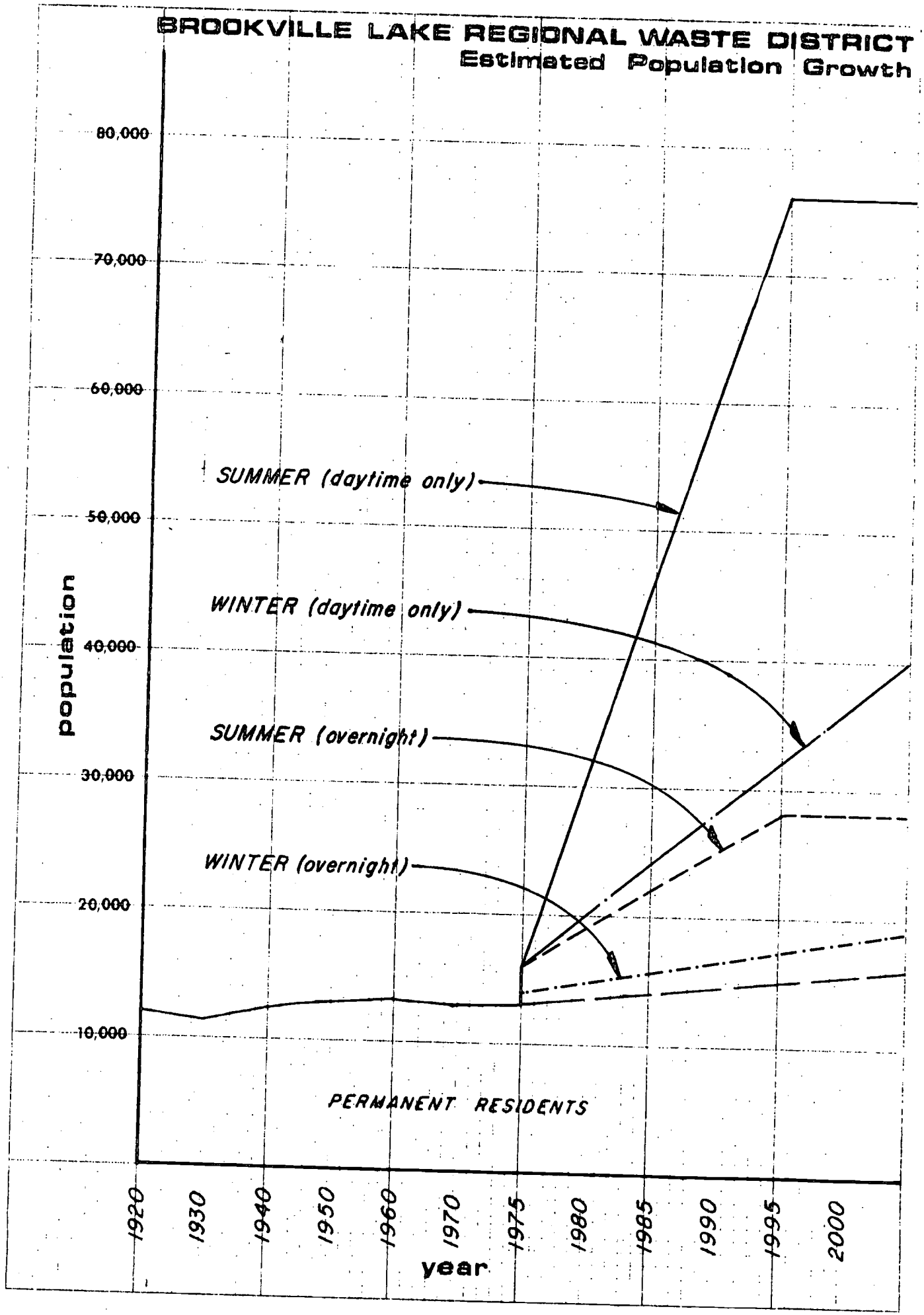
The uniqueness of the BLRWD's proposed sewage collection and treatment system must be adapted to operate under a winter flow that will be less than a summer flow.

Estimated population trend is as follows:

Year	Winter		Summer
1975	Day	14,000	16,000
	Night	13,000	14,000
1980	Day	20,000	31,000
	Night	16,000	19,000
1985	Day	24,000	46,000
	Night	17,000	23,000
1990	Day	28,000	61,000
	Night	18,000	25,000
1995	Day	31,000	76,000
	Night	19,000	28,000
2000	Day	35,000	76,000
	Night	20,000	28,000

Estimated population flows average gallons per day:

	Winter	Summer
1975	600,000	700,000
1980	857,500	1,037,500
1985	865,000	1,225,000
1990	974,680	1,425,000
1995	1,024,680	1,475,000
2000	1,065,680	1,516,000


BROOKVILLE LAKE REGIONAL WASTE DISTRICT
Estimated Population Growth
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
population
SUMMER (daytime only)
WINTER (daytime only)
SUMMER (overnight)
WINTER (overnight)
PERMANENT RESIDENTS
1920
1930
1940
1950
1960
1970
1975
1980
1985
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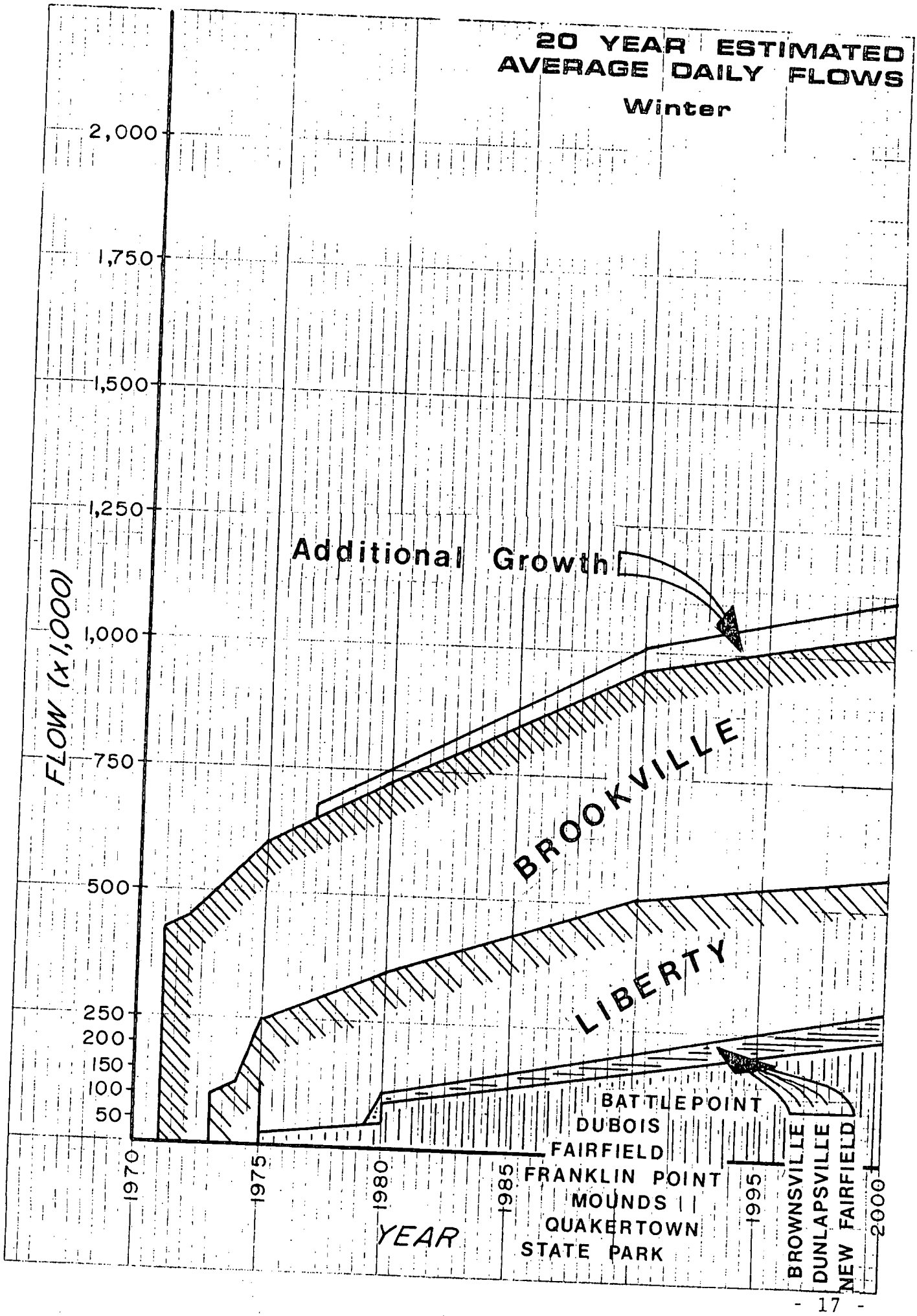
1995
2000
year


20 YEAR ESTIMATED AVERAGE DAILY FLOWS
Winter
2,000
1,750
1,500
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250
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FLOW (x1,000)
Additional Growth
BROOKVILLE
LIBERTY
BATTLEPOINT
DUBOIS
FAIRFIELD
FRANKLIN POINT
MOUNDS II
QUAKERTOWN
STATE PARK
BROWNSVILLE
DUNLAPSVILLE
NEW FAIRFIELD
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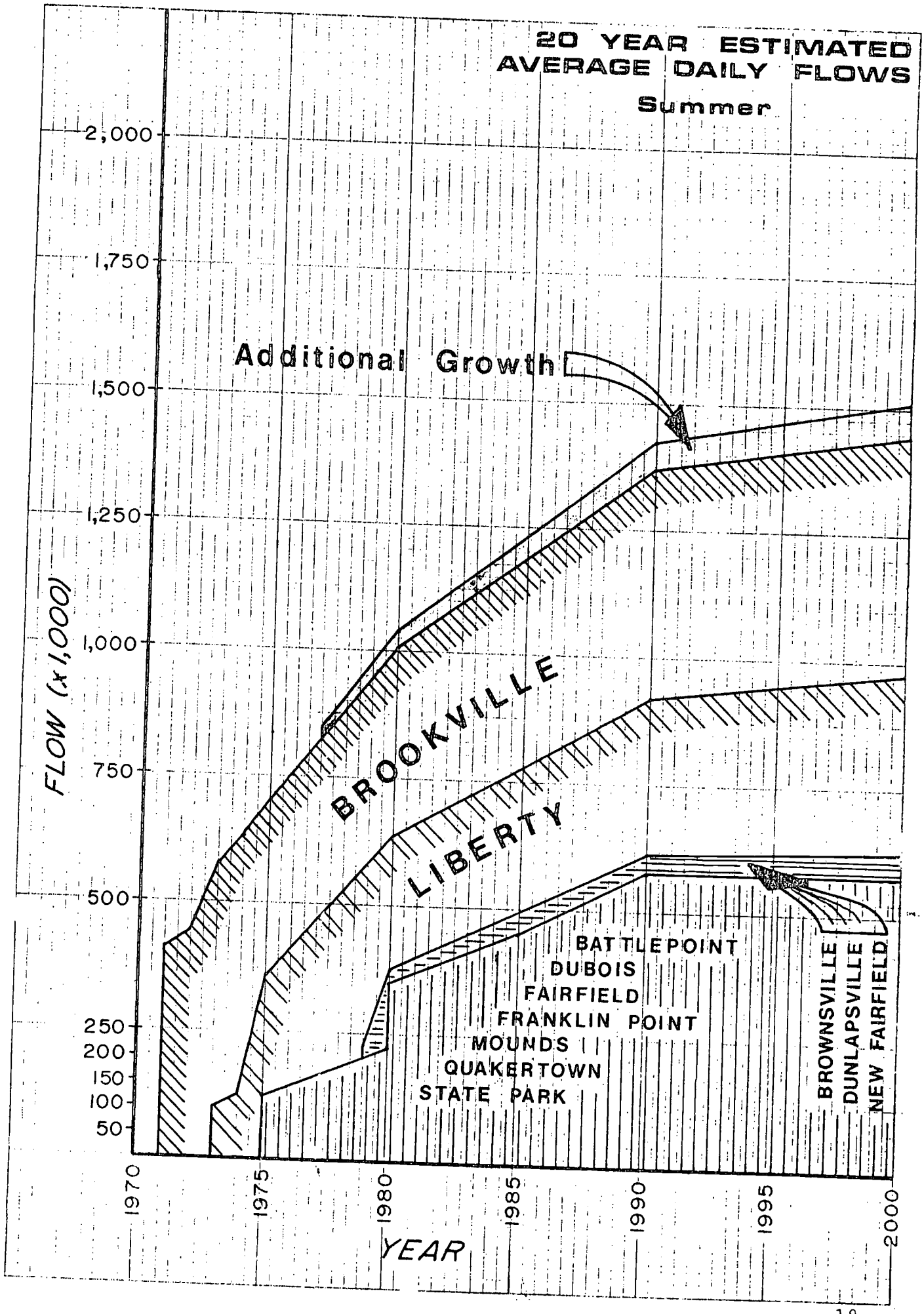
20 YEAR ESTIMATED
AVERAGE DAILY FLOWS
Summer
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FLOW (x 1,000)
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DUNLAPSVILLE
NEW FAIRFIELD
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NOTES

Memorandum #13 Corps of Engineers

PROPOSED PROJECT SIZE, COST AND FINANCING

The recreational areas will have 176 buildings that will be serviced. These buildings include restaurants, motels, cabins, wash rooms, etc. It is anticipated that these buildings will be on the average 200 feet from a proposed sewage line. Therefore, the agencies developing these buildings will have to install connection lines from the buildings to the sewage collection lines. Estimated cost for these installations is as follows:

200 ft. average distance
x 176 buildings
= 35,200 ft. of connection lines
x $4.50 per foot
= $158,400 estimated cost

BLRWD estimates that approximately 52 miles of sewage collection lines must be laid to service the area included in Alternative No. 4. Though it may sound like a great many miles of pipe, it is not. For example, Richmond, Indiana, has over 100 miles of sewage collection lines. It is currently estimated that approximately 12 to 14 lift stations will be used. The system will service a population of 13,000 to 76,000 over the next 25 years. This is estimated to be equivalent to 3,714 to 21,714 homes.

The sewage treatment plant will be sized to handle peak flows of up to 3,000,000/day, with an average flow that will range from 600,000/day to 1,516,000/day over the next 25 years.

It is currently estimated that the total cost of the Alternative No. 4 project would not exceed $12,000,000 over the next four (4) years.

Basic project cost funding could be as follows:

Project Cost	$12,000,000
Cost Not Grant Eligible	500,000
Grant Eligible	11,500,000
EPA 75%	8,625,000
State 10%	1,150,000
Cost Shared by Corps of Engineers and State DNR	2,225,000

NOTES

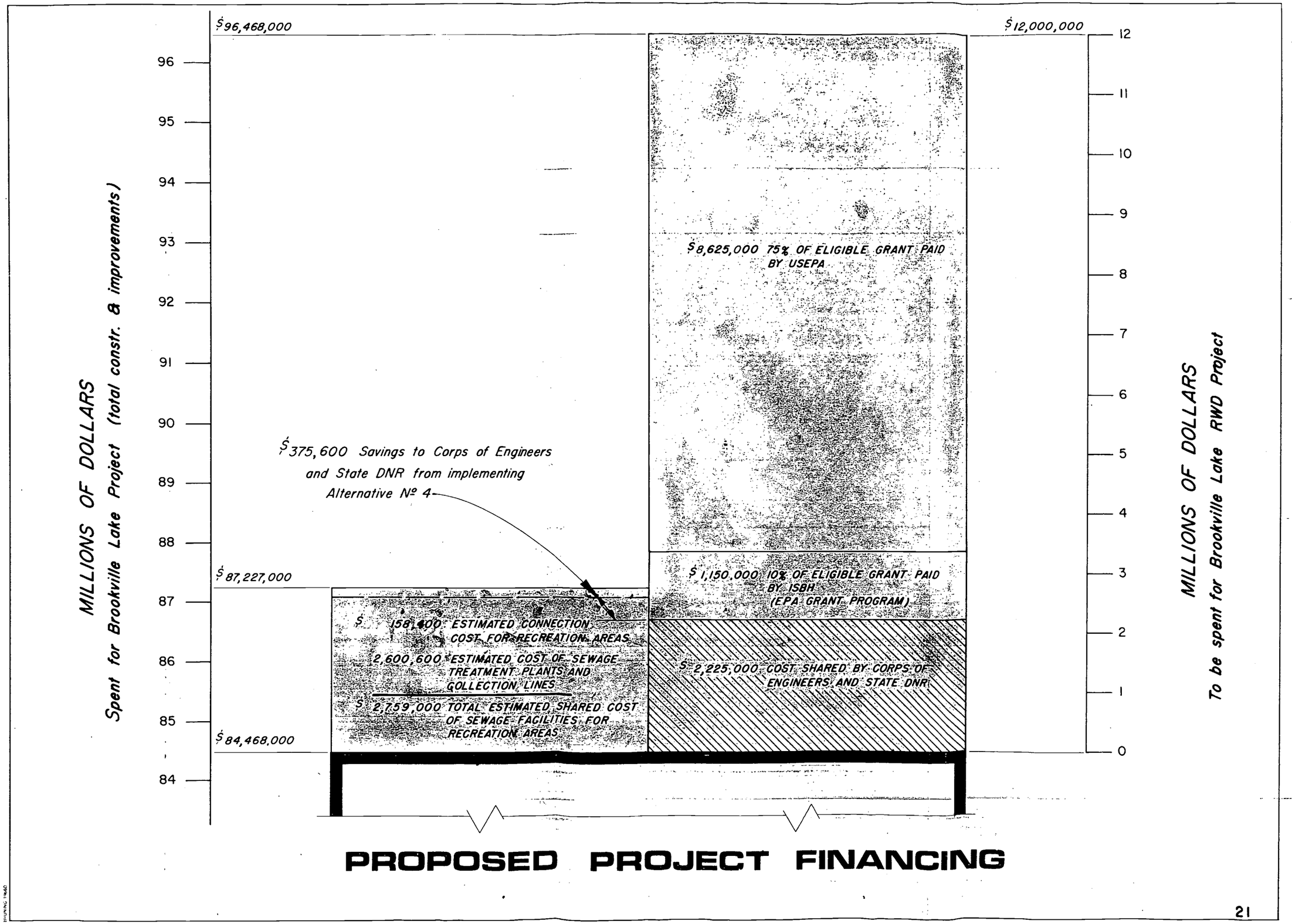
Proposed Project Size, Cost and Financing (Con't)

On the following page is an illustrative graph which shows a relationship between current cost estimates for the recreational sewage collection and treatment plants of approximately $2,759,000. Corps of Engineers Memo #13

If the funds are forthcoming from the Corps of Engineers and the State of Indiana, this would result in an estimated project cost reduction as follows:

$2,759,000	Current estimated recreational areas shared cost
- 158,400	Estimated connection cost for recreational areas
$2,600,600	Balance of cost for sewage collection and treatment for recreational areas
-2,225,000	Shared cost for sewage collection and treatment for recreational areas under proposed Alternate No. 4
$ 375,600	Balance

Balance is savings resulting from implementing Alternate No. 4 to the taxpayers and providing sewage collection and treatment for many more people plus assuring that the Brookville Lake will remain one of the nation's most outstanding lakes.



PROPOSED PROJECT FINANCING

NOTES

Action To Be Taken

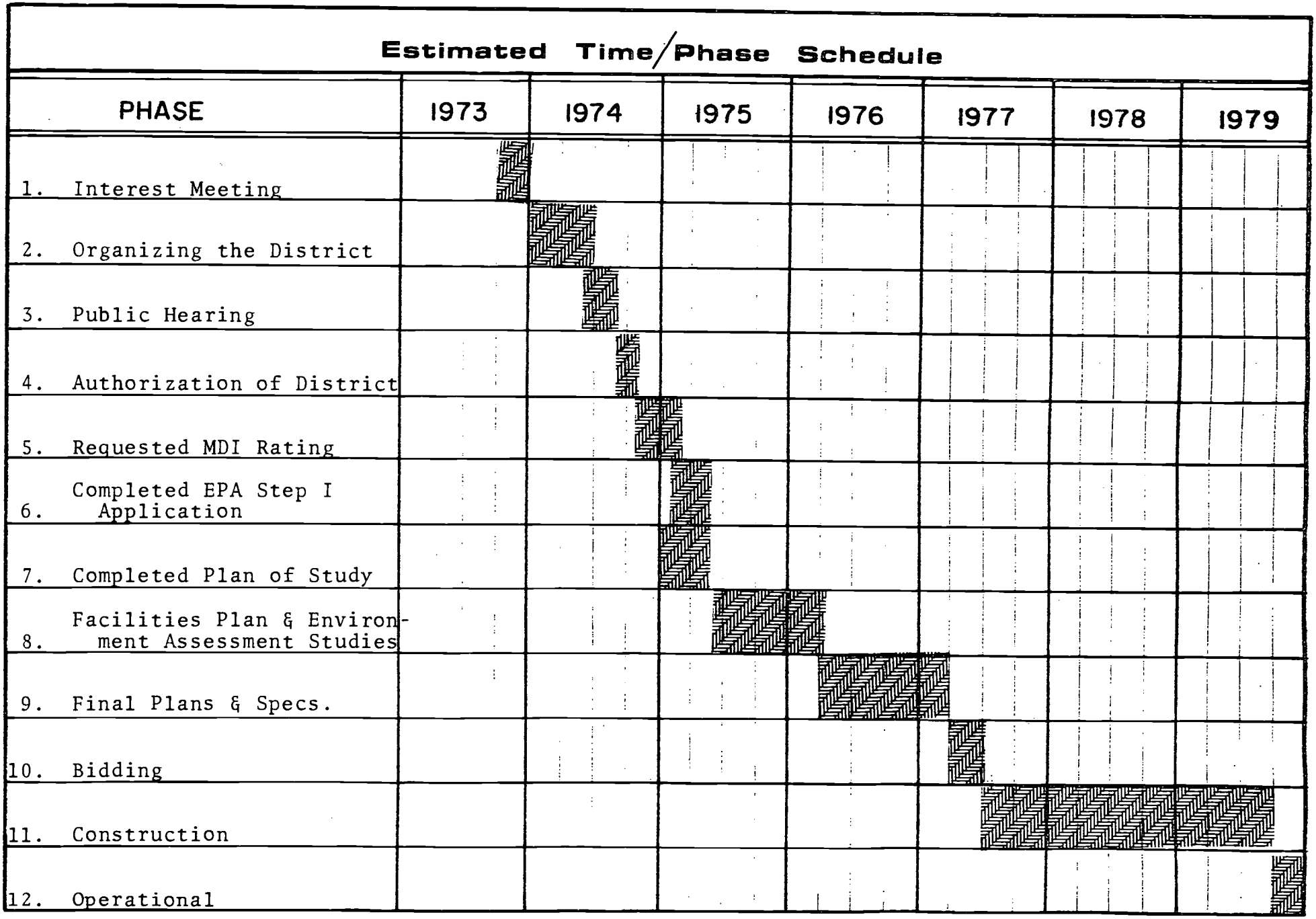
BLRWD Trustees hope that through this brief presentation that the consensus of the people in the room is that the Regional Sewage Collection and Treatment Facilities be started in relation to Alternative No. 4

If, in deed, this is the consensus of the meeting the BLRWD Trustees will immediately call a meeting of the Corps of Engineers and State DNR to finalize the shared cost agreements and of the various communities, agencies, and people to begin the first steps of the proposed project.

Following page is a time/phase schedule that could be reflective of the time required to implement a regional system.

We now welcome your comments and observations.

Estimated Time/Phase Schedule



We wish to thank each and everyone of you for your time and effort for attending this meeting today. We regret that not all persons who were invited were able to attend this very important meeting. However, we will send a copy of the report to each of them.

If you should have any questions, you may get in contact with the Brookville Lake Regional Waste District's Board of Trustees c/o Charles V. Kahl, P.O. Box 201, Liberty, Indiana 47353, phone number 317/458-5186, or SIECO, Inc., attention Ralph S. Matheny, Director of Project Planning, P.O. Box 407, Columbus, Indiana 47201, phone number 812/372-9911, and we will be most happy to answer any questions you might have. Thank you once again.

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22. Action To Be Taken
23. Estimated Time/Phase Schedule
24. Thank You

I. Appendix - Correspondence Received

II. Registration Sheet

Appendix - Correspondence Received

SENATE
State of Indiana
INDIANAPOLIS, INDIANA 46204

WILFRID J. ULLRICH
403 MAIN STREET
AURORA, INDIANA 47001

May 9, 1975

Burdette Lemmon, President
Board of Trustees
Brookville Lake Regional Waste District
Union County Courthouse
Liberty, Indiana 47353

Dear President Lemmon:

Regret very much that I will be unable to attend the presentation on the Brookville Reservoir Sewer Project In Indianapolis, May 21.

Attached please find a presentation in my name in support of your organization and its aims.

Sincerely yours,

Wilfrid J. Ullrich

WJU:eu
encl.

COMMITTEES: • PUBLIC POLICY AND INTERSTATE COOPERATION, R.M.M. • FINANCIAL INSTITUTIONS SUBCOMMITTEE •
• MILITARY AFFAIRS SUBCOMMITTEE • ROADS AND TRANSPORTATION • TRANSPORTATION AND PUBLIC SAFETY SUBCOMMITTEE •
• PUBLIC HEALTH, WELFARE AND PENSIONS • PUBLIC HEALTH AND WELFARE SUBCOMMITTEE •

SENATE
State of Indiana
INDIANAPOLIS, INDIANA 46204

WILFRID J. ULLRICH
403 MAIN STREET
AURORA, INDIANA 47001

May 9, 1975

RE: Brookville Lake Sewage Project.

TO ALL CONCERNED:

Please accept this letter as my sincere request of all State Departments and officals concerned to cooperate to the fullest extent possible with the officals and committees of the Brookville Lake Regional Waste District in their efforts to fully protect the Brookville Reservoir area.

One of the finest areas in our State, it is imperative that comprehensive and adequate plans be made to fully protect all the local citizens and the public with a sewerage system that will utilize all our knowledge in the continued efforts to protect our environment as well as give us the best recreational and living area possible.

I urge that all concerned cooperate to do the job efficiently and speedily.

Thank you all for your participation.

Sincerely yours,

Wilfrid J. Ullrich

WJU:eu

COMMITTEES: • PUBLIC POLICY AND INTERSTATE COOPERATION, R.M.M. • FINANCIAL INSTITUTIONS SUBCOMMITTEE •
• MILITARY AFFAIRS SUBCOMMITTEE • ROADS AND TRANSPORTATION • TRANSPORTATION AND PUBLIC SAFETY SUBCOMMITTEE •
• PUBLIC HEALTH, WELFARE AND PENSIONS • PUBLIC HEALTH AND WELFARE SUBCOMMITTEE •

DEPARTMENT OF THE ARMY
LOUISVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 59
LOUISVILLE, KENTUCKY 40201

ORLDE

8 May 1975

Mr. Burdette Lemmon
President, Board of Trustees
Brookville Lake Regional Waste District
Union County Courthouse
Liberty, Indiana 47353

Dear Mr. Lemmon:

Thank you very much for your kind invitation to attend the meeting of the Brookville Lake Regional Waste District on 21 May 1975. I regret that I will be unable to be with you; however, I have requested Mr. Charles Dunlevy, of our Engineering Design Branch, to make a presentation on the proposed sewer collection and treatment project around the Brookville Lake. Mr. Dunlevy has considerable experience in this type of operation and worked very closely in the design for Brookville Lake.

Sincerely yours

JAMES N. ELLIS
Colonel, Corps of Engineers
District Engineer

THE HILLENBRAND INDUSTRIES

BATESVILLE. INDIANA 47006

THE BATESVILLE CASKET COMPANY INC.
THE HILL-ROM COMPANY INC.

HERITAGE ACCEPTANCE CORPORATION
THE HERALD PUBLISHING CO.

OFFICE OF
JOHN A. HILLENBRAND II

ay 7, 1975

Mr. Burdette Lemmon
Brookville Lake Regional Waste District
Union County Courthouse
Liberty, Indiana 47353

Dear Mr. Lemmon:

Thank you for your letter inviting me to participate in the presentation on the proposed sewer collection and treatment project. Unfortunately, I will be in New York on that day and will, therefore be unable to be present. I appreciate your including me in the presentation.

Sincerely yours,

John A. Hillenbrand II

dh

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

MAY 7 1975

Mr. Burdette Lemmon, President
Board of Trustees
Brookville Lake Regional
Waste District
Union County Courthouse
Liberty, Indiana 47353

Dear Mr. Lemmon:

This refers to your May 2, 1975 invitation addressed to Mr. Todd Cayer, Chief, Construction Grants Branch, of this Division of the Regional Office, to attend a presentation May 21 regarding the scope of a proposed sewer collection and treatment project to serve the general geographical area around the Brookville Lake Reservoir.

Inasmuch as our Planning Branch staff has some general familiarity with the proposed project, Mr. Charles Orzehoskie will be available. In the interest of making his participation as constructive as possible, we would appreciate receiving a copy of the agenda and, if available, any prospectus that has been prepared on the proposed project. Please send it to Mr. Orzehoskie's attention.

Pending the meeting, if we can be of any assistance, please contact us.

Sincerely yours,

R. J. Schneider, Acting Director
Water Division

Registration Slip for Alternate Personal Representative

Invited Participant

Name _____

Address _____

_____ (zip code)

Phone No. _____ (Area Code)

Alternate Personal Representative:

Name _____

Address _____

_____ (zip code)

Phone No. _____ (Area Code)

TITLE _____

PROPOSED SCHEDULE

1.	BLRWD meeting (determine plan and data submitted by SIECO)	June 9, 1975
2.	BLRWD meeting with Brookville T/B (determine Brookville's acceptance to joining BLRWD & terms)	June 10 or 11, 1975
3.	BLRWD meeting with Corps of Engineers and State DNR (a) present plan and phase schedule that BLRWD wants to implement (b) present letters requesting advance partial connection fee of $10,000 each due in 30 days	June 12, 1975 8:00 P.M. Liberty C/H
4.	BLRWD authorizes SIECO, Inc., to draw up supplement to Plan of Study and Step I EPA Grant application. Discuss doing Step I without grant funds.	June 9, 1975

Brookville Lake Regional Waste District's
Proposed Project Schedule

	Project Elements To Be Served	Phase	Year
+ 1.	Brookville Treatment Plant expansion .6 mgpd	I	1975 - 1976
0 2.	Brookville Treatment Plant expansion 1.0 mgpd	IV	1978 - 1985
✓3.	Franklin Point (Bonnell Hill)	II	1975 - 1977
✓4.	Mounds	II	1975 - 1977
✓5.	New Fairfield	II	1975 - 1977
X 6.	Dunlapsville	III	1978 - 1980
X 7.	Quakertown	III	1978 - 1980
X 8.	Whitewater	III	1978 - 1980
X 9.	Brownsville	III	1978 - 1980
? 0 10.	Liberty	IV	1980 - 1985
0 11.	Dubois	IV	1980 - 1985
0 12.	Fairfield	IV	1980 - 1985
0 13.	Battle Point?? Phase II	IV	1980 - 1985
0 14.	Others		

Proposed Project Cost	$10,200,000
Phase I EPA approved	800,000
Phase II	800,000
Phase III & IV	$8,600,000

ALT. 1: 1 mgd (average flow)

ALT. 2: 1.6 mgd

	ITEMS	ALT. 1 CAPITAL ($)	ALT. 2 CAPITAL ($)
1.	Flow Measuring Equip.	$ 15,000	$ 20,000
2.	Comminutors	20,000	30,000
3.	Wet Well & L.S.	20,000	41,000
4.	Grit Chamber	N.A.	30,000
5.	Primary Clasifiers	71,000	95,000
6.	Bio-Disc	340,000	545,000
7.	Final Clarifiers	107,000	138,000
8.	Chlorination tanks	21,000	33,000
9.	Digesters	106,000	167,000
10.	Sludge Beds	60,000	96,000
11.	Site Work/fence*	92,000 *	100,000
12.	Site Piping & Pumping	80,000	100,000
13.	Elect. & Flushing	50,000	75,000
14.	Building & Lab.	60,000	80,000
15.	Sludge Lagoon	15,000	45,000
16.	Chemical feeders	8,000	12,000
17.	Misc. recorder, samplers, etc.	20,000	30,000
18.	Land	N.A.	10,000
	Total Cost	1,084,000	1,647,000
	Construction contingencies	163,000	247,000
	Total	1,247,000	1,894,000
	Non-Construction	377,000	474,000
	Total Project Cost	1,624,000	2,368,000

*Includes 14,000 cu. yds. fill

INVITED PARTICIPANTS

Robert Feller, President
Board of Trustees
Brookville, Indiana 47012
phone:

Mr. Todd Cayer, Chief
Construction Grants Branch
Region # 5
Environmental Protectional Agency
230 South Dearborn
Chicago, Illinois 60604
phone:

Kenneth Neal, President
Board of Trustees
R. R. # 3
Liberty, Indiana 47353
phone: 317/458-5823

*Robert W. Gordon, Representative
2405 Virginia Avenue
Connersville, Indiana 47331
phone: 317/825-3612

The Honorable Birch E. Bayh
United States Senate
Washington D.C. 20510
phone: 202/224-8736

COL James Ellis, District Engineer
Corps of Engineers
P. O. Box 59
Louisville, Kentucky 40201
phone:

PERSONAL REPRESENTATIVES WHO WERE IN ATTENDANCE

*Mr. William Zimmer
Trustee, Town Board
P. O. Box 9
Brookville, Indiana 47012
phone: 317/647-6501

*Mr. Charles Orzehoskie
Unit Coordinator (Ill. - Ind.)
Planning Branch
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Environmental Protection Agency
230 South Dearborn
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*Mr. Franklin Bridenhager
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Bayh Indiana Field Office
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phone: 317/269-6240

*Charles H. Dunlevy, Jr.
Supv. Mech. Engineer
Engineering Division
P. O. Box 59
Louisville, Kentucky 40201
phone: 502/582-5725

* denotes persons who were in attendance

INVITED PARTICIPANTS

Joseph D. Cloud, Director
Indiana Dept. of Natural Resources
Room 608, State Office Building
Indianapolis, Indiana 46204
phone: 317/633-6344

Kenneth Neal, President
Board of Trustees
R. R. # 3
Liberty, Indiana 47353
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Joseph D. Cloud, Director
Indiana Dept. of Natural Resources
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Indianapolis, Indiana 46204
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The Honorable Lee H. Hamilton
2344 Rayburn Building
Washington, D.C. 20515
phone: 202/225-5315

PERSONAL REPRESENTATIVES WHO WERE IN ATTENDANCE

*Carl M. North, Chief Engineer
Indiana Dept. of Natural Resourc
614 State Office Building
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*Cecil W. Soper, Vice President
Town Board
110 E. Campbell Street
Liberty, Indiana 47353
phone: 317/458-5537

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Assistant to Director
Indiana Dept. of Natural Resource
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*David M. McFall, Adm. Assistant
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Columbus, Indiana 47201
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*Wayne Percifield, Associate Planner
State Planning Services Agency
143 W. Market Street
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phone: 317/633-4346

*Marvin France
Region IX Development Commission
P. O. Box 661
Connersville, Indiana 47331
phone:

*William F. Uhl, Sanitary Engineer
Indiana State Board of Health
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phone: 812/376-3820

*Louis Mahern, Special Assistant
419 Federal Building
Indianapolis, Indiana 46204
phone: 317/269-6240

* denotes persons who were in attendance

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I. Appendix - Correspondence Received

II. Registration Sheet

Revised 5/23/75

PURPOSE

The purpose of this presentation is to give the Brookville Lake Regional Waste District Trustees an indication as to which alternative they should address and pursue for implementation.

DEPARTMENT OF THE ARMY
OHIO RIVER DIVISION, CORPS OF ENGINEERS
P. O. BOX 1159
CINCINNATI, OHIO 45201

ORDDE

14 May 1975

Ms. Burdette Lemmon, President
Board of Trustees
Brookville Lake Regional Waste District
Union County Courthouse
Liberty, IN 47353

Dear Ms. Lemmon:

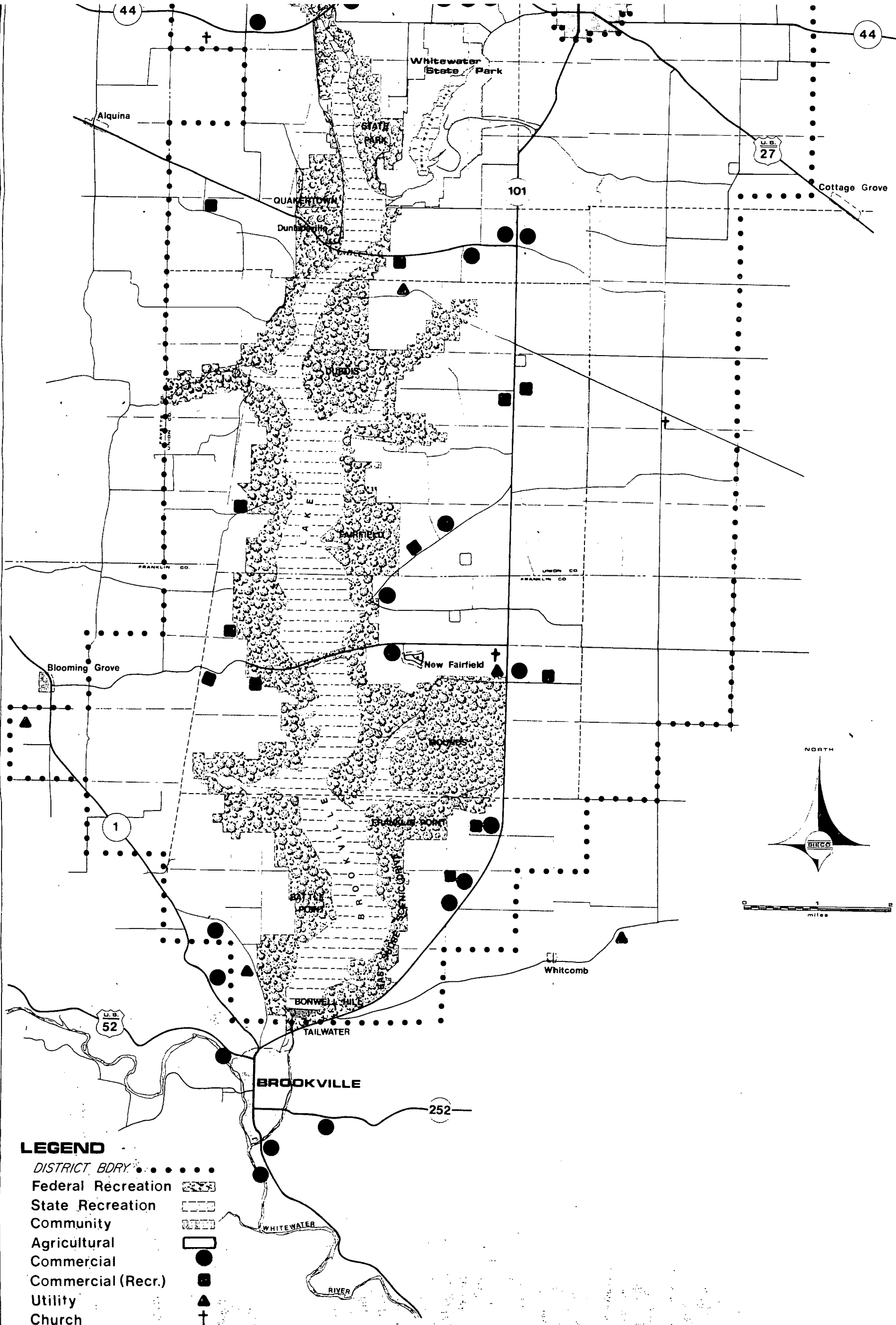
The establishment of the Brookville Lake Waste District Board is an important milestone. It offers the Corps of Engineers an initial opportunity to employ Section 107 of the Water Resource Act of 1974. (Public Law 93-251). This new legislation encourages Corps participation in regional waste treatment districts.

Unfortunately I will be unable to attend the important meeting in Indianapolis on 21 May 1975. I am hosting a meeting of the Corps Environmental Advisory Board on that date.

I wish you every success at your 21 May meeting and have asked Colonel Ellis, Louisville District Engineer, to represent me.

Sincerely yours,

WAYNE S. NICHOLS
Brigadier General, USA
Division Engineer

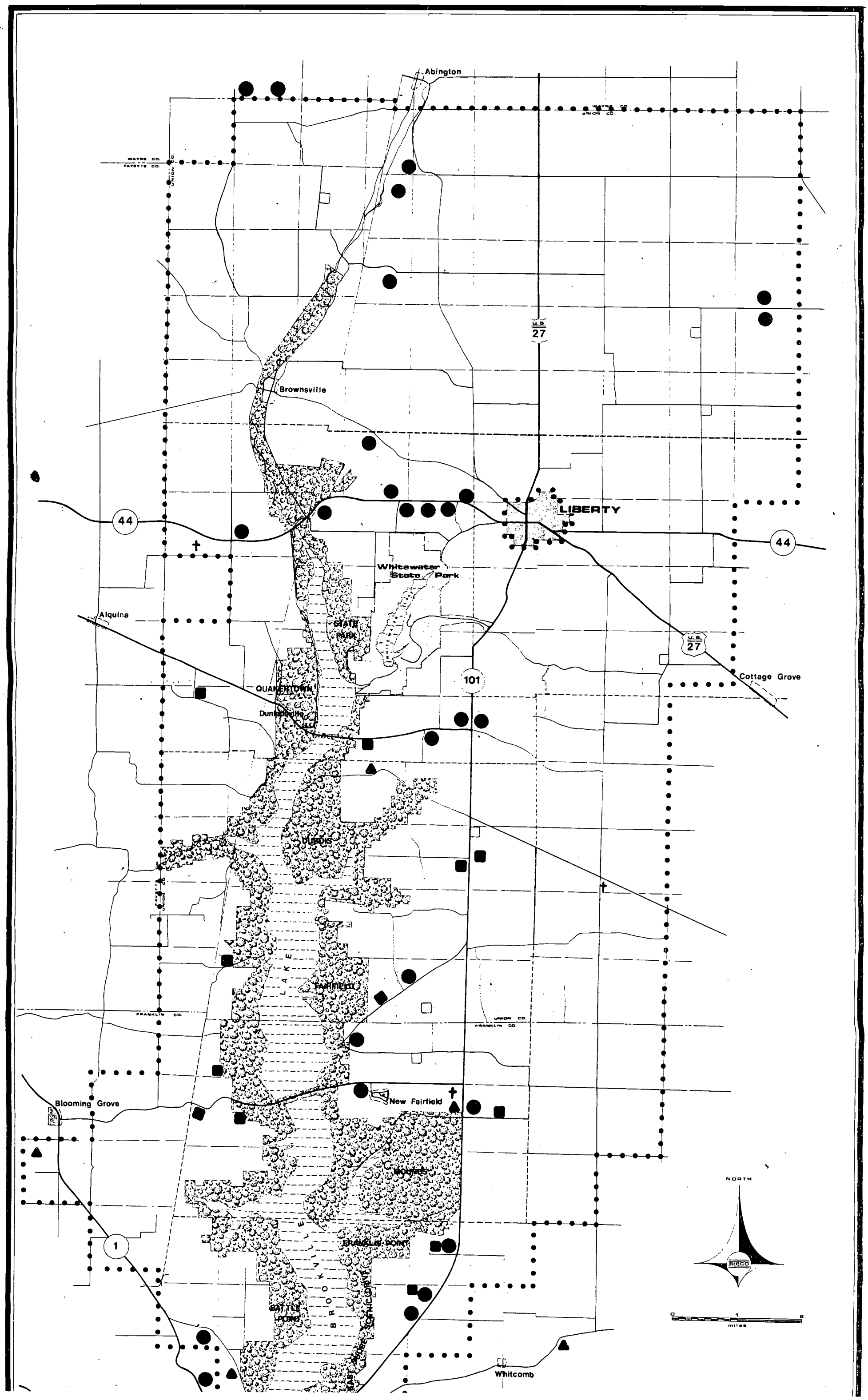


Land Use

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE


Abington
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Alquina
STATE PARK
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Cottage Grove
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QUAKERTOWN
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UNION CO.
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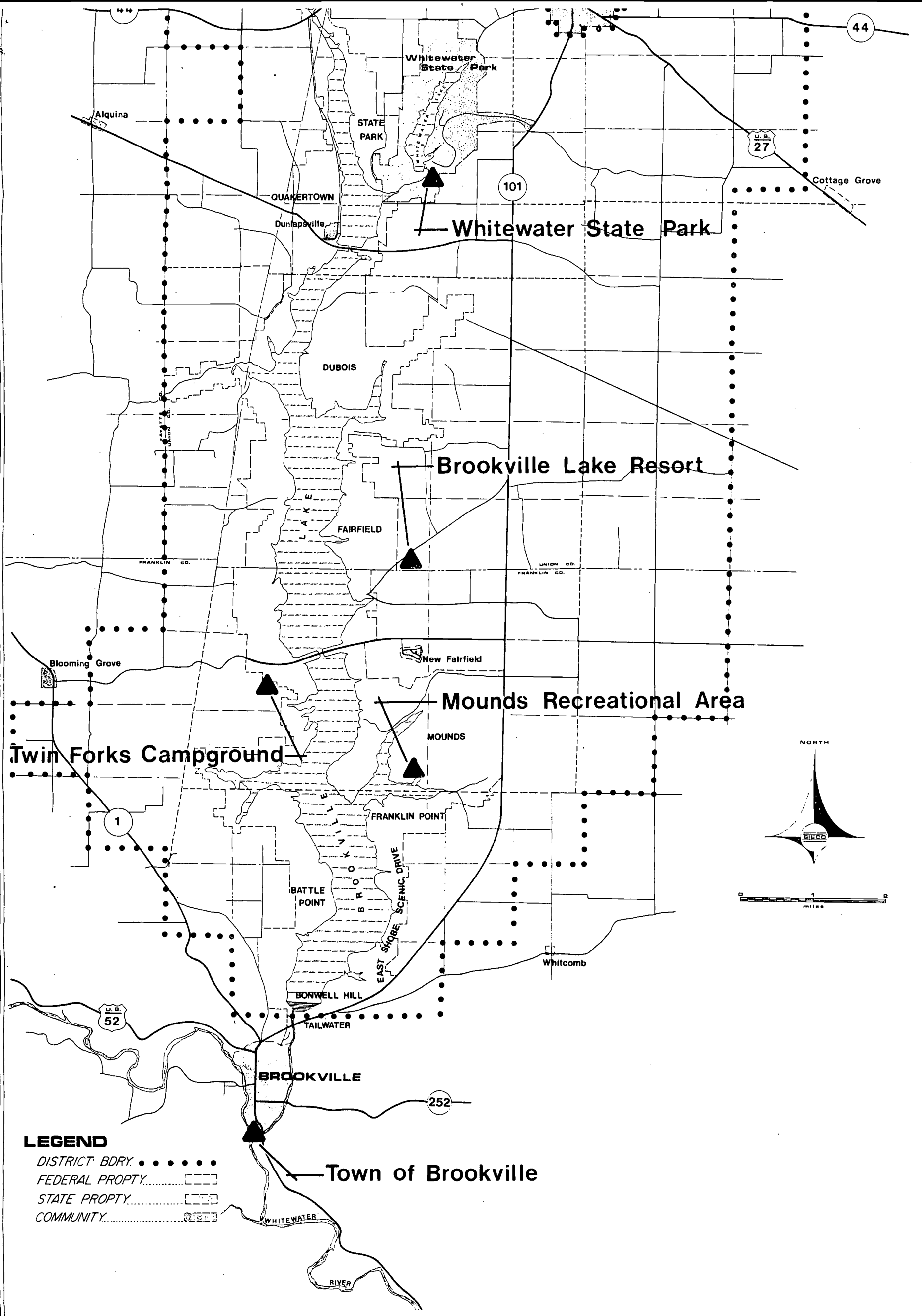
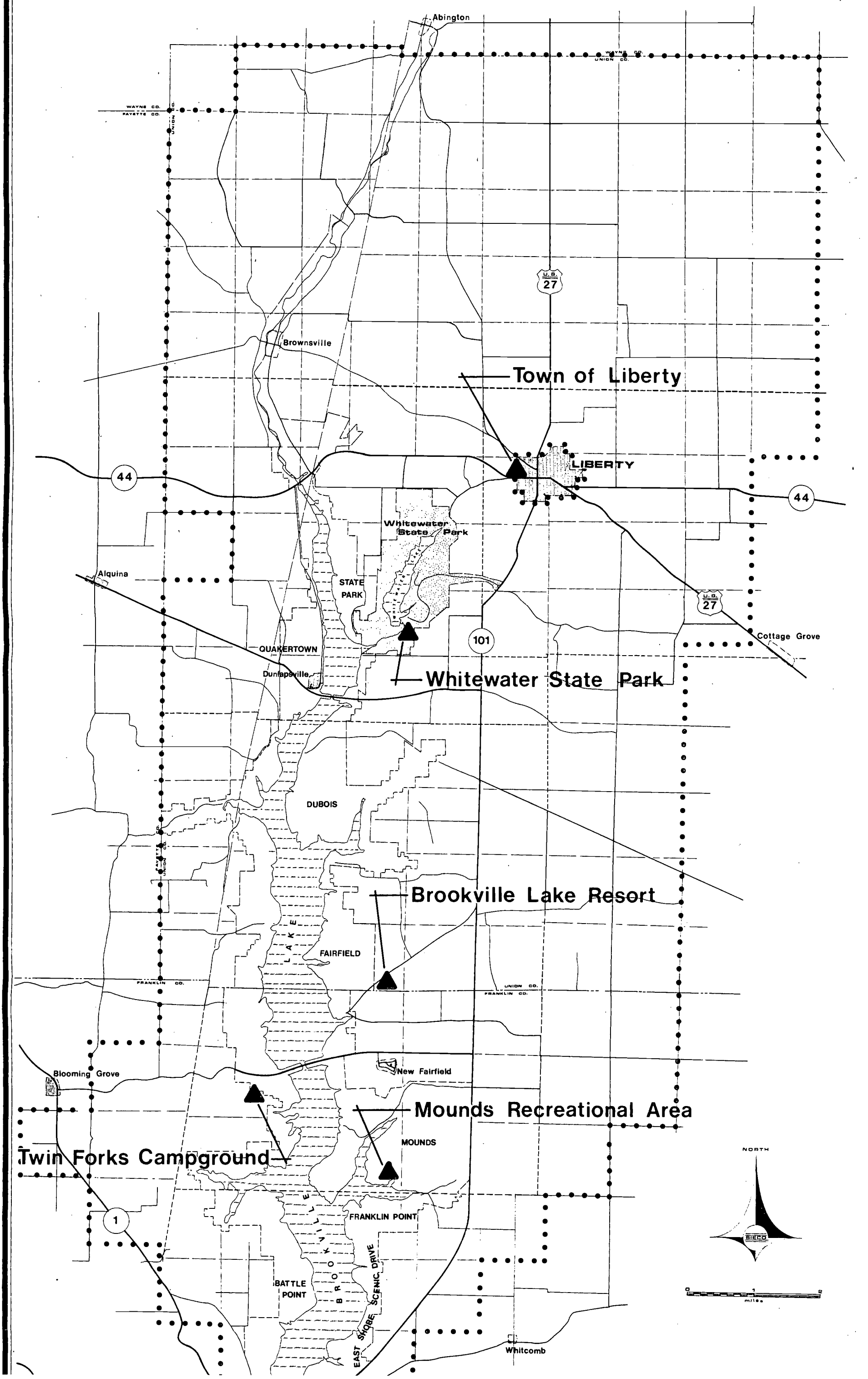


Existing Wastewater Treatment Plants

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE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Town of Liberty
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Whitewater State Park
Alquina
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U.S. 27
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QUAKERTOWN
Dunlapsville
Whitewater State Park
DUBOIS
Brookville Lake Resort
LAKE
FAIRFIELD
FRANKLIN CO.
UNION CO.
FRANKLIN CO.
Blooming Grove
New Fairfield
Mounds Recreational Area
MOUNDS
Twin Forks Campground
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FRANKLIN POINT
BROOKVILLE
EAST SHORE SCENIC DRIVE
BATTLE POINT
Whitcomb
NORTH
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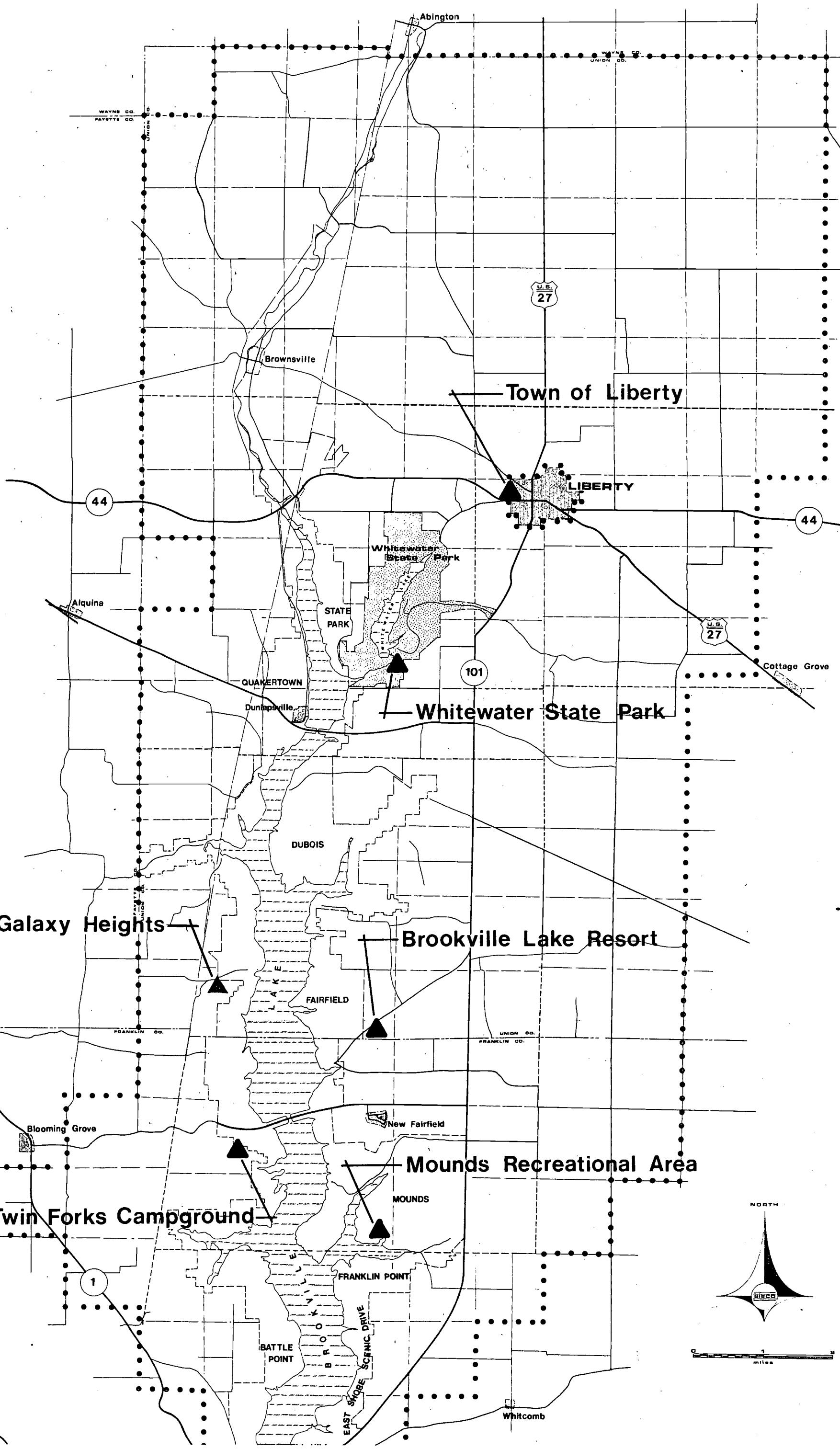
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Brownsville
Town of Liberty
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Whitewater State Park
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Cottage Grove
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EAST SHORE SCENIC DRIVE
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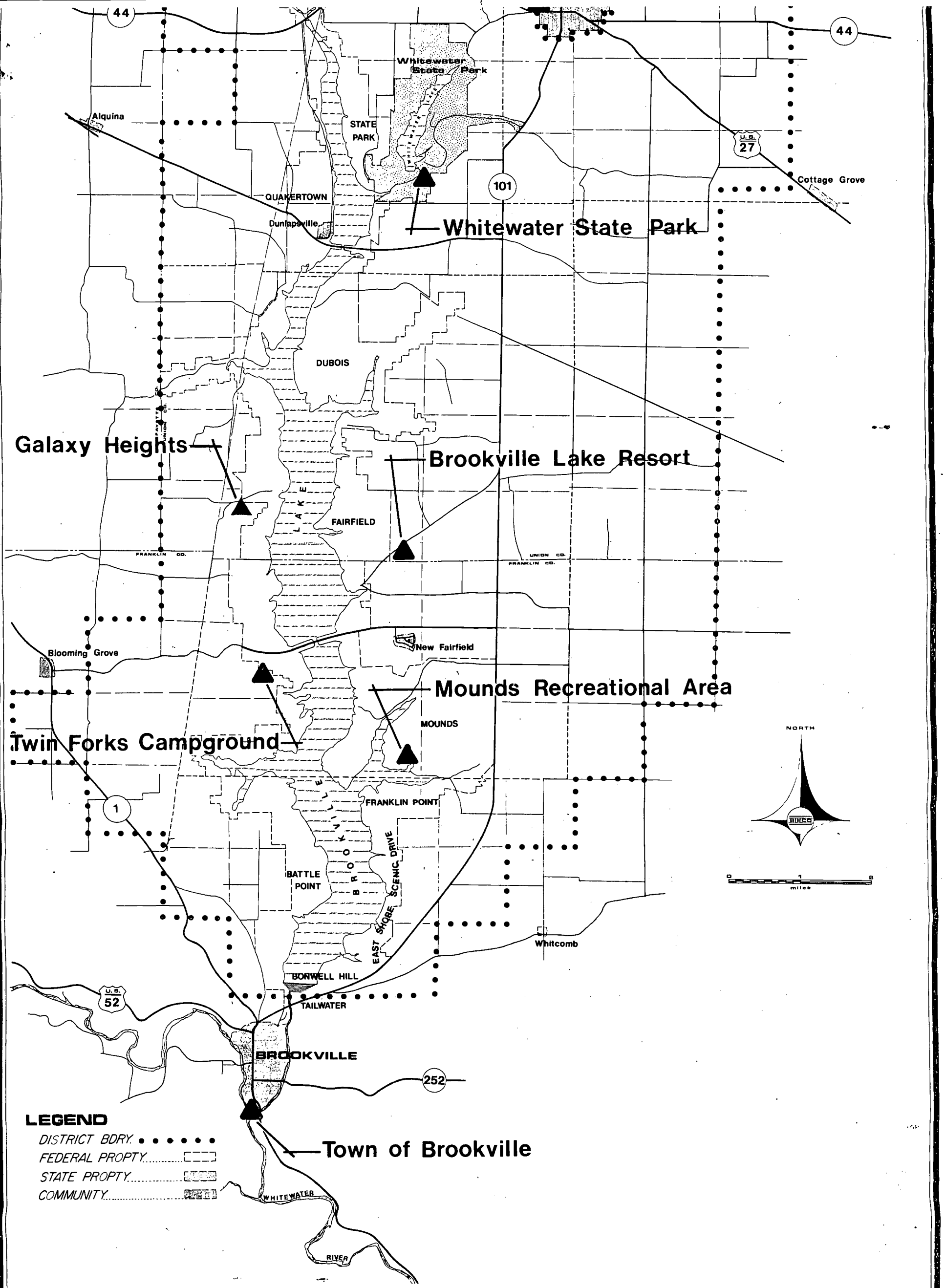
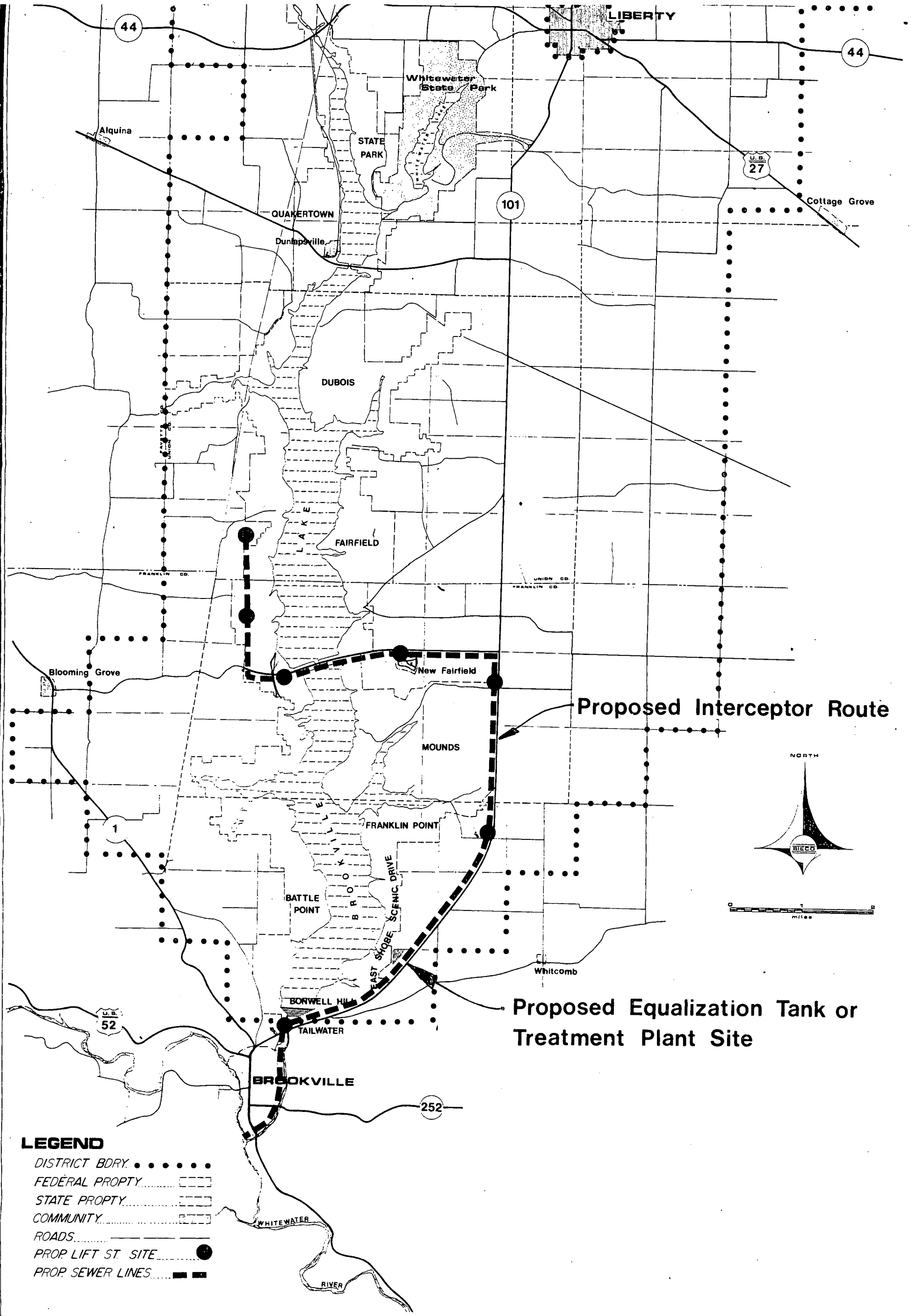


Existing Wastewater Treatment Plants

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE 8

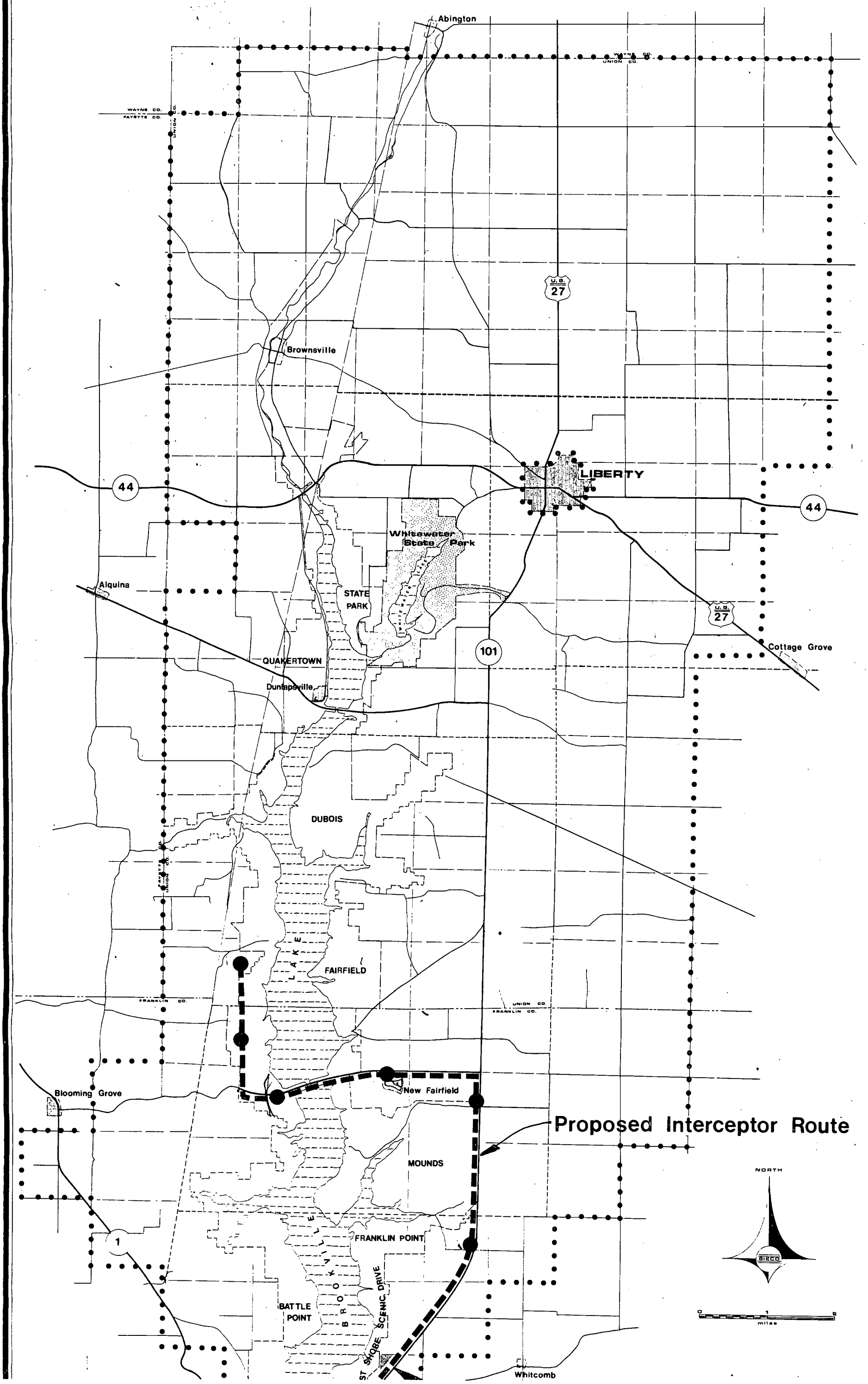


Proposed System Layout

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE 11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UNION CO.
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Blooming Grove
New Fairfield
Proposed Interceptor Route
MOUNDS
NORTH
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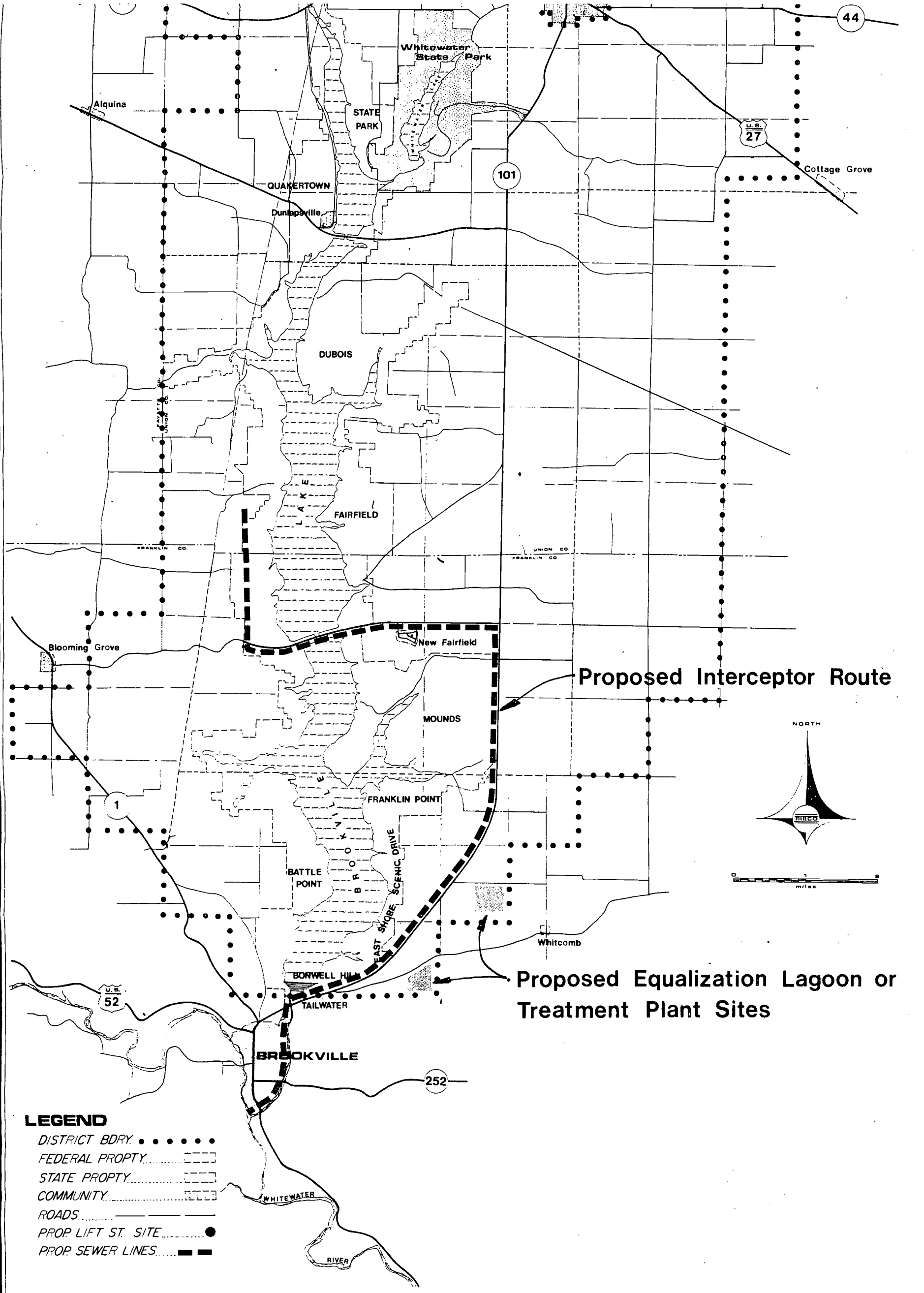
1
FRANKLIN POINT
BROOKVILLE
BATTLE POINT
ST SHOBE SCENIC DRIVE
Whitcomb



Proposed System Layout

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE

Abington

WAYNE CO.
UNION CO.

WAYNE CO.
FAYETTE CO.
UNION CO.

U.S. 27

Brownsville

44

LIBERTY

44

Whitewater
State Park

Alquina

STATE
PARK

U.S. 27

101

Cottage Grove

QUAKERTOWN

Dunlapsville

DUBOIS

UNION CO.

LAKE

FAIRFIELD

FRANKLIN CO.

UNION CO.
FRANKLIN CO.

Blooming Grove

New Fairfield

Proposed Interceptor Route

MOUNDS

NORTH

BIRCO

0 1 2
miles

1

FRANKLIN POINT

BROOKVILLE

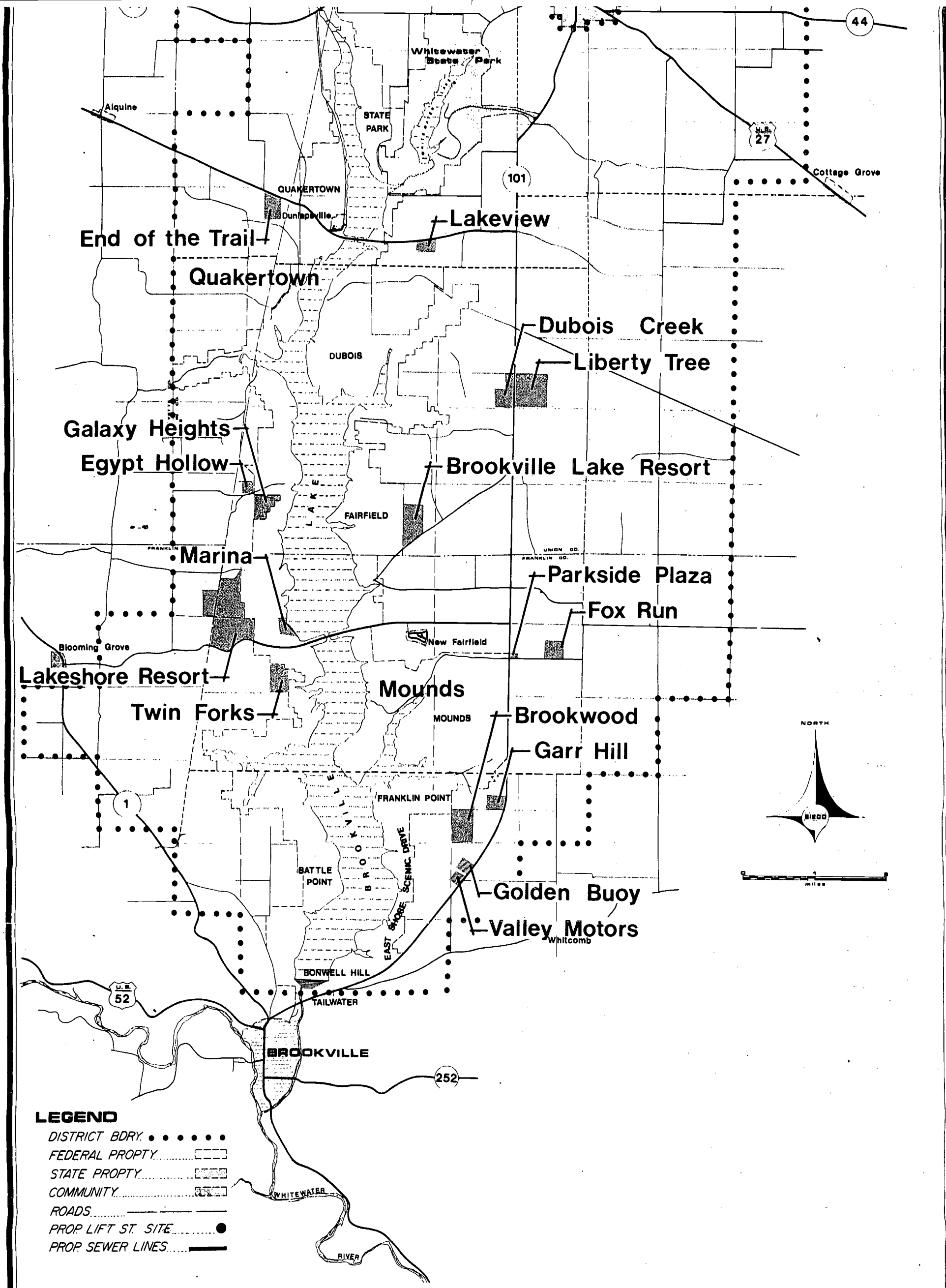
EAST SHORE SCENIC DRIVE

BATTLE
POINT

Whitcomb

BORWELL HILL

Proposed Equalization Lagoon or

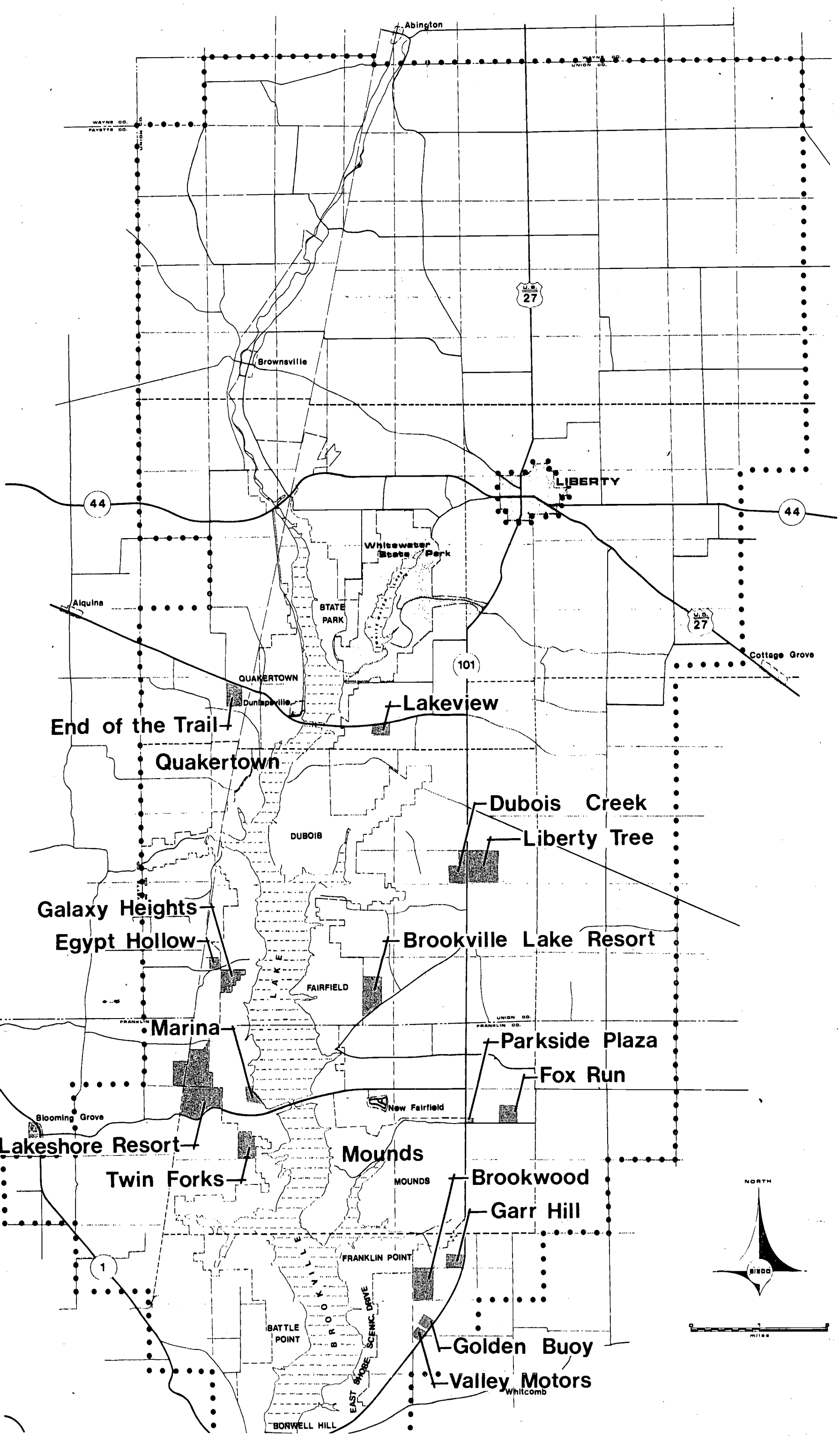


Developments

BROOKVILLE LAKE
Regional Waste District

SIECO, Inc.

FIGURE 9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FRANKLIN CO.
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Blooming Grove
Lakeshore Resort
Mounds
Twin Forks
MOUNDS
Brookwood
Garr Hill
1
FRANKLIN POINT
BROOKVILLE
EAST SHORE SCENIC DRIVE
BATTLE POINT
Golden Buoy
Valley Motors
Whitcomb
BORWELL HILL
NORTH
SCALE
1
miles

Environmental Impact Of Brookville Reservoir

"Environmental Impact Analysis: Investigation of the Brookville Reservoir" is the title of a research project being conducted in the Brookville area this summer by a team of students from Miami University. $9,740 was awarded to the research group by the National Science Foundation in a nation-wide competition for funding of student-originated studies. The project will examine both the physical ecology of the lake and the social and economic impact on the surrounding reservoir areas. Physical studies will include investigations into water chemistry, fish censuses, lake and land productivity, and several other factors which may influence the lake environment.

The social and economic element of the impact study will focus on issues dealing with change in the area due to reservoir construction (such as the increase in tourism), and creating a dialogue within the community between groups concerned with the quality of life in the reservoir area. Questionnaires, individual group meetings, and large scale community workshops will be the means by which the group will assess community values and increase community awareness. Possible alternatives will be developed from the community response. The major emphasis of the study will develop around the Brookville and rural areas, investigating needs as they pertain to economic impact of the reservoir. Group meetings and surveys will take place during June and July. Workshops will be conducted during late July and August.

The members of the research group and their major areas of interest are: Mike Bernstein, biology-chemistry, Earlham College; Mark Ernst, environmental design, Miami; Shelly Fust, zoology, Miami; Douglas Greger, zoology, Miami; Duncan Howland, systems analysis, Miami; Lois Nelson, graduate student, Institute of Environmental Science, Miami; Irene Posner, biology, Queens College, New York; and Roger Wood, environmental design, Miami.

Dr. Gary W. Barrett, associate professor of zoology and deputy director of Miami's Institute of Environmental Science, is faculty advisor to the project.

The research group welcomes inquiries from the community, and can be contacted either through Joan Koch at the Community Mental Health office, 647-6557, or by calling the Miami University Department of Architecture at 513-529-6426.

SIECO, Inc.

CONSULTING ENGINEERS - ARCHITECTS
G. F. HENDRICKS, P.E., PRESIDENT

ENGINEERING TRANSPORTATION SURVEYS LABORATORIES
ARCHITECTURE ENVIRONMENT PLANNING FIRE PROTECTION

November 13, 1975

Burdette Lemmon, President
Board of Trustees
Brookville Lake Regional Waste District
P. O. Box 201
Liberty, Indiana 47353

Re: Interfacing with DNR and Corps of Engineers

Gentlemen:

The Department of Natural Resources has received your contract agreement for a $10,000 advance connection fee request and has started progressing same through the various State agencies. Mr. Carl North, DNR Engineer is following the progress of the document.

Mr. Fred Rager, Counsel for the Corps of Engineers, is preparing a letter to you regarding the Corps' position on the advance connection fee request. At this time it seems that the Louisville office of the Corps is receptive to the approach you have taken.

Due to my accident I have not been active during the last six weeks, but I'm at work again on a part time basis. I plan to determine where Brookville is on their grant offer and also since the elections are over to coordinate activity between the District and Brookville at your discretion for future planning.

Thank you.

Cordially,

Ralph S. Matheny
Director of Project Planning

RSM/fw

P.O. BOX 333 • 309 JEFFERSON STREET • MADISON, INDIANA 47250 • (812) 265-3588

M E M O R A N D U M

TO: Board of Trustees
Brookville Lake Regional Waste District

FROM: Ralph Matheny

DATE: March 31, 1976

RE: Establishing a Meeting for April 6, 1976, 7:00 P.M., Union County Court House, Liberty, Indiana

Per our meeting Tuesday, March 30, 1976, I have met with Joe Cloud and Jack Costello, Department of Natural Resources, and have determined that they will be at your meeting as scheduled above and will also include Carl North of the Engineering Department.

Jack Costello had been in communications with Bill Pollard, Executive Director, Corps of Engineers, Louisville, Kentucky, on some matters including this possible meeting.

It has now been confirmed that Col. James Ellis, Fred Rager, Counsel, and Bill Leegan, Chief Engineer of Construction, will be at the above scheduled meeting.

It is desirable that your counsel, Dave Federico, be at the meeting. I believe he already plans to be in attendance.

The purpose of the meeting is to review types of agreements that can be made between BLRWD and the Corps of Engineers and the Department of Natural Resources and to initiate the finalizing of agreements between the parties that insures future participation of the Corps of Engineers and the Department of Natural Resources in the proposed sewage collection and treatment facilities.

RSM/fw

cc: Each Board Member

Col. James Ellis

Fred Rager

Bill Leegan

Joseph Cloud

Jack Costello

Carl North

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

UNION COUNTY COURTHOUSE
LIBERTY, INDIANA 47353

June 11, 1975

Joseph D. Cloud, Director
Indiana Department of Natural Resources
State Office Building
Indianapolis, Indiana 46204

Re: Brookville Lake Regional Waste District

Dear Mr. Cloud:

The Brookville Lake Regional Waste District (hereinafter, District) is currently developing its plans and approaches to servicing the District with Wastewater Collection and Treatment in accordance with the Indiana State Board of Health and Public Law 150.

Current approach to financing these services from beginning planning to final construction and operation of the facilities is by utilizing Federal and State EPA Grant Funds (i.e., 85% round figures) and the District providing the balance of funds from users' connection fees and revenue bonds. The amount of the connection fee per user will depend on the type of user being serviced.

The Indiana State Department of Natural Resources and the Corps of Engineers are unique users because of the amount of facilities required to service the needs over the next 10 to 15 years.

Through previous meetings and conversations the Department of Natural Resources has indicated a strong willingness to assist the District in the proposed project as your rules and regulations permit. It is the District's understanding that the DNR could participate financially for services the District plans to provide that would otherwise have to be provided by yourselves and the Corps of Engineers.

Therefore, the District is requesting the Department of Natural Resources and the Corps of Engineers to pay a portion of your connection fee in advance permitting the District a financial foundation to carry out its intended purpose. The District requests the Department of Natural Resources advance $10,000 to the District as a portion of their ultimate connection fee.

Your consideration to honor this request in the amount of $10,000 is most appreciated. The final amount of the connection fee will not be determined until the Facilities Plan has been completed as part of the EPA Grant program.

The District has already submitted a Plan of Study and EPA Step I Grant Application for the purpose of providing wastewater collection and treatment services within its boundaries. This project will be divided into four phases and carried out over the next 10 to 15 years.

The District feels that advancing part of the connection fee is a reasonable approach to providing sewage facilities within the District to service all users.

Thank you for your consideration and we remain available for your consultation.

Respectfully,

Burdette Lemmon, President

Urban Selm, Jr., Vice President

Robert Caldwell, Treasurer

Charles V. Kahl, Secretary

Dale Walker, Trustee

Phillip Beck, Trustee

Ellis LaFuse, Trustee

Allen Maze, Trustee

Lance Cox, Trustee

BL/fw

cc: SIECO, Inc.

Dave Federico

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

UNION COUNTY COURTHOUSE

LIBERTY, INDIANA 47353

RECEIVED

JUN 16 1975

SIECO, INC.

June 11, 1975

Colonel James N. Ellis
District Chief Engineer
Corps of Engineers
P. O. Box 59
Louisville, Kentucky 40201

Re: Brookville Lake Regional Waste District

Dear Colonel Ellis:

The Brookville Lake Regional Waste District (hereinafter, District) is currently developing its plans and approaches to servicing the District with Wastewater Collection and Treatment in accordance with the Indiana State Board of Health and Public Law 150.

Current approach to financing these services from beginning planning to final construction and operation of the facilities is by utilizing Federal and State EPA Grant Funds (i.e., 85% round figures) and the District providing the balance of funds from users' connection fees and revenue bonds. The amount of the connection fee per user will depend on the type of user being serviced.

The Corps of Engineers and the Indiana State Department of Natural Resources are unique users because of the amount of facilities required to service the needs over the next 10 to 15 years.

Through previous meetings and conversations the Corps of Engineers has indicated a strong willingness to assist the District in the proposed project as your rules and regulations permit. It is the District's understanding that the Corps of Engineers can participate financially to the level of already allocated funds for such purposes.

Therefore, the District is requesting the Corps of Engineers and the Indiana Department of Natural Resources to pay a portion of their connection fee in advance permitting the District a financial foundation to carry out its intended purpose. The District requests the Corps of Engineers advance $10,000 to the District as a portion of their ultimate connection fee.

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Robert Caldwell, Treasurer

Charles V. Kahl, Secretary

Dale Walker, Trustee

Phillip Beck, Trustee

Ellis LaFuse, Trustee

Allen Maze, Trustee

Lance Cox, Trustee

BL/fw

cc: SIECO, Inc.

Dave Federico

BLRWO = Bridge Repair

MEMORANDUM

Jane
Joe Bilyeu

Indiana Department of Natural Resources, Division of

Date: May 20, 1991

To: Permit Applicants

From: Michael W. Neyer, PE
Assistant Director
Division of Water

MWN 5/20/91

Subject: Public Notice Requirements

In order that affected parties could be made aware permit applications and, if desired, present their Department, the 1990 Legislature enacted IC 14-3-16:

> "The director or the department may not issue a license until thirty (30) days after the notice required under this chapter has been given. Notice may be given at any time after an application for a license is filed with the department."

The parties which must be notified and who is responsible for providing the notification is specified within the statute:

> "(a) If a license application affects real property, notice of the application is required as follows:
> (1) The applicant must notify at least one (1) of the owners of each parcel of real property reasonably known to be adjacent to the affected real property.
> (2) The department shall notify those persons who have requested notification of a license application that:
> (A) Affects the specific real property to which the application relates; or
> (B) Is of the same type as the application."

Rules for the Act's administration were not in place on its effective date, therefore, the Division has been fulfilling the public notice requirement. Public notice rules have since been promulgated, thus, effective July 1, 1991, the applicant (or authorized agent or engineer) will be responsible for providing public notice to those persons "adjacent to the affected real property", where the term is defined as "real property located within one-quarter (¼) mile of the site of an application and owned by a person, other than the applicant, which shares a common border or common point with the exterior boundary of the property where the licensed activity would take place. Included is property which would share a common border if not for the separation caused by a highway, road, or railroad."

The promulgated rules, 310 IAC 0.6-3, outline how public notice is to be provided:

> "(c) Service of a notice must be provided by the applicant at its expense as follows:
> (1) If a license application affects real property, the applicant must notify in person, or by certified mail

with return receipt requested, at least one (1) of the owners of each parcel of real property reasonably known to be adjacent to the affected real property. Proof of service shall be provided to the department upon affirmation by the person who made personal service, or, if by certified mail, upon successful return of the mailing receipt.

(2) In addition to service of the notice required in subdivision (1), the license applicant shall cause notice to be given by publication (with proof of service made by a publisher's affidavit) in any of the following circumstances:
   (A) The current address of a person entitled to notice under this rule is not ascertainable.
   (B) The identity or existence of a person entitled to notice is not ascertainable.
   (C) The department directs the applicant to cause notice by publication because the license application is likely to evoke general public interest.

(d) Service of a notice must be provided by the department to those persons who have requested notification of a license application that:
   (1) affects the specific real property to which the application related; or
   (2) is of the same type as the application.

(e) A notice under this subsection shall do the following:
   (1) Provide the name and address of the applicant.
   (2) Identify the statute and rule under which a permit is sought.
   (3) Identify the specific real property to which the application relates (unless the license is not related to specific real property).
   (4) Set forth any other information required by statute or rule relative to the particular type of permit sought.
   (5) Include an explanation of the options available to the persons served. These options shall be as follows:
      (A) File a petition with the director requesting an informal hearing that is signed by at least twenty-five (25) individuals who are at least eighteen (18) years of age and who:
         (i) reside in the county where the licensed activity would take place; or
         (ii) own real property within one (1) mile of the site of the proposed or existing licensed activity.
      (B) Request the department to notify the person in writing when an initial determination is made to issue or deny the permit. Following the receipt of notice under this clause, the person may request administrative review by the commission under IC 4-21.5 and 310 IAC 0.6-1, of the initial determination by the director."

Effective July 1, 1991, proof of public notice must be provided to the Division of Water at the time of application submission. Applications received after this date without proof of notice will be returned.

STREAM BED

Questions should be addressed to the Regulations and Compliance Branch at (317) 232-5660 or 5661.

MIKE MASSONNE - STREAM SECTION

9/5/91 DNR - SEND RECEIPT TO DNR (NOT A CERT) MIN 3'-0 CLEARANCE FROM TOP OF CONCRETE OR STEEL CASING ON THE LINE TO STREAM BED.

DONT NEED PUBLICATION. MUST NOT START UNTIL PERMIT RECD. ADVISE PROPERTY OWNERS OF THEIR RIGHTS.

Prescribed by State Board of Accounts
Form No. 301-S (Revised 1966)

ACCOUNTS PAYABLE

A.E. Boyce Co. Inc., Muncie, In. 01162

TO Connersville Engineering Svcs.
ADDRESS 1550 Western Avenue
Connersville, IN 47331

DATE OF INVOICE	ITEMS	AMOUNT		
12/14/92	Engineering Services.....	$ 30,336	47	

I HEREBY CERTIFY THAT THE FOREGOING ACCOUNT IS JUST AND CORRECT, THAT THE AMOUNT CLAIMED IS LEGALLY DUE, AFTER ALLOWING ALL JUST CREDITS, AND THAT NO PART OF THE SAME HAS BEEN PAID.

DATE December 14 19 92

SIGNATURE TITLE

I HEREBY CERTIFY THAT THE ABOVE IS TRUE AND CORRECT; THAT THE SAME WAS ORDERED BY ME AND THE SUPPLIES AND MATERIALS THEREIN ENUMERATED HAVE BEEN DULY RECEIVED BY ME, EXCEPT

OFFICER OFFICIAL TITLE

CONNERSVILLE ENGINEERING SERVICES, INC.
1550 WESTERN AVE.
CONNERSVILLE, IN 47331

INVOICE

Invoice Number: 001609

Invoice Date: 10/28/92

Page: 1

Sold To: B'ville Lake Reg Waste Di
c/o Tarvin & Alexander
526 Central Avenue
Connersville, IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 10/28/92
Job/Order No.: 001609

Due Date.: 11/27/92
Terms....: NET 30

Item I.D./Desc.	Ordered	Shipped	Unit	Price	Net	TX
Easements Easements September 21 thru October 25, 1992.	1.00	1.00		5445.0000	5445.00	E
Mileage Mileage - 119 miles @ $.26	1.00	1.00		30.9400	30.94	E

CES # 0388A

entered 10-30-92 ST

Subtotal:	5475.94
Tax.....:	0.00
Total...:	5475.94

****
* *
* INVOICE *
* *
****

Invoice Number: 001569

Invoice Date: 09/22/92

Page: 1

Sold To: B'ville Lake Reg Waste Di
c/o Tarvin & Alexander
526 Central Avenue
Connersville, IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 09/22/92
Job/Order No.: 001569

Due Date.: 10/02/92
Terms....: NET 10

Item I.D./Desc.	Ordered	Shipped	Unit	Price	Net	TX
Easements Easements July 27 thru September 20,1992	1.00	1.00		7685.0000	7685.00	E
Mileage Mileage - 56 Miles @ $ .26	1.00	1.00		14.5600	14.56	E

CES # 0388A

entered
BB

Subtotal: 7699.56
Tax.....: 0.00
Total...: 7699.56

CONNERSVILLE ENGINEERING
SERVICES, INC.
1550 WESTERN AVE.
CONNERSVILLE, IN 47331

INVOICE

Invoice Number: 001652

Invoice Date: 12/09/92

Page: 1

Sold To: B'ville Lake Reg Waste Di
c/o Tarvin & Alexander
526 Central Avenue
Connersville, IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 12/09/92
Job/Order No.: 001652

Due Date.: 12/19/92
Terms....: NET 10

Item I.D./Desc.	Ordered	Shipped	Unit	Price	Net	TX
Easements Easement October 26 thru December 6, 1992.	1.00	1.00		3200.0000	3200.00	E

CES # 0388A

Subtotal:	3200.00
Tax.....:	0.00
Total...:	3200.00

CONNERSVILLE ENGINEERING
SERVICES, INC.
1550 WESTERN AVE.
CONNERSVILLE, IN 47331

INVOICE

Invoice Number: 001515

Invoice Date: 08/20/92

Page: 1

Sold To: B'ville Lake Reg Waste Di
c/o Tarvin & Alexander
526 Central Avenue
Connersville, IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 08/13/92
Job/Order No.: 001515

Due Date.: 09/19/92
Terms....: NET 30

Item I.D./Desc.	Ordered	Shipped	Unit	Price	Net	TX
Sewer Easements Temporary Sewer Easement Survey Week of July 19 thru Week of August 2. New Fair field finished: Fox Run Campground being drawn. Price includes labor & mileage.	1.00	1.00		4409.5200	4409.52	E

Subtotal: 4409.52
Tax.....: 0.00
Total...: 4409.52

anuary 27, 1992

rookville Lake Regional Waste District
/o Tarvin and Alexander
26 Central Avenue
onnersville, IN 47331

INVOICE NO. 41 SU

Terms: Net 10 days

eference: Invoicing for
Phase I
CES # 0388

INVOICE

rogressive Billing: For the month of December & January

urveying		$1,200.00
12-23-91	Field/Utilities	
12-30-91	Utilities	
12-31-91	Utilities	
01-03-92	Meeting	
01-06-92	Fox Run - Hickory Woods Utilities	
01-07-92	Utilities/Bench Marks	
01-08-92	Hickory Woods Utilities	
	Bench Marks	
	Meeting	
01-20-92	Soil Boring Maps	
Mileage		$40.00
TOTAL DUE FOR THIS INVOICE		$1,240.00

THANK YOU!

WE APPRECIATE THE OPPORTUNITY TO BE OF SERVICE TO YOU.

October 31, 1991

Brookville Lake Regional Waste District
c/o Tarvin and Alexander
526 Central Avenue
Connersville, IN 47331

INVOICE NO. 1301

Terms: Net 10 days

Reference: Invoicing for
Phase I
CES # 0388

INVOICE

Progressive Billing:

Professional	4 @ $65.	$260.00
Surveying	75 @ $50.	$3,750.00
Mileage	634 @ .26	$164.84

TOTAL DUE FOR THIS INVOICE $4,174.84

THANK YOU!

WE APPRECIATE THE OPPORTUNITY TO BE OF SERVICE TO YOU.

October 2, 1991

Brookville Lake Regional Waste District
c/o Tarvin and Alexander
526 Central Avenue
Connersville, IN 47331

INVOICE NO. 1276

Terms: Net 10 days

Reference: Invoicing for
Phase I
CES # 0388

INVOICE

Progressive Billing:

Professional	8 @ $65.	$520.00
Surveying	34 @ $50.	$1,700.00
Mileage	256.2 @ .26	$66.61
TOTAL DUE FOR THIS INVOICE		$2,286.61

THANK YOU!

WE APPRECIATE THE OPPORTUNITY TO BE OF SERVICE TO YOU.

CONNERSVILLE ENGINEERING SERVICES, INC.
1550 WESTERN AVE.
CONNERSVILLE, IN 47331

INVOICE

Invoice Number: 001515

Invoice Date: 08/20/92

Page: 1

Sold To: B'ville Lake Reg Waste Di
c/o Tarvin & Alexander
526 Central Avenue
Connersville, IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 08/13/92
Job/Order No.: 001515

Due Date.: 09/19/92
Terms....: NET 30

Item I.D./Desc.	Ordered	Shipped	Unit	Price	Net	TX
Sewer Easements Temporary Sewer Easement Survey Week of July 19 thru Week of August 2. New Fair field finished: Fox Run Campground being drawn. Price includes labor & mileage.	1.00	1.00		4409.5200	4409.52	E

Subtotal: 4409.52
Tax.....: 0.00
Total...: 4409.52

NG

****
* *
* INVOICE *
* *
****

Invoice Number: 001515

Invoice Date: 08/20/92

Page: 1

Reg Waste Di
Alexander
Avenue
IN
47331

Cust I.D.....: broo01
P.O. Number..:
P.O. Date....: 08/13/92
Job/Order No.: 001515

Ordered	Shipped	Unit	Price	Net	TX
1.00	1.00		4409.5200	4409.52	E

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x Run Campground being
udes labor & mileage.

Subtotal:	4409.52
Tax.....:	0.00
Total...:	4409.52

****
* *
N V O I C E *
* *
****

515

20/92

roo01

8/13/92
01515

Net TX

200 4409.52 E

4409.52
0.00
4409.52

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

P.O. BOX 102
BROOKVILLE, INDIANA 47012
647-6232

Commonwealth Engineers, Inc.

1	Consultation Services 3-13-89 to 5-21-89	6-5-89	$1,533.50	PD
2	Feasibility Study 4-10-89 to 5-21-89	6-5-89	$3,586.02	PD
3	Consultation Services 5-22-89 to 10-8-89	10-20-89	$1,185.52	
4	Feasibility Study 5-22-89 to 10-8-89	10-20-89	$6,369.93	
5	Public Hearing	10-20-89	$1,585.75	
6	Consultation Services 10-9-89 to 12-31-89	1-10-90	$ 826.00	
7	Feasibility Study 10-9-89 to 12-31-89	1-10-90	$1,350.00	
8	Sub Grand Total	1-12-90	$16,436.72	
9	Partial Payment	7-89	- $5,119.52	
10	Total Owed to Date	1-12-90	$11,317.20	

COMMONWEALTH ENGINEERS, INC.
PER DIEM RATE SCHEDULE
JULY, 1988 - JULY, 1989

ENGINEERING AND ADMINISTRATIVE	RATE PER HOUR
Project Manager	$ 85.00
Project Engineer, Grade 2	65.00
Project Engineer, Grade 1	54.00
Design Engineer, Grade 3	56.00
Design Engineer, Grade 2	47.00
Design Engineer, Grade 1	40.00
Operations Specialist	45.00
Assistant Engineer	39.00
Technical Aide, Grade 2	37.00
Technical Aide, Grade 1	32.00
Draftsman, Grade 2	30.00
Draftsman, Grade 1	24.00
Field Technician	17.00
Clerical, Grade 3	30.00
Clerical, Grade 2	25.00
Clerical, Grade 1	21.00
CONSTRUCTION	
Construction Coordinator, Grade 2	51.00
Construction Coordinator, Grade 1	35.00
Resident Project Representative, Grade 3	44.00
Resident Project Representative, Grade 2	35.00
Resident Project Representative, Grade 1	30.00

Reimbursable Expenses

1. Travel from office $0.225 per mile, or actual out-of-pocket cost, plus time at above rates for both ways.

2. Actual cost of subsistence and lodging.

3. Actual cost of long distance telephone calls, telegrams, express charges, and postage other than first class mail.

4. Blue line prints at $0.25 per square foot.

5. Actual costs of special tests and services of special consultants (not used without specific written consent of owner).

It is agreed that the Owner will make payment of each Invoice presented by Commonwealth within sixty (60) days from the date of the Invoice. Payments received after this time shall be subject to an interest charge of 1% per month.

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

P.O. BOX 102
BROOKVILLE, INDIANA 47012
647-6232

Commonwealth Engineers, Inc.

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PRELIMINARY

SECTION 1
EXECUTIVE SUMMARY

The Brookville Lake Regional Waste District was created in 1975 to provide sewage service to areas around Brookville Lake. Currently, the District has two customers, the Mounds State Recreational Area and the Brookville Health Care Facility. Other substantial developments exist in the areas around the lake; however, these are typically served by individual holding pits or by collection systems with a central holding pit. Often, the waste in these pits is trucked to one of the District's two lift stations. The need for centralized wastewater collection and disposal to maintain the quality of the lake is clearly defined, and was the basis for the creation of the District. However, one of the major problems with service to these areas is that the distance between the developments around the lake is often substantial.

Prior to finalization of the scope of the recommended project, a number of alternatives were reviewed. In each case, the per-unit cost was very comparable. For this reason, the final scope of the project is based on the cost effectiveness of the internal improvements which would have to be installed in each development, as opposed to the external, District-owned facilities. The internal improvements costs of State owned facilities was not calculated, due to the State's policy of providing those facilities itself. These developments are described below.

PRELIMINARY

Table I
Developments Recommended For Immediate Service

Quakertown Campgrounds (DNR)
Dunlapsville
Dunlapsville Causeway Marina (DNR)
Lazy Acres
Causeway East Campground
Whitewater State Park
Hanna Creek Marina (DNR)
Liberty Tree Campground
Lakeshore
Twin Forks Campground
Fairfield Causeway Marina (DNR)
New Fairfield
Fox Run Campground
Hickory Woods Campground
Garr Hill Marina
Pea Ridge/Pea Ridge Acres
Bonn Well Hill Marina, and
Proposed Auto Parts Plant

The facilities proposed are also sized adequately for the needs of Brookville Lake Resort and Harbor Point, which apparently will construct a lift station and force main to the District's system on a joint venture basis in part utilizing DOC grant funds, and for miscellaneous developments in the areas around the District's system.

In order to serve these areas, substantial improvements are necessary in the District's system. These improvements, called the Phase B Facilities, and their estimated costs are described in the following tables.

PRELIMINARY

Table II
Proposed Lift Stations

Facility		Estimated Construction Cost
Cap. (gpm)	Location	
30	Quakertown	$25,000
20	Dunlapsville	$20,000
11	Dunlapsville Causeway Marina	$10,000
10	Causeway East Campground	$10,000
145	Whitewater State Park	$70,000
15	Hanna Creek Marina	$10,000
460	Liberty Tree Campground	$80,000
910	Fairfield Causeway	$100,000
1370	New Fairfield Rd/SR 101	$110,000
95	New Fairfield	$35,00
16	Fairfield Causeway Marina	$15,00
8	Garr Hill Marina	$10,000
60	Pea Ridge/Pea Ridge Acres	$40,000
25	Fox Run Campground	$25,000
95	Hickory Woods Campground	$35,000
5	Bonn Well Hill Marina	$5,000
	Total	$600,000

PRELIMINARY

Table III
Proposed Gravity and Force Mains

Mains		Estimated Construction Costs
Size	Length	Cost
1"	4000 LF	$44,000
1-1/4"	3000 LF	$36,000
1-1/2"	17,500 LF	$210,000
2"	4,000 LF	$52,000
2-1/2"	4,000 LF	$56,000
3"	11,000 LF	$176,000
4"	10,000 LF	$180,000
5"	8,000 LF	$152,000
6"	16,000 LF	$320,000
8"	3,000 LF	$66,000
10"	6,000 LF	$144,000
12"	11,000 LF	$286,000
14"	16,000 LF	$448,000
15"	6,000 LF	$174,000
18"	3,000 LF	$96,000
20"	42,000 LF	$1,470,000
	Total	$3,910,000

PRELIMINARY

Table IV
Estimated Total Construction Costs

Construction Costs	
Lift Stations	$600,000
Mains	$3,910,000
Subtotal	$4,510,000
Non-Construction Costs	
Non-Construction Costs	$900,000
Contingencies @ 10%	$450,000
Subtotal	$1,350,000
Total	**$5,860,000**

The estimated monthly charge for these improvements is $14.30 per single-family equivalent. This is based on FmHA intermediate income level financing with an interest rate of 6.25%, and the levy of this amount as a standby fee for the availability of service. The estimated total monthly charge for customers of the District with the construction of the Phase B Facilities, based on current capacity and usage charges, is $19.05 per single-family equivalent. If the standby fee is not utilized, the cost for these improvements would be about $32.95 per single-family equivalent, with the typical monthly charge approximately $37.70 per single-family equivalent. These figures should be used for planning purposes only, and the final amounts should be set be a financial advisor after the determination of treatment and disposal charges.

Certain of the developments to be connected to the proposed Phase B Facilities have no central collection system to convey sewage to the District's system. These developments will need to have these internal collection systems constructed before they can use the District's system. A list of the developments requiring internal improvements and the estimated costs for the internal improvements is described in the table below.

PRELIMINARY

Table V
Internal Improvements Required In Developments

Development	Estimated Internal Improvements Costs	
	Total	Per SFE
Dunlapsville	$48,400	$2,420
Causeway East Camp.	$11,000	$916
Lakeshore	$660,000	$660
New Fairfield	$88,000	$880
Fox Run Campground	$66,000	$2,750
Hickory Woods Camp.	$33,000	$330
Garr Hill Marina	$33,000	$1,833
Bonn Well Hill Marina	$11,000	$2,750
Pea Ridge/Acres	$44,000	$978
Lazy Acres	$44,000	$2,933

The District should contact the responsible parties in each of the developments listed above and discuss with them their preference for obtaining the internal improvements. It is recommended that the District offer to install and finance these internal improvements for the developments. With District financing, the individual costs for the internal improvements should be paid on a monthly basis as a surcharge on the sewer bills.

When Phase B of the District's sewer collection system is complete, it will be receiving substantial quantities of wastewater for disposal. The estimated quantity of wastes generated during the peak day is provided in the table below.

PRELIMINARY

Table VI
Estimated Quantity of Wastewater Generated

Development	Current Flows (gal/day)	Ultimate Flows (gal/day)
Quakertown, Dunlapsville, Causeway West Campground	15,000	20,000
Dunlapsville Causeway Marina	3,000	4,000
Causeway East Campground	3,000	3,000
Lazy Acres	3,000	4,500
Whitewater State Park	44,000	51,000
Hanna Creek Marina	4,000	5,500
Liberty Tree Campground	83,000	83,000
Brookville Lake Resort	36,000	36,000
Harbor Point Resort	---	49,000
Lakeshore	25,000	310,000
Twin Forks Campground	14,500	14,500
Fairfield Causeway Marina	4,000	5,500
New Fairfield	10,000	31,000
Fox Run Campground	7,500	7,500
Hickory Woods Campground	31,000	31,000
Garr Hill Marina	2,500	2,500
Bonn Well Marina	1,000	1,000
Mounds State Recreational Area	37,500	57,000
Miscellaneous on SR 101	4,000	25,000
Brookville Health Care	36,000	50,000
Bishop Campground	6,500	20,000
Pea Ridge/Pea Ridge Acres	8,000	20,000
Proposed Auto Parts Plant	---	50,000
Total	**378,500**	**842,500**

The District must be in a position to provide treatment and disposal for the wastes prior to initiation of the construction of the Phase B Facilities. The District's current agreement with the Town of Brookville provides for only 200,000 gallons per day of treatment and disposal capacity. The capacity required by the developments connected to the Phase B Facilities and the existing facilities far exceeds this amount. It is imperative if the District is to proceed with the proposed project that arrangements be made for the proper treatment and disposal of the wastes

collected.

PRELIMINARY

In order to implement its purpose, the District should also adopt policies, in the form of ordinances to affect the following.

Table VII
Recommended Ordinances

1. All developments and waste generators shall connect to the District's wastewater collection system when it becomes available.

2. The District should determine prior to platting or initiation of construction whether an improvement will ultimately be served by the District's collection system, and, if so, to install an internal sewer collection system in accordance with District standards.

3. Permanent sewer easements should be provided in any new development, and temporary construction easements should be made available upon request, in a manner acceptable to the District.

4. Inspection by a District inspector, or a sealed Affidavit of Substantial Compliance should be provided on any internal collection system improvements.

5. A standby charge should be adopted to pay for the availability of service which remains unused.

6. Any unpaid charges to the District should be placed on the county tax rolls as a lien on the property.

Brookville Lake Regional Waste District
Table 1

List of Identified Developments

Development Name	Identification No.
Quakertown Campground (DNR)	1
Dunlapsville	2
Causeway West Campground	3
Dunlapsville Causeway Marine (DNR)	4
Causeway East Campground	5
Whitewater State Park (DNR)	6
Hanna Creek Marina (DNR)	7
Dubois Creek Campground	8
Liberty Tree Campground	9
Brookville Lake Resort	10
Harbor Point Resort	11
Lakeshore	12
Twin Forks Campground	13
Salt Well Campground	14
Fairfield Causeway Marina (DNR)	15
New Fairfield	16
Egypt Hollow Campground	17
Fox Run Campground	18
Hickory Woods	19
Garr Hill Marina	20
Bonn Well Hill Marina	21
Mounds State Recreational Area (DNR)	22
Miscellaneous on SR 101	23
Brookville Health Care Facility	24
Bishop Campground	25
Pea Ridge/Pea Ridge Acres	26
Miscellaneous on SR 1	27
Proposed Auto Parts Plant	28
Lakeview Campground	29
Lazy Acres	30
Galaxy Heights	31
Fallen Timber Campground	32

Brookville Lake Regional Waste District
Table 2

Development	Number of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
1	100	200	Unimproved Campsites	5,000	10,000	16	32
2	20	20	Single-Family Residences	6,200	6,200	20	20
3	75	75	Unimproved Campsites	3,750	3,750	12	12
4	50	50	Boat Slips	2,500	2,500	8	8
	2	2	Showers	900	900	3	3
	1	1	Marine Dump	100	100	0.33	0.33
			Subtotal	3,500	3,500	12	12
5	75	75	Unimproved Campsites	3,750	3,750	12	12
6	400	400	Unimproved Campsites	20,000	20,000	65	65
	2	2	Office/ Maintenance	620	620	2	2
	2	2	Beachhouses	620	620	2	2
	2	7	Cabins	620	2,200	2	7
			Subtotal	22,000	23,500	71	76
7	75	75	Boat Slips	3,750	3,750	12	12
	3	3	Pit Toilets	225	225	.72	.72
	0	2	Showers	0	900	0	3
			Subtotal	4,000	5,000	13	16
8	120	120	Unimproved Campsites	6,000	6,000	19	19
	3	3	Showers	1,350	1,350	4	4
			Subtotal	7,400	7,400	23	23
9	1300	1300	Unimproved Campsites	65,000	65,000	210	210
	2	2	Offices	620	620	2	2
	1	1	Clubhouse	310	310	1	1
			Subtotal	66,000	66,000	213	213

Brookville Lake Regional Waste District
Table 2

Development	Number Of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
10	500	500	Unimproved Campsites	25,000	25,000	80	80
	1	1	Office	310	310	1	1
	32	32	Single-Family Residences	9,920	9,920	32	32
			Subtotal	35,000	35,000	115	115
11	0	180	Hotel Rms.	0	27,000	0	87
	0	300	Boat Slips	0	3,270	0	11
	0	100	Restaurant Seats	0	15,050	0	49
	0	1	Clubhouse	0	3,000	0	10
			Subtotal	0	48,500	0	160
12	120	1527	Mobile Homes	24,000	305,000	78	1000
	2	2	Single-Family Residences	620	620	2	2
			Subtotal	24,600	305,600	80	1002
13	240	290	Unimproved Campsites	12,000	14,500	40	50
14	275	275	Unimproved Campsites	14,000	14,000	45	45
15	75	75	Boat Slips	3,750	3,750	12	12
	2	2	Showers	900	900	3	3
	0	1	Clubhouse	0	310	0	1
			Subtotal	4,650	5,000	15	16
16	100	100	Single-Family Residences	31,000	31,000	100	100
17	48	48	Unimproved Campsites	2,400	2,400	8	8
18	149	149	Unimproved Campsites	7,500	7,500	24	24
19	155	155	Mobile Homes	31,000	31,000	100	100

Brookville Lake Regional Waste District
Table 2

Development	Number Of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
20	1	1	Apartment	300	300	1	1
	1	1	Office	225	225	.75	.75
	44	44	Unimproved Campsites	2,200	2,200	7	7
	6	6	Showers	2,700	2,700	9	9
	1	1	Marine Dump	75	75	.25	.25
			Subtotal	5,500	5,500	18	18
21	25	25	Boat Slips	1,250	1,250	4	4
22	1	31	Single-Family Residence	310	9,600	1	31
				310	620	1	2
	1	2	Office				
	283	500	Unimproved Campsites	14,150	25,000	45	81
	62	100	Improved Campsites	6,200	10,000	20	32
	6	8	Showers	2,700	3,600	9	12
	0	50	Restaurant Seats	0	1,750	0	6
	0	100	Hotel Rms.	0	10,000	0	32
			Subtotal	24,000	61,000	76	200
23	45	125	Single-Family Residences	14,000	39,000	45	125
	6	15	Offices	2,000	4,500	6	15
			Subtotal	16,000	45,000	51	140
24	112	125	Beds	12,500	14,000	40	45
25	26	100	Unimproved Campsites	1,300	5,000	4	16
	60	200	Improved Campsites	6,000	20,000	19	65
	1	1	Office	310	310	1	1
			Subtotal	8,000	25,000	24	82
26	45	45	Single-Family Residences	14,000	14,000	45	45
27	3	25	Single-Family Residences	930	8,000	3	25

Brookville Lake Regional Waste District
Table 2

Development	Number of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
28	0	1	Factory	0	50,000	0	160
29	25	50	Unimproved Campsites	1,250	2,500	4	8
30	9	15	Single-Family Residences	3,000	5,000	9	15
31	9	17	Single-Family Residences	3,000	5,500	9	17
32	25	50	Unimproved Campsites	1,250	2,500	4	8
			Total	374,430	862,850	1,208	2,783

Brookville Lake Regional Waste District
Table 3

Estimated Wastewater Flows By Category*

Category	Estimated Flow (gal. per day)	Single-Family Equivalents
Single-Family Residences	310	1.00
[1]Multi-Family Residences	300	0.97
Apartments (1 Bedroom)	200	0.67
Apartments (2 or more Bedrooms)	300	0.97
Office Space (1000 ft^2)	155	0.50
Commercial Space (1000 ft^2)	100	0.32
[2]Unimproved Campsites	50	0.16
[3]Improved Campsites	100	0.32
Showers	450	1.45
Pit Toilets	75	0.24
Restaurants (Per Seat)	35	0.11
Hotels/Motels (Per Room)	100	0.32
Mobile Homes	200	0.67
Marine Sanitary Dumps	100	0.32
Health Care Facilities (Per Bed)	110	0.35

[1] More than four units per building
[2] Without Individual Sewer Connections
[3] With Individual Sewer Connections

* Generally from "On-Site Water Supply and Wastewater Disposal for Public and Commercial Establishments, Indiana State Board of Health Bulletin S.E. 13, 1988"

PRELIMINARY

Table IV
Estimated Total Construction Costs

Construction Costs	
Lift Stations	$600,000
Mains	$3,910,000
Subtotal	$4,510,000
Non-Construction Costs	
Non-Construction Costs	$900,000
Contingencies @ 10%	$450,000
Subtotal	$1,350,000
Total	**$5,860,000**

The estimated monthly charge for these improvements is $14.30 per single-family equivalent. This is based on FmHA intermediate income level financing with an interest rate of 6.25%, and the levy of this amount as a standby fee for the availability of service. The estimated total monthly charge for customers of the District with the construction of the Phase B Facilities, based on current capacity and usage charges, is $19.05 per single-family equivalent. If the standby fee is not utilized, the cost for these improvements would be about $32.95 per single-family equivalent, with the typical monthly charge approximately $37.70 per single-family equivalent. These figures should be used for planning purposes only, and the final amounts should be set be a financial advisor after the determination of treatment and disposal charges.

Certain of the developments to be connected to the proposed Phase B Facilities have no central collection system to convey sewage to the District's system. These developments will need to have these internal collection systems constructed before they can use the District's system. A list of the developments requiring internal improvements and the estimated costs for the internal improvements is described in the table below.

PRELIMINARY

Table V
Internal Improvements Required In Developments

Development	Estimated Internal Improvements Costs	
	Total	Per SFE
Dunlapsville	$48,400	$2,420
Causeway East Camp.	$11,000	$916
Lakeshore	$660,000	$660
New Fairfield	$88,000	$880
Fox Run Campground	$66,000	$2,750
Hickory Woods Camp.	$33,000	$330
Garr Hill Marina	$33,000	$1,833
Bonn Well Hill Marina	$11,000	$2,750
Pea Ridge/Acres	$44,000	$978
Lazy Acres	$44,000	$2,933

The District should contact the responsible parties in each of the developments listed above and discuss with them their preference for obtaining the internal improvements. It is recommended that the District offer to install and finance these internal improvements for the developments. With District financing, the individual costs for the internal improvements should be paid on a monthly basis as a surcharge on the sewer bills.

When Phase B of the District's sewer collection system is complete, it will be receiving substantial quantities of wastewater for disposal. The estimated quantity of wastes generated during the peak day is provided in the table below.

PRELIMINARY

Table VI
Estimated Quantity of Wastewater Generated

Development	Current Flows (gal/day)	Ultimate Flows (gal/day)
Quakertown, Dunlapsville, Causeway West Campground	15,000	20,000
Dunlapsville Causeway Marina	3,000	4,000
Causeway East Campground	3,000	3,000
Lazy Acres	3,000	4,500
Whitewater State Park	44,000	51,000
Hanna Creek Marina	4,000	5,500
Liberty Tree Campground	83,000	83,000
Brookville Lake Resort	36,000	36,000
Harbor Point Resort	---	49,000
Lakeshore	25,000	310,000
Twin Forks Campground	14,500	14,500
Fairfield Causeway Marina	4,000	5,500
New Fairfield	10,000	31,000
Fox Run Campground	7,500	7,500
Hickory Woods Campground	31,000	31,000
Garr Hill Marina	2,500	2,500
Bonn Well Marina	1,000	1,000
Mounds State Recreational Area	37,500	57,000
Miscellaneous on SR 101	4,000	25,000
Brookville Health Care	36,000	50,000
Bishop Campground	6,500	20,000
Pea Ridge/Pea Ridge Acres	8,000	20,000
Proposed Auto Parts Plant	---	50,000
Total	**378,500**	**842,500**

The District must be in a position to provide treatment and disposal for the wastes prior to initiation of the construction of the Phase B Facilities. The District's current agreement with the Town of Brookville provides for only 200,000 gallons per day of treatment and disposal capacity. The capacity required by the developments connected to the Phase B Facilities and the existing facilities far exceeds this amount. It is imperative if the District is to proceed with the proposed project that arrangements be made for the proper treatment and disposal of the wastes

collected.

PRELIMINARY

In order to implement its purpose, the District should also adopt policies, in the form of ordinances to affect the following.

Table VII
Recommended Ordinances

1. All developments and waste generators shall connect to the District's wastewater collection system when it becomes available.

2. The District should determine prior to platting or initiation of construction whether an improvement will ultimately be served by the District's collection system, and, if so, to install an internal sewer collection system in accordance with District standards.

3. Permanent sewer easements should be provided in any new development, and temporary construction easements should be made available upon request, in a manner acceptable to the District.

4. Inspection by a District inspector, or a sealed Affidavit of Substantial Compliance should be provided on any internal collection system improvements.

5. A standby charge should be adopted to pay for the availability of service which remains unused.

6. Any unpaid charges to the District should be placed on the county tax rolls as a lien on the property.

PRELIMINARY

SECTION 1
EXECUTIVE SUMMARY

The Brookville Lake Regional Waste District was created in 1975 to provide sewage service to areas around Brookville Lake. Currently, the District has two customers, the Mounds State Recreational Area and the Brookville Health Care Facility. Other substantial developments exist in the areas around the lake; however, these are typically served by individual holding pits or by collection systems with a central holding pit. Often, the waste in these pits is trucked to one of the District's two lift stations. The need for centralized wastewater collection and disposal to maintain the quality of the lake is clearly defined, and was the basis for the creation of the District. However, one of the major problems with service to these areas is that the distance between the developments around the lake is often substantial.

Prior to finalization of the scope of the recommended project, a number of alternatives were reviewed. In each case, the per-unit cost was very comparable. For this reason, the final scope of the project is based on the cost effectiveness of the internal improvements which would have to be installed in each development, as opposed to the external, District-owned facilities. The internal improvements costs of State owned facilities was not calculated, due to the State's policy of providing those facilities itself. These developments are described below.

PRELIMINARY

Table I
Developments Recommended For Immediate Service

Quakertown Campgrounds (DNR)
Dunlapsville
Dunlapsville Causeway Marina (DNR)
Lazy Acres
Causeway East Campground
Whitewater State Park
Hanna Creek Marina (DNR)
Liberty Tree Campground
Lakeshore
Twin Forks Campground
Fairfield Causeway Marina (DNR)
New Fairfield
Fox Run Campground
Hickory Woods Campground
Garr Hill Marina
Pea Ridge/Pea Ridge Acres
Bonn Well Hill Marina, and
Proposed Auto Parts Plant

The facilities proposed are also sized adequately for the needs of Brookville Lake Resort and Harbor Point, which apparently will construct a lift station and force main to the District's system on a joint venture basis in part utilizing DOC grant funds, and for miscellaneous developments in the areas around the District's system.

In order to serve these areas, substantial improvements are necessary in the District's system. These improvements, called the Phase B Facilities, and their estimated costs are described in the following tables.

PRELIMINARY

Table II
Proposed Lift Stations

Facility		Estimated Construction Cost
Cap. (gpm)	Location	
30	Quakertown	$25,000
20	Dunlapsville	$20,000
11	Dunlapsville Causeway Marina	$10,000
10	Causeway East Campground	$10,000
145	Whitewater State Park	$70,000
15	Hanna Creek Marina	$10,000
460	Liberty Tree Campground	$80,000
910	Fairfield Causeway	$100,000
1370	New Fairfield Rd/SR 101	$110,000
95	New Fairfield	$35,00
16	Fairfield Causeway Marina	$15,00
8	Garr Hill Marina	$10,000
60	Pea Ridge/Pea Ridge Acres	$40,000
25	Fox Run Campground	$25,000
95	Hickory Woods Campground	$35,000
5	Bonn Well Hill Marina	$5,000
	Total	$600,000

PRELIMINARY

Table III
Proposed Gravity and Force Mains

Mains		Estimated Construction Costs
Size	Length	Cost
1"	4000 LF	$44,000
1-1/4"	3000 LF	$36,000
1-1/2"	17,500 LF	$210,000
2"	4,000 LF	$52,000
2-1/2"	4,000 LF	$56,000
3"	11,000 LF	$176,000
4"	10,000 LF	$180,000
5"	8,000 LF	$152,000
6"	16,000 LF	$320,000
8"	3,000 LF	$66,000
10"	6,000 LF	$144,000
12"	11,000 LF	$286,000
14"	16,000 LF	$448,000
15"	6,000 LF	$174,000
18"	3,000 LF	$96,000
20"	42,000 LF	$1,470,000
	Total	$3,910,000

Brookville Lake Regional Waste District
Table 1

List of Identified Developments

Development Name	Identification No.
Quakertown Campground (DNR)	1
Dunlapsville	2
Causeway West Campground	3
Dunlapsville Causeway Marine (DNR)	4
Causeway East Campground	5
Whitewater State Park (DNR)	6
Hanna Creek Marina (DNR)	7
Dubois Creek Campground	8
Liberty Tree Campground	9
Brookville Lake Resort	10
Harbor Point Resort	11
Lakeshore	12
Twin Forks Campground	13
Salt Well Campground	14
Fairfield Causeway Marina (DNR)	15
New Fairfield	16
Egypt Hollow Campground	17
Fox Run Campground	18
Hickory Woods	19
Garr Hill Marina	20
Bonn Well Hill Marina	21
Mounds State Recreational Area (DNR)	22
Miscellaneous on SR 101	23
Brookville Health Care Facility	24
Bishop Campground	25
Pea Ridge/Pea Ridge Acres	26
Miscellaneous on SR 1	27
Proposed Auto Parts Plant	28
Lakeview Campground	29
Lazy Acres	30
Galaxy Heights	31
Fallen Timber Campground	32

Brookville Lake Regional Waste District
Table 2

Development	Number Of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
1	100	200	Unimproved Campsites	5,000	10,000	16	32
2	20	20	Single-Family Residences	6,200	6,200	20	20
3	75	75	Unimproved Campsites	3,750	3,750	12	12
4	50	50	Boat Slips	2,500	2,500	8	8
	2	2	Showers	900	900	3	3
	1	1	Marine Dump	100	100	0.33	0.33
			Subtotal	3,500	3,500	12	12
5	75	75	Unimproved Campsites	3,750	3,750	12	12
6	400	400	Unimproved Campsites	20,000	20,000	65	65
	2	2	Office/ Maintenance	620	620	2	2
	2	2	Beachhouses	620	620	2	2
	2	7	Cabins	620	2,200	2	7
			Subtotal	22,000	23,500	71	76
7	75	75	Boat Slips	3,750	3,750	12	12
	3	3	Pit Toilets	225	225	.72	.72
	0	2	Showers	0	900	0	3
			Subtotal	4,000	5,000	13	16
8	120	120	Unimproved Campsites	6,000	6,000	19	19
	3	3	Showers	1,350	1,350	4	4
			Subtotal	7,400	7,400	23	23
9	1300	1300	Unimproved Campsites	65,000	65,000	210	210
	2	2	Offices	620	620	2	2
	1	1	Clubhouse	310	310	1	1
			Subtotal	66,000	66,000	213	213

Brookville Lake Regional Waste District
Table 2

Develop-ment	Number Of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
10	500	500	Unimproved Campsites	25,000	25,000	80	80
	1	1	Office	310	310	1	1
	32	32	Single-Family Residences	9,920	9,920	32	32
			Subtotal	35,000	35,000	115	115
11	0	180	Hotel Rms.	0	27,000	0	87
	0	300	Boat Slips	0	3,270	0	11
	0	100	Restaurant Seats	0	15,050	0	49
	0	1	Clubhouse	0	3,000	0	10
			Subtotal	0	48,500	0	160
12	120	1527	Mobile Homes	24,000	305,000	78	1000
	2	2	Single-Family Residences	620	620	2	2
			Subtotal	24,600	305,600	80	1002
13	240	290	Unimproved Campsites	12,000	14,500	40	50
14	275	275	Unimproved Campsites	14,000	14,000	45	45
15	75	75	Boat Slips	3,750	3,750	12	12
	2	2	Showers	900	900	3	3
	0	1	Clubhouse	0	310	0	1
			Subtotal	4,650	5,000	15	16
16	100	100	Single-Family Residences	31,000	31,000	100	100
17	48	48	Unimproved Campsites	2,400	2,400	8	8
18	149	149	Unimproved Campsites	7,500	7,500	24	24
19	155	155	Mobile Homes	31,000	31,000	100	100

Brookville Lake Regional Waste District
Table 2

Development	Number Of Units		Unit Type	Estimated Flow (gal per day)		Single-Family Equivalents	
	Current	Ult.		Current	Ultimate	Current	Ultimate
28	0	1	Factory	0	50,000	0	160
29	25	50	Unimproved Campsites	1,250	2,500	4	8
30	9	15	Single-Family Residences	3,000	5,000	9	15
31	9	17	Single-Family Residences	3,000	5,500	9	17
32	25	50	Unimproved Campsites	1,250	2,500	4	8
			Total	374,430	862,850	1,208	2,783

Brookville Lake Regional Waste District
Table 3

Estimated Wastewater Flows By Category*

Category	Estimated Flow (gal. per day)	Single-Family Equivalents
Single-Family Residences	310	1.00
[1]Multi-Family Residences	300	0.97
Apartments (1 Bedroom)	200	0.67
Apartments (2 or more Bedrooms)	300	0.97
Office Space (1000 ft^2)	155	0.50
Commercial Space (1000 ft^2)	100	0.32
[2]Unimproved Campsites	50	0.16
[3]Improved Campsites	100	0.32
Showers	450	1.45
Pit Toilets	75	0.24
Restaurants (Per Seat)	35	0.11
Hotels/Motels (Per Room)	100	0.32
Mobile Homes	200	0.67
Marine Sanitary Dumps	100	0.32
Health Care Facilities (Per Bed)	110	0.35

[1] More than four units per building
[2] Without Individual Sewer Connections
[3] With Individual Sewer Connections

* Generally from "On-Site Water Supply and Wastewater Disposal for Public and Commercial Establishments, Indiana State Board of Health Bulletin S.E. 13, 1988"

COMMONWEALTH ENGINEERS, INC.
ENVIRONMENTAL ENGINEERS & CONSULTANTS

July 6, 1989

RECEIVED
JUL - 7 1989

Tom Tarvin
Urdal, Tarvin and Alexander
500 Central Avenue
P. O. Box 618
Connersville, Indiana 47331

Re: Attendance Record
Brookville Lake Regional Waste District Hearing
July 5, 1989

Dear Mr. Tarvin:

Mark Downey has asked me to forward to you this copy of the attendance record from last night's meeting. If you require anything else, please do not hesitate to call.

Respectfully Yours,

COMMONWEALTH ENGINEERS, INC.

Mark DeBruler
Project Specialist

enclosure

710 Executive Park Drive
P.O. Box 406
Greenwood, Indiana 46143
(317) 888-1177

8770 Guion Road
Suite P
Indianapolis, Indiana 46268
(317) 872-1177

Brookville Lake Regional Waste District
Public Meeting July 5, 1989 7:00 PM
Franklin County Courthouse

Attendance

Name	Affiliation
Mark Downey	Commonwealth Engineers, Inc.
Tim Tarter	ATTORNEY
Jack [illegible]	BLWS
Don Klein	BRWD
Jane L. Cox	BLRWD
Ellis N. Lafuse	BLRWD
Bob Walker	BLRWD
Tom + Helen Greeson	
Mike Coon	
Rene Stivers	Brookville Town Bd
Jack Selm	Manager BLRWD
Beth Mangin, Attorney, BLRWD.	
Keith Brown	Franklin County water Cedar Grove
Kevin D. Allen	Warren T. Hobson & Assoc.
Kent Reneking	BROOKVILLE ENHANCEMENT Partners

BROOKVILLE LAKE REGIONAL WASTE DISTRICT

R E S O L U T I O N

It is hereby resolved by the duly appointed members of the Brookville Lake Regional Waste District after due consideration, that the District's members vote to approve and adopt as a course of action the "Master Sewer Planning Report for the Brookville Lake Regional Waste District", prepared by Commonwealth Engineers, Inc. The members furhter resolve to authorize Mark Downey, of Commonwealth Engineers, or his designee, to undertake the necessary steps to effectuate the Master Sewer Planning Report.

5/6/89
Date

Absent
Dale E. Smith

Absent
Jack E. Kratzer

Robert C. Caldwell
Robert C. Caldwell

Ellis H. Lafuse
Ellis H. Lafuse

Lance C. Cox
Lance C. Cox

Dale K. Walker
Dale K. Walker

Donald F. Klein
Donald F. Klein

Allen C. Maze
Alan C. Maze

MASTER SEWER PLANNING REPORT

For The

BROOKVILLE LAKE
REGIONAL WASTE DISTRICT

July, 1989

BOARD OF DIRECTORS

Dale E. Smith	Vice-President
Robert C. Caldwell	Secretary
Lance C. Cox	Treasurer
Donald F. Klein	Member
Jack E. Kratzer	Member
Ellis H. Lafuse	Member
Dale K. Walker	Member
Alan C. Maze	Member

ENGINEERS

COMMONWEALTH ENGINEERS, INC.

Environmental Engineers and Consultants
Greenwood and Indianapolis, Indiana

Master Sewer Planning Report

For The

Brookville Lake
Regional Waste District

July, 1989

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Section 1
Executive Summary

The Brookville Lake Regional Waste District was created in 1975 to provide sewage service to areas around Brookville Lake. Currently, the District has three customers, the Mounds State Recreational Area, the Brookville Health Care Facility, and Bishop Campground. Other substantial developments exist in the areas around the lake; however, these are typically served by individual holding pits or by collection systems with a central holding pit. Often, the waste in these pits is trucked to one of the District's two lift stations. Two existing wastewater treatment plants, serving Whitewater Memorial State Park and Brookville Lake Resort, discharge to tributaries of Brookville Lake. The need for centralized wastewater collection and disposal to maintain the quality of the lake is clearly defined, and was the basis for the creation of the District. However, the two major problems with service to these areas are (i) the distance between the developments around the lake is often substantial, and (ii) the highly variable and often extreme topography prohibits traditional gravity sewer collection systems on a large scale.

Prior to finalization of the scope of the recommended project, a number of alternatives were reviewed. In each case, the per-unit cost was very comparable. For this reason, the final scope of the project is based on the cost effectiveness of the internal improvements which would have to be installed in each development, as opposed to the external, District-owned facilities. It was assumed that the State-owned facilities currently have internal facilities. The developments recommended for service are described below.

Table I
DEVELOPMENTS RECOMMENDED FOR SERVICE

Quakertown Campgrounds (DNR)
Dunlapsville
Dunlapsville Causeway Marina (DNR)
Lazy Acres
Causeway East Campground
Whitewater State Park (DNR)
Hanna Creek Marina (DNR)
Liberty Tree Campground
Lakeshore
Harbor Point*
Brookville Lake Resort*
Twin Forks Campground
Fairfield Causeway Marina (DNR)
New Fairfield
Fox Run Campground
Hickory Woods Campground
Garr Hill Marina
Pea Ridge/Pea Ridge Acres
Bonn Well Hill Marina, and
Proposed Auto Parts Plant

* These developments apparently will construct a lift station and force main to the District's system on a joint venture basis, in part utilizing DOC grant funds

The facilities proposed are sized adequately for the needs of miscellaneous future developments projected in the areas around the District's system.

In order to serve these developments, substantial improvements are necessary in the District's system. These improvements, called the Phase B Facilities, and their estimated costs are described in the following tables.

Table II
PROPOSED LIFT STATIONS

Lift Stations Capacity (gpm)	Location	Estimated Construction Cost ($)
30	Quakertown	25,000
20	Dunlapsville	20,000
11	Dunlapsville Causeway Marina	10,000
10	Causeway East Campground	10,000
145	Whitewater State Park	70,000
15	Hanna Creek Marina	10,000
460	Liberty Tree Campground	80,000
910	Fairfield Causeway	100,000
1370	New Fairfield Rd/SR 101	110,000
95	New Fairfield	35,000
16	Fairfield Causeway Marina	15,000
8	Garr Hill Marina	10,000
60	Pea Ridge/Pea Ridge Acres	40,000
25	Fox Run Campground	25,000
95	Hickory Woods Campground	35,000
5	Bonn Well Hill Marina	5,000
	Total	**$600,000**

Table III
PROPOSED GRAVITY AND FORCE MAINS

Mains Size (in)	Mains Length (ft)	Type	Estimated Construction Costs ($)
1"	4000 LF	Pressure	44,000
1-1/4"	3000 LF	"	36,000
1-1/2"	17,500 LF	"	210,000
2"	4,000 LF	"	52,000
2-1/2"	4,000 LF	"	56,000
3"	11,000 LF	"	176,000
4"	10,000 LF	"	180,000
5"	8,000 LF	"	152,000
6"	16,000 LF	"	320,000
8"	3,000 LF	Pressure & Gravity	66,000
10"	6,000 LF	Pressure	144,000
12"	11,000 LF	"	286,000
14"	16,000 LF	"	448,000
15"	6,000 LF	Gravity	174,000
18"	3,000 LF	Pressure	96,000
20"	42,000 LF	"	1,470,000
	Total		**$3,910,000**

Table IV
ESTIMATED TOTAL PROJECT COSTS

Construction Costs	
Lift Stations	$ 600,000
Mains	$3,910,000
Subtotal	$4,510,000
Non-Construction Costs	
Non-Construction Costs	$ 900,000
Contingencies @ 10%	$ 450,000
Subtotal	$1,350,000
Total	**$5,860,000**

The estimated monthly charge for these improvements is $14.35 per single-family equivalent. This is based on FmHA intermediate income level financing with an interest rate of 6.25%, and the levy of this amount as a standby fee for the availability of service, as well as for actual service provided. The estimated total monthly charge for customers of the District with the construction of the Phase B Facilities, based on current capacity and usage charges, is $19.10 per single-family equivalent. If the standby fee is not utilized, the cost for these Phase B improvements would be about $33.00 per single-family equivalent, with the typical monthly charge approximately $37.75 per single-family equivalent. These figures should be used for planning purposes only, and the final amounts should be set by a financial advisor after the determination of treatment and disposal charges.

Certain developments to be connected to the proposed Phase B Facilities have no central collection system to convey sewage to the District's system. These developments will need to have these internal collection systems constructed before they can use the District's system. A list of the developments requiring internal improvements and the estimated costs for the internal improvements, based on service to the ultimate development, is described in the table below.

Table V
ESTIMATED INTERNAL IMPROVEMENTS COSTS

Development Recommended For Service	Estimated Internal Improvements Costs	
	Total ($)	Per SFE ($)
Dunlapsville	48,400	2,420
Causeway East Camp.	11,000	916
Lakeshore	660,000	660
New Fairfield	88,000	880
Fox Run Campground	66,000	2,750
Hickory Woods Camp.	33,000	330
Garr Hill Marina	33,000	1,833
Bonn Well Hill Marina	11,000	2,750
Pea Ridge/Acres	44,000	978
Lazy Acres	44,000	2,933

The District should contact the responsible parties in each of the developments listed above and discuss with them their preference for obtaining the internal improvements. It is recommended that the District offer to install and finance these internal improvements for the developments in conjunction with the construction of the Phase B facilities. With District financing, the individual costs for the internal improvements should be paid by each developer or landowner on a monthly basis as a surcharge on the sewer bills.

When Phase B of the District's sewer collection system is complete, it will be receiving substantial quantities of wastewater for disposal. The estimated quantity of waste generated during the peak day is provided in the table below.

In order to implement its purpose, the District should also adopt policies, in the form of ordinances to affect the following.

Table VII
RECOMMENDED POLICIES AND ORDINANCES

1. All developments and waste generators shall connect to the District's wastewater collection system when it becomes available.

2. The District should determine prior to platting and initiation of construction whether an improvement will ultimately be served by the District's collection system, and, if so, the development should install an internal sewer collection system in accordance with District standards.

3. Permanent sewer easements should be provided in all new developments, and temporary construction easements should be made available upon request, in a manner acceptable to the District.

4. Inspection by a District inspector should be provided on all internal collection system improvements.

5. A standby charge should be adopted to pay for the availability of service which remains unused.

6. All unpaid charges to the District should be placed on the county tax rolls as a lien on the property.

Section 2
Scope of Study

The purpose of this Master Sewer Planning Report on the Brookville Lake Regional Waste District Facilities is to identify and quantify the most feasible option to expand the District's facilities to serve developed and rapidly developing areas around Brookville Lake. This report utilized information developed by the District, State and Federal Agencies, and provided by residents and developers within and around the District. The primary motivation in commissioning this report is the large number of developments within the District's service area which have contacted the District requesting sewer service.

Section 3
Background Information

The Brookville Lake Regional Waste District is located in far east-central Indiana in Franklin and Union Counties. Two major state highways extend through the District; Highway 1 on the west side of Brookville Lake, and Highway 101 on the east side of Brookville Lake. Substantially more development has occurred along Highway 101 than along Highway 1. Brookville Lake lies in a generally north and south orientation within the south-central portion of the District. The lake has a surface area of 7,790 acres, and was developed as a flood control reservoir. The flood control level of the reservoir is 775' above mean sea level. The reservoir is fed by the east fork of the Whitewater River. Impoundment of the reservoir began in 1974. The confluence of the east fork and the west fork of the Whitewater River is located just to the south of the reservoir and the District.

The District was created as a conservation district by an act of the Commission of the Indiana Department of Natural Resources. It is empowered to provide wastewater service to the areas within its boundaries, and specifically around Brookville Lake. The primary reason for the creation of the District was to protect the lake from harmful wastewater discharges.

The District currently owns and operates two lift stations and two force mains to provide service to its customers. The District has contracted with the Town of Brookville to obtain wastewater treatment services for the District in amounts not to exceed 200,000 gallons per day. The wastewater must comply with the sewer use ordinances of the Town of Brookville with respect to prohibited industrial discharges, strength of waste, and the rules and regulations of the Environmental Protection Agency. In addition, the Town of Brookville is under no obligation to accept material which could cause Brookville's Wastewater Treatment Plant to exceed its wastewater discharge permit parameters.

Section 4
Description of Existing Facilities

The District currently owns and operates two wastewater lift stations and two force mains. The lift stations are both of the wet well/dry pit design. One lift station, called the New Fairfield Lift Station, pumps to the other, called the Mounds Lift Station, through an 8 inch diameter force main. The Mounds Lift Station pumps to the Town of Brookville's Wastewater Treatment Plant through a 10 inch diameter force main.

New Fairfield Lift Station

Construction

The New Fairfield Lift Station is constructed as a separate wet well/dry pit lift station. The wet well is of poured concrete of square horizontal cross-section. The dry pit is manufactured of steel with duplex pumping units, sump, ventilation, and the other miscellaneous appurtenances typically associated with this type of lift station. The pumps are 3 phase, 480 volt, 1760 rpm, 20 horsepower units with 6 inch suction and discharge connections.

Size

The wet well of this lift station is nine feet square in horizontal interior cross-section and thirteen feet deep. Taking into consideration a freeboard of 1.5 feet, the wet well has capacity of 6,950 gallons. The lift station has two close-coupled vertical pumps located in the dry pit. Each of these pumps is rated at 310 gallons per minute of flow at 108 feet of total dynamic head. Recent tests indicate that one of these pumps is pumping slightly less than rated, while the other is pumping slightly over its rating.

Capacity

Typical criteria for wet wells provide for a maximum detention at design flow of 30 minutes, and a minimum detention during peak flow of 5 minutes. The minimum detention requirements are provided primarily so that the pump motors will not exceed the maximum six number of starts per hour required by most motor manufacturers. Based on these criteria, the wet well has a capacity of no less than 230 gallons per minute of average flow, and a maximum capacity of 1,350 gallons per minute of peak flow. The pumps must meet a criteria of pumping the peak flow with the largest pump out of

Size

The wet well of this lift station is twelve feet square in horizontal interior cross-section. The depth of the wet well is not known. The lift station has two close-coupled vertical pumps located in the dry pit. Each of these pumps is rated at 480 gallons per minute of flow at 52 feet of total dynamic head. Recent tests indicate that one of these pumps is pumping slightly less than rated, while the other is pumping right at its rated capacity.

Capacity

Wet well capacity cannot be determined without knowing the depth. The pumps must meet a criteria of pumping the peak flow with the largest pump out of service. Based on this criteria, the pumps at the New Fairfield Lift Station have a peak flow capacity of 440 gallons per minute.

Mounds Force Main

Construction

The Mounds Force Main is constructed within the Right-Of-Way of State Highway 101, and drainageways within the Town of Brookville from the Mounds Lift Station to the Brookville Wastewater Treatment Plant. The main is manufactured of PVC, meeting the ASTM standards for SDR 26 pressure pipe, except for a length of pipe on Highway 101 approximately 3,000 feet south of the Mounds Lift Station where the main crosses a draw. At this location, the force main meets ASTM standards for SDR 21 pressure pipe. Velocity reducers were constructed in this main where the main drops below the reservoir to the Town. The force main was valved at a number of locations along its length, with air release/vacuum relief valves installed on the downstream side of the valves. Air release/vacuum relief valves presumably were not installed at most high points in the main, as they are not indicated on the plans. Apparently little or no bedding envelope was utilized in the construction of this main. A magnetic flow meter and vault was constructed at the end of this main to meter flows to the Town of Brookville.

Size

The Mounds Force Main is ten inches in nominal diameter, and has a length of approximately 42,150 lineal feet.

Capacity

Minimum velocity for force mains is two feet per second. Maximum velocity, provided head losses and maximum pressures can be maintained at acceptable levels, is four feet per second. Minimum capacity for this force main is 490 gallons per minute. A velocity of 2.5 feet per second is recommended as the maximum for this force main due to pressures at a low elevation on Highway 101. This allows for a maximum capacity of 610 gallons per minute in this force main.

Table VIII
SUMMARY OF EXISTING FACILITY UNIT CAPACITIES

Facility	Capacity (gpm)
New Fairfield Lift Station	300
New Fairfield Pressure Main	530
Mounds Lift Station	440
Mounds Pressure Main	610

It must be understood that the capacities of the lift station pumps will be decreased to some degree by the connection of additional customers directly into the pressure mains to which the pumps discharge. This can be remedied by changing impellers and, if necessary, motor sizes.

Section 5
Population Growth

One of the best means of determining future growth within a service area, absent unusual pressures such as a major industrial influx, is the projection of typical historical growth rates. The Brookville Lake area does possess an unusual growth pressure, with the completion of the lake in the mid-70's. This is evidenced by the following graphs.

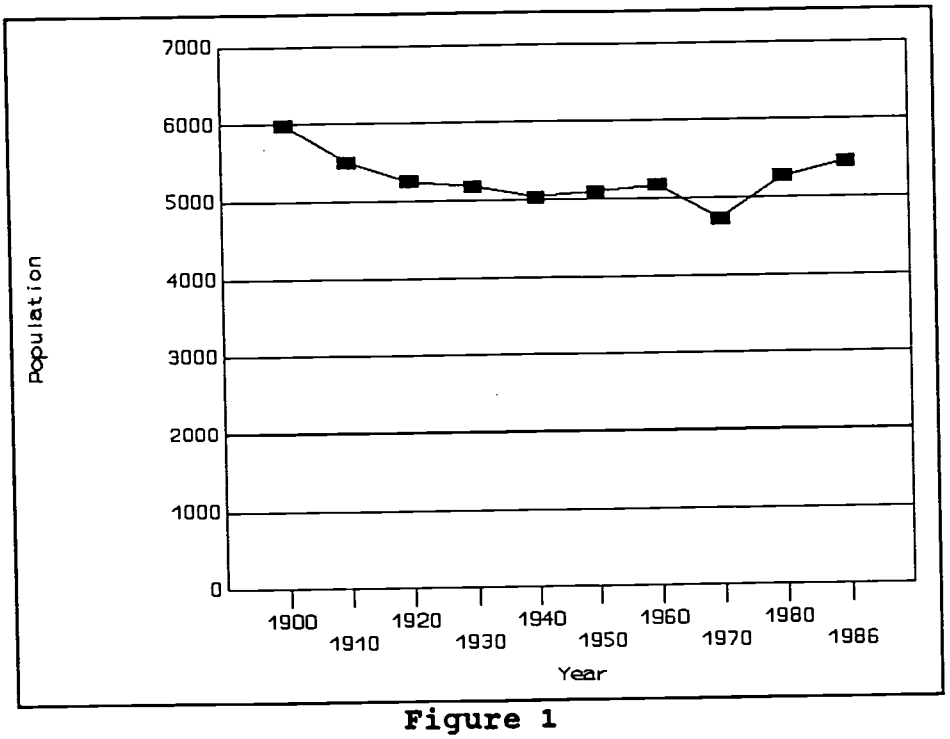

Figure 1
HISTORICAL POPULATION

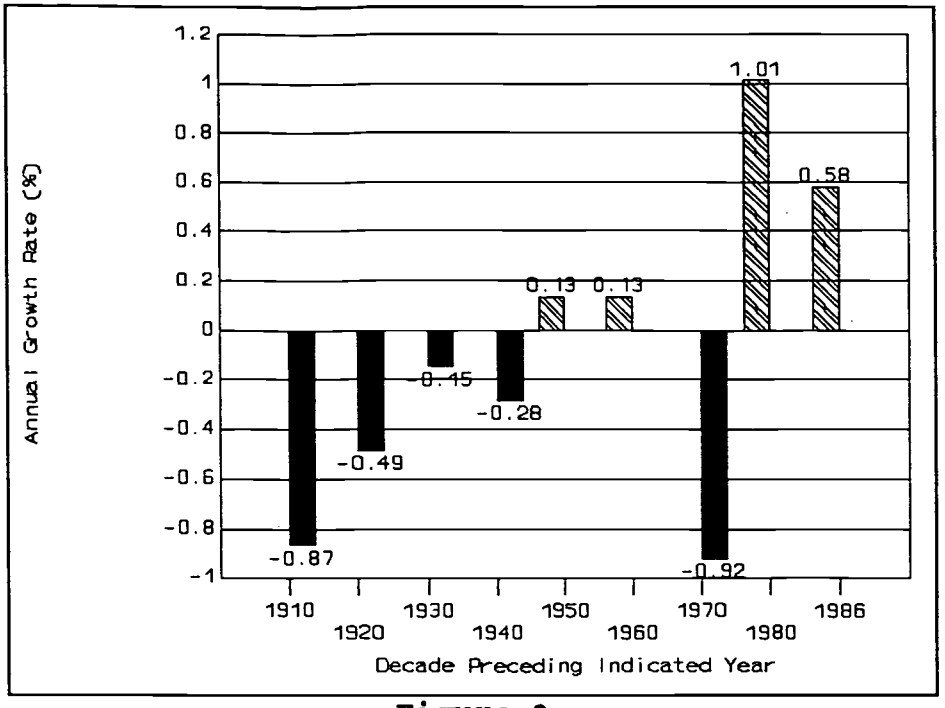

Figure 2
HISTORICAL GROWTH RATE

These figures were developed from U.S. government censuses, by township, as adjusted by the approximate percentage which the township lies within the District. The fall in population between 1960 and 1970 is believed to be due to population displacement for the reservoir construction. The average growth rate since 1970 has been 0.85 percent per year. Population data from 1950 is estimated based on trends from 1940 to 1960. The effect of the construction of Brookville Lake on the District's overall population growth rate is obvious when the growth rate from the 1970's to the present is compared with previous growth rates.

Section 6
Existing Unsewered and Individually Sewered Developments

A number of existing and currently projected developments around the Brookville Lake area and within the District currently are not served by a centralized sewer collection system. Current and ultimate (20 year planning horizon) types and quantities of improvements within each of these development areas and for the District's existing customers were identified through a series of discovery procedures. These procedures included review of land plats, physical survey by District personnel, a series of public hearings with announcements in local newspapers, and questionnaires sent to all identified parties. From this procedure, the following information was determined.

Table IX
CURRENT AND ULTIMATE IMPROVEMENTS IN DEVELOPMENTS

Development	Number of Units		Unit Type
	Current	Ultimate	
Quakertown Campground (DNR)	100	200	Unimproved Campsites
Dunlapsville	20	20	Single-Family Residences
Dunlapsville Causeway Marina (DNR)	50	50	Boat Slips
	2	2	Showers
	1	1	Marine Dump
Causeway East Campground	75	75	Unimproved Campsites
Whitewater State Park (DNR)	400	400	Unimproved Campsites
	2	2	Office/ Maintenance
	2	2	Beachhouses
	2	7	Cabins
Hanna Creek Marina (DNR)	75	75	Boat Slips
	3	3	Pit Toilets
	0	2	Showers

Table IX (con't)

Development	Number of Units Current	Number of Units Ultimate	Unit Type
Dubois Creek Campground	120	120	Unimproved Campsites
	3	3	Showers
Liberty Tree Campground	1300	1300	Unimproved Campsites
	2	2	Offices
	1	1	Clubhouse
Brookville Lake Resort	500	500	Unimproved Campsites
	1	1	Office
	32	32	Single-Family Residences
Harbor Point Resort	0	180	Hotel Rms.
	0	300	Boat Slips
	0	100	Restaurant Seats
	0	1	Clubhouse
Lakeshore	120	1527	Mobile Homes
	2	2	Single-Family Residences
Twin Forks Campground	240	290	Unimproved Campsites
Salt Well Subdivision	275	275	Single-Family Residences
Fairfield Causeway Marina (DNR)	75	75	Boat Slips
	2	2	Showers
	0	1	Clubhouse
New Fairfield	100	100	Single-Family Residences
Egypt Hollow Campground	48	48	Unimproved Campsites
Fox Run Campground	149	149	Unimproved Campsites

Table IX (con't)

Development	Number of Units		Unit Type
	Current	Ultimate	
Hickory Woods Campground	155	155	Mobile Homes
Garr Hill Marina	1	1	Apartment
	1	1	Office
	44	44	Unimproved Campsites
	6	6	Showers
	1	1	Marine Dump
Bonn Well Hill Marina	25	25	Boat Slips
Mounds State Recreational Area (DNR) *	1	31	Single-Family Residence
	1	2	Office
	283	500	Unimproved Campsites
	62	100	Improved Campsites
	6	8	Showers
	0	50	Restaurant Seats
	0	100	Hotel Rms.
Miscellaneous On SR 101	45	125	Single-Family Residences
	6	15	Offices
Brookville Health Care Facility *	112	125	Beds
Bishop Campground *	26	100	Unimproved Campsites
	60	200	Improved Campsites
	1	1	Office
Pea Ridge/Pea Ridge Acres	45	45	Single-Family Residences
Miscellaneous On SR 1	3	25	Single-Family Residences
Proposed Auto Parts Plant	0	1	Factory

Table IX (con't)

Development	Number of Units		Unit Type
	Current	Ultimate	
Lakeview Campground	25	50	Unimproved Campsites
Lazy Acres	9	15	Single-Family Residences
Galaxy Heights	9	17	Single-Family Residences
Fallen Timber Campground	25	50	Unimproved Campsites
Pleasant View	9	20	Unimproved Campsites

* Currently Served By District

These developments are estimated to generate the following wastewater flows.

Table X
ESTIMATED FLOWS FROM EXISTING DEVELOPMENTS

Development Name	Current		Ultimate	
	Flow (gal/day)	S.F.E.s*	Flow (gal/day)	S.F.E.s
Quakertown	5,000	16	10,000	32
Dunlapsville	6,200	20	6,200	20
Dunlapsville Causeway Marina	3,500	12	3,500	12
Causeway East Campground	3,000	9	3,000	9
Lakeview Campground	1,250	4	2,500	8
Lazy Acres	3,000	9	5,500	17
Whitewater State Park	44,000	125	51,000	145
Hanna Creek Marina	4,000	12	5,500	15
Dubois Creek Campground	6,000	18	7,500	22
Liberty Tree Campground	83,000	230	83,000	230
Brookville Lake Resort	36,000	105	36,000	105
Harbor Point Resort	---	---	49,000	140
Lakeshore	24,600	80	305,600	986
Twin Forks Campground	12,000	39	14,500	45
Salt Well Campground	4,000	12	14,500	45
Fairfield Causeway Marina	4,000	12	5,500	16
New Fairfield	10,000	30	31,000	95
Egypt Hollow Campground	2,500	8	2,500	8
Galaxy Heights	3,000	9	5,500	17
Fallen Timber Campground	1,250	4	2,500	8
Fox Run Campground	7,500	25	7,500	25
Hickory Woods Campground	31,000	95	31,000	95
Garr Hill Marina	2,500	8	2,500	8
Bonn Well Marina	1,000	3	1,000	3
Mounds State Recreational Area	37,500	110	82,000	235
Miscellaneous on SR 101	4,000	12	25,000	73
Brookville Health Care	36,000	105	50,000	145
Bishop Campground	6,500	19	20,000	60
Pea Ridge/Pea Ridge Acres	8,000	25	20,000	60
Miscellaneous on SR 1	1,000	3	3,000	10
Proposed Auto Parts Plant	---	---	50,000	145
Pleasant View	450	1	1,000	3

* Single-Family Equivalents

Two of these developments currently possess wastewater discharge permits and own and operate wastewater treatment facilities. These two developments are the state-owned Whitewater State Park, and the private Brookville Lake Resort. Summaries of these discharge permits follow.

Table XI
WHITEWATER STATE PARK DISCHARGE PERMIT

Effluent Characteristic	Mo. Avg. (Lbs./Day)	Wk. Avg. (Lbs./Day)	Mo. Avg. (mg/l)	Wk. Avg. (mg/l)
	(Design Flow of 40,000 GPD)			
Flow	Monitor Only			
$TBOD_5$	3.3	5.0	10	15
TSS	3.3	5.0	10	15
Ammonia				
Summer+	0.67	1.0	2	3
Winter*	1.00	1.5	3	4.5
Total Phosphorus		1.0 mg/l**		
Dissolved Oxygen		5 mg/l daily average		

+ Applicable from April 1 through October 31
* Applicable from December 1 through April 30
** Phosphorus removal facilities shall achieve a degree of reduction as described in the permit, in total phosphorus content of the wastewater, or produce an effluent containing no more than 1.0 mg/l of total phosphorus (P), whichever is more stringent.

pH between 6.0 and 9.0

Chlorine residual of not more than 1.0 mg/l from April 1 to October 31 of each year while maintaining fecal coliform limitations (with dechlorination to no more than 0.05 mg/l chlorine residual initiated 30 months after issuance of the permit)

Table XII
BROOKVILLE LAKE RESORT DISCHARGE PERMIT

Effluent Characteristic	Mo. Avg. (Lbs./Day)	Wk. Avg. (Lbs./Day)	Mo. Avg. (mg/l)	Wk. Avg. (mg/l)
	(Design Flow of 45,000 GPD)			
Flow	Monitor Only			
BOD_5	---	3.75	10	15
TSS	---	3.75	10	15
Fecal Coliform	400/ 100 ml	200/ 100 ml	--- ---	--- ---

pH between 6.0 and 9.0

Chlorine residual of not less than 0.5 mg/l and not more than 1.0 mg/l

The existing wastewater treatment plant of the Whitewater State Park receives flows in excess of its design capacity during peak summer weekends. The State indicates in its Final Master Plan for the park of plans to spend approximately $110,000 to upgrade this facility. The Brookville Lake Resort has filed an application for renewal of their wastewater discharge permit, which expired at the end of June, 1989. Based on State policy, substantial improvements will be required of Brookville Lake Resort under the renewed permit.

The projected flows of developments besides those with direct discharge permits were determined utilizing the values in the following table. Flows from Whitewater State Park and Brookville Lake Resort are based on reports to the State and future improvements which were indicated on returned questionnaires.

Table XIII
ESTIMATED WASTEWATER FLOW BY CATEGORY

Category	Estimated Flow (gal. per day)	Single-Family Equivalents
Single-Family Residences	310	1.00
[1] Multi-Family Residences	300	0.97
Apartments (1 Bedroom)	200	0.67
Apartments (2 or more Bedrooms)	300	0.97
Office Space (1000 ft^2)	155	0.50
Commercial Space (1000 ft^2)	100	0.32
[2] Unimproved Campsites	50	0.16
[3] Improved Campsites	100	0.32
Showers	450	1.45
Pit Toilets	75	0.24
Restaurants (Per Seat)	35	0.11
Hotels/Motels (Per Room)	100	0.32
Mobile Homes	200	0.67
Marine Sanitary Dumps	100	0.32
Health Care Facilities (Per Bed)	110	0.35

[1] More than four units per building
[2] Without Individual Sewer Connections
[3] With Individual Sewer Connections

* Generally from "On-Site Water Supply and Wastewater Disposal for Public and Commercial Establishments, Indiana State Board of Health Bulletin S.E. 13, 1988"

Projected Population and Developments

Historical population growth around the Lake has been approximately 0.85 percent per year since the initiation of impoundment of the reservoir. Projections of this growth through the twenty year planning period indicate that the ultimate permanent population will be approximately 6,500 persons. In addition to the permanent population, temporary populations substantially exceeding the permanent population during recreational seasons must be considered.

Table XIV
RECOMMENDED DISTRICT POLICIES

1. All developments and waste generators shall connect to the District's wastewater collection system when it becomes available.

2. The District should determine prior to platting or initiation of construction whether an improvement will ultimately be served by the District's collection system, and, if so, the development should install an internal sewer collection system in accordance with District standards.

3. Permanent sewer easements should be provided in all new developments, and temporary construction easements should be made available upon request, in a manner acceptable to the District.

4. Inspection by a District inspector should be provided on all internal collection system improvements.

5. A standby charge should be adopted to pay for the availability of service which remains unused.

6. All unpaid charges to the District should be placed on the county tax rolls as a lien on the property.

The scope of project was analyzed to determine the most feasible size of project. The cost per unit of capacity of all of the project scopes was substantially the same. For this reason, the feasibility of the development to collect its waste to a central location for connection with the District was used as a determining factor in finalizing the project scope. The costs of internal improvements estimated for each development is identified below.

Table XV
ESTIMATED INTERNAL IMPROVEMENTS COSTS

	Development	Estimated Internal Improvements Costs ($)	$ Per SFE
2	Quakertown Campground (DNR)*+	0	---
2	Dunlapsville	48,400	2,420
2	Dunlapsville Causeway Marina (DNR)*+	0	---
2	Causeway East Campground	11,000	$916
	Lakeview	33,000	8,250
2	Lazy Acres	44,000	2,933
2	Whitewater State Park (DNR)*+	0	---
2	Hanna Creek Marina (DNR)*+	0	---
	Dubois Creek Marina	132,000	5,739
	Pleasant View Campground		
2	Liberty Tree Campground+	0	---
2	Brookville Lake Resort+	0	---
2	Harbor Point Resort+,++	195,453	1,396
2	Lakeshore	660,000	660
2	Twin Forks Campground+	0	---
	Salt Well	308,000	6,844
2	Fairfield Causeway Marina (DNR)*+	0	---
2	New Fairfield	88,000	880
	Egypt Hollow Campground	55,000	6,875
	Galaxy Heights	99,000	5,823
	Fallen Timber Campground	44,000	11,000
2	Fox Run Campground	66,000	2,750
2	Hickory Woods	33,000	330
2	Garr Hill Marina	33,000	1,833
2	Bonn Well Hill Marina	11,000	2,750
1	Mounds State Recreational Area (DNR)*+	0	---
1	Brookville Health Care Facility+	0	---
1	Bishop Campground+	0	---
2	Pea Ridge/Pea Ridge Acres	44,000	978
	Pleasant View Campground	6,000	4,000

* State facilities are assumed to currently have internal sewer collection systems
\+ Currently have internal sewer collection systems
++ Based on figures provided by developer

1 Current District customers
2 Recommended for service

A maximum internal improvements cost of $3,000 per single-family equivalent was used for determining feasibility. Those developments whose estimated internal improvements costs exceeded this amount were deemed unfeasible for service by the District.

The following table summarizes the list of those developments identified in the previous table which were deemed feasible to serve.

Table XVI
DEVELOPMENTS RECOMMENDED FOR IMMEDIATE SERVICE

Quakertown Campgrounds (DNR)
Dunlapsville
Dunlapsville Causeway Marina (DNR)
Lazy Acres
Causeway East Campground
Whitewater State Park (DNR)*
Hanna Creek Marina (DNR)
Liberty Tree Campground
Harbor Point
Brookville Lake Resort*
Lakeshore
Twin Forks Campground
Fairfield Causeway Marina (DNR)
New Fairfield
Fox Run Campground
Hickory Woods Campground
Garr Hill Marina
Pea Ridge/Pea Ridge Acres
Bonn Well Hill Marina, and
Proposed Auto Parts Plant

* Served by own wastewater treatment plant discharging to tributary of Brookville Lake

Based on this recommended scope of service, the following wastewater collection improvements are required.

Table XVII
PROPOSED LIFT STATIONS

Lift Stations Capacity (gpm)	Location	Estimated Construction Cost ($)
30	Quakertown	25,000
20	Dunlapsville	20,000
11	Dunlapsville Causeway Marina	10,000
10	Causeway East Campground	10,000
145	Whitewater State Park	70,000
15	Hanna Creek Marina	10,000
460	Liberty Tree Campground	80,000
910	Fairfield Causeway	100,000
1370	New Fairfield Rd/SR 101	110,000
95	New Fairfield	35,000
16	Fairfield Causeway Marina	15,000
8	Garr Hill Marina	10,000
60	Pea Ridge/Pea Ridge Acres	40,000
25	Fox Run Campground	25,000
95	Hickory Woods Campground	35,000
5	Bonn Well Hill Marina	5,000
	Total	**$600,000**

Table XVIII
PROPOSED GRAVITY AND PRESSURE MAINS

Mains			Estimated
Size (in)	Length (ft)	Type	Construction Costs ($)
1"	4000 LF	Pressure	44,000
1-1/4"	3000 LF	"	36,000
1-1/2"	17,500 LF	"	210,000
2"	4,000 LF	"	52,000
2-1/2"	4,000 LF	"	56,000
3"	11,000 LF	"	176,000
4"	10,000 LF	"	180,000
5"	8,000 LF	"	152,000
6"	16,000 LF	"	320,000
8"	3,000 LF	Pressure & Gravity	66,000
10"	6,000 LF	Pressure	144,000
12"	11,000 LF	"	286,000
14"	16,000 LF	"	448,000
15"	6,000 LF	Gravity	174,000
18"	3,000 LF	Pressure	96,000
20"	42,000 LF	"	1,470,000
	Total		**$3,910,000**

Table XIX
ESTIMATED TOTAL PROJECT COSTS

Construction Costs	
Lift Stations	$ 600,000
Mains	$3,910,000
Subtotal	$4,510,000
Non-Construction Costs	
Non-Construction Costs	$ 900,000
Contingencies @ 10%	$ 450,000
Subtotal	$1,350,000
Total	**$5,860,000**

The location and sizing of these facilities are described on the map in Appendix A. The lift stations recommended are sized for the ultimate needs of the currently identified developments to be served by them. The pressure sewers are sized based on minimum velocities, and additional capacities for future developments will be available through them.

The connection of these services would impose a responsibility on the District to provide proper disposal of wastewaters introduced to the system. It is estimated that the initial treatment capacities required would be approximately 400,000 gallons per day. The actual flows would approximate this amount on only a few days out of the year, due to the nature of the developments connected. When all currently identified developments are fully developed, the estimated wastewater treatment capacities required by the District are about 900,000 gallons per day. This amount provides for growth of the permanent residential population, with some additional capacity for future new recreational developments. Prior to initiation of construction of the proposed facilities, the District should obtain substantial assurances that this amount of capacity will be available over the next two decades.

The estimated additional operations and maintenance costs, in 1989 dollars, which would be incurred by the utility by implementation

Table XX
ESTIMATED ANNUAL DEBT SERVICE COSTS

Estimated Annual Debt Service Costs are based on sale of Revenue Bonds to the Farmer's Home Administration at an interest rate of 6.25% per annum for a term of 40 years. Additionally, coverage and funding of a Facilities Replacement Fund, which will be required to sell the bonds, is included.

Equivalent Uniform Annual Cost	$442,000
Ave. Annual Cost Per Existing/Standby Customer	$162.63
Ave. Monthly Cost Per Existing/Standby Customer	$13.55

of the recommended option are delineated in the table on the following page.

Table XXI
ESTIMATED ADDITIONAL ANNUAL OPERATIONS & MAINTENANCE COSTS

Type of Cost	Amount
Personnel	$17,000
Maintenance Materials	$ 4,000
Electricity	$ 5,000
Total	**$26,000**
Average Monthly Cost Per Existing/ Standby Customer	$ 0.80

The estimated monthly charge for these improvements is $14.35 per single-family equivalent. This is based on FmHA intermediate income level financing with an interest rate of 6.25%, and the levy of this amount as a standby fee for the availability of service, as well as for actual service provided. The estimated total monthly charge for customers of the District with the construction of the Phase B Facilities, based on current capacity and usage charges, is $19.10 per single-family equivalent. If the standby fee is not utilized, the cost for these Phase B improvements would be about $33.00 per single-family equivalent, with the typical monthly charge approximately $37.75 per single-family equivalent. These figures should be used for planning purposes only, and the final amounts should be set by a financial advisor after the determination of treatment and disposal charges.

Timetable for Implementation

The construction of any major project requires a substantial period of time to complete after the decision to proceed. The following is a reasonable timetable for the implementation of the recommended option.

Table XXII
ESTIMATED IMPLEMENTATION TIMETABLE

Phase	Time Period	Date Completed
Engineering Contract		September, 1989
Plans and Specifications	120 Days	January, 1990
Plan Review and Approval	90 Days	April, 1990
Advertisement for Bids/ Notice of Apparent Low Bidder	45 Days	June, 1990
Sale of Bonds	90 Days	September, 1990
Notice To Proceed	30 Days	October, 1990
Construction	180 Days	April, 1991