

# SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT

## WALWORTH COUNTY WISCONSIN

**SOUTHEASTERN WISCONSIN  
REGIONAL PLANNING COMMISSION**

**KENOSHA COUNTY**

Leon T. Dreger  
Francis J. Pitts  
Sheila M. Siegler

**RACINE COUNTY**

David B. Falstad  
Martin J. Itzin  
Jean M. Jacobson,  
Secretary

**MILWAUKEE COUNTY**

John R. Bolden  
William Ryan Drew  
Thomas W. Meaux

**WALWORTH COUNTY**

John D. Ames  
Anthony F. Balestrieri  
Allen L. Morrison,  
Vice-Chairman

**OZAUKEE COUNTY**

Leroy A. Bley  
Thomas H. Buestrin  
Elroy J. Schreiner

**WASHINGTON COUNTY**

Daniel S. Schmidt  
Patricia A. Strachota  
Frank F. Uttech,  
Chairman

**WAUKESHA COUNTY**

Richard A. Congdon  
Robert F. Hamilton  
William D. Rogan,  
Treasurer

**WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT**

J. Philip Reader, President  
Donald P. Scully, Secretary  
James Christianson  
Lloyd L. Jensen  
Patrick J. Moore

Joseph S. Canestra, District Administrator

**MEMBER UNITS OF GOVERNMENT**

City of Delavan  
City of Elkhorn  
Delavan Lake Sanitary District  
Geneva National Sanitary District  
Town of Walworth Utility District No. 1  
Village of Williams Bay  
Walworth County Institutions

**COOPERATING LOCAL UNITS OF GOVERNMENT**

Town of Darien  
Town of Delavan  
Town of Geneva  
Town of LaFayette  
Town of Lynn  
Town of Sugar Creek  
Town of Walworth

**SOUTHEASTERN WISCONSIN REGIONAL  
PLANNING COMMISSION STAFF**

Kurt W. Bauer, PE, AICP, RLS . . . . .Executive Director  
Philip C. Evenson, AICP . . . . .Assistant Director  
Kenneth R. Yunker, PE . . . . .Assistant Director  
Robert P. Biebel, PE . . . . .Chief Environmental Engineer  
Leland H. Kreblin, RLS . . . . .Chief Planning Illustrator  
Donald R. Martinson . . . . .Chief Transportation Engineer  
John R. Meland . . . . .Chief Economic Development Planner  
Thomas D. Patterson . . . . .Graphics Systems Manager  
Bruce P. Rubin . . . . .Chief Land Use Planner  
Roland O. Tonn, AICP . . . . .Chief Community Assistance Planner  
Joan A. Zenk . . . . .Administrative Officer

Special acknowledgement is due SEWRPC planner Joel E. Dietl for his contribution to this report.

# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

916 N. EAST AVENUE • P.O. BOX 1607 • WAUKESHA, WISCONSIN 53187-1607

TELEPHONE (414) 547-6721  
TELECOPIER (414) 547-1103

Serving the Counties of



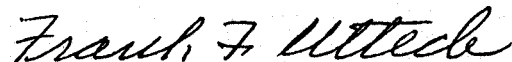
KENOSHA  
MILWAUKEE  
OZAUKEE  
RACINE  
WALWORTH  
WASHINGTON  
WAUKESHA

**SUBJECT:** Certification of Amendment to the Adopted Regional Water Quality Management Plan (Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District)

**TO:** The Legislative Bodies of Concerned Local Units of Government within the Southeastern Wisconsin Region, namely: the County of Walworth; the Cities of Delavan and Elkhorn; the Village of Williams Bay; the Towns of Darien, Delavan, Geneva, Lafayette, Linn, Sugar Creek, and Walworth; the Delavan Lake Sanitary District; the Geneva National Sanitary District; the Town of Walworth Utility District No. 1; and the Walworth County Metropolitan Sewerage District

This is to certify that at the quarterly meeting of the Southeastern Wisconsin Regional Planning Commission, held at the Milwaukee County Courthouse, Milwaukee, Wisconsin, on the 4th day of December 1991, the Commission did by unanimous vote by all Commissioners present, being 13 ayes and 0 nays, and by appropriate Resolution, a copy of which is made a part hereof and incorporated by reference to the same force and effect as if it had been specifically set forth herein in detail, adopt an amendment to the regional water quality management plan, which plan was originally adopted by the Commission on the 12th day of July 1979, as part of the master plan for the physical development of the Region. The said amendment to the regional water quality management plan pertains to the proposed sanitary sewer service areas tributary to the sewage treatment facility owned and operated by the Walworth County Metropolitan Sewerage District and consists of the inventory findings, maps, charts, figures, and supporting data, plans and plan implementation recommendations contained in SEWRPC Community Assistance Planning Report No. 56, Second Edition, entitled, Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, Walworth County, Wisconsin, published in November 1991, attached hereto and made a part hereof. Such action taken by the Commission is hereby recorded on, and is a part of, said plan, and the plan as amended is hereby transmitted to the constituent local units of government for consideration, adoption, and implementation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal and cause the Seal of the Southeastern Wisconsin Regional Planning Commission to be hereto affixed. Dated at the City of Waukesha, Wisconsin, this 5th day of December 1991.



Frank F. Uttech  
Southeastern Wisconsin  
Regional Planning Commission

ATTEST:



Kurt W. Bauer, Deputy Secretary

(This page intentionally left blank)



**RESOLUTION NO. 91-23**

**RESOLUTION OF THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION AMENDING THE ADOPTED REGIONAL WATER QUALITY MANAGEMENT PLAN, THAT PLAN BEING A PART OF THE MASTER PLAN FOR THE PHYSICAL DEVELOPMENT OF THE REGION COMPRISED OF THE COUNTIES OF KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH, WASHINGTON, AND WAUKESHA IN THE STATE OF WISCONSIN (WalCoMet SANITARY SEWER SERVICE AREAS)**

WHEREAS, pursuant to Section 66.945(10) of the Wisconsin Statutes, the Southeastern Wisconsin Regional Planning Commission, at a meeting held on the 12th day of July 1979, duly adopted a regional water quality management plan as documented in the three-volume SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000; and

WHEREAS, at a meeting held on the 3rd day of December 1981, the Commission duly adopted an amendment to the regional water quality management plan refining and detailing the urban sanitary sewer service areas tributary to the sewage treatment facility owned and operated by the Walworth County Metropolitan Sewerage District (WalCoMet) as documented in SEWRPC Community Assistance Planning Report No. 56, Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, August 1981; and

WHEREAS, on April 11, 1991, the Walworth County Metropolitan Sewerage District requested that the Commission amend the WalCoMet sanitary sewer service areas to reflect system development recommendations set forth in a new sewerage facilities plan for WalCoMet then nearing completion; and

WHEREAS, the Commission, working with the Cities of Delavan and Elkhorn; the Village of Williams Bay; the Towns of Darien, Delavan, Geneva, Lafayette, Linn, Sugar Creek, and Walworth; the Delavan Lake Sanitary District; the Walworth County Metropolitan Sewerage District; and other concerned units and agencies of government, has completed revisions to the WalCoMet sanitary sewer service areas, which revisions are reflected in a new sanitary sewer service area plan, such plan being set forth in SEWRPC Community Assistance Planning Report No. 56, Second Edition, Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, Walworth County, Wisconsin, dated November 1991, and;

WHEREAS, the newly revised Walworth County Metropolitan Sewerage District sanitary sewer service areas documented in SEWRPC Community Assistance Planning Report No. 56, Second Edition, address the pertinent comments made at a public hearing held jointly by the Commission and the Walworth County Metropolitan Sewerage District on May 28, 1991; and

WHEREAS, Section 66.945(9) of the Wisconsin Statutes authorizes and empowers the Regional Planning Commission, as the work of making the whole master plan progresses, to amend, or to add to the master plan or carry any part or subject thereof into greater detail;

**NOW, THEREFORE, BE IT HEREBY RESOLVED:**

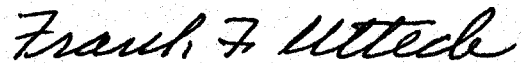
**FIRST:** That the regional water quality management plan for the Southeastern Wisconsin Region, being part of the master plan for the physical development of the Region and comprised of SEWRPC Planning Report No. 30, Volumes One, Two, and Three, which was adopted by the Commission as a part of the master plan on the 12th day of July 1979, and which was amended on the 3rd day of December 1981 to include the initial refined sanitary sewer service areas tributary to the sewage treatment facility owned and operated by the Walworth County Metropolitan Sewerage District, be and the same hereby is amended to include the newly refined sanitary sewer service area plan for

the Walworth County Metropolitan Sewerage District as set forth in SEWRPC Community Assistance Planning Report No. 56, Second Edition.

**SECOND:** That the said SEWRPC Community Assistance Planning Report No. 56, Second Edition, together with the maps, charts, programs, and descriptive and explanatory matter therein contained, is hereby made a matter of public record; and the originals and true copies thereof shall be kept, at all times, at the offices of the Southeastern Wisconsin Regional Planning Commission presently located in the Old Courthouse Building in the City of Waukesha, County of Waukesha, and State of Wisconsin, or at any subsequent office that the said Commission may occupy, for examination and study by whomsoever may desire to examine the same.

**THIRD:** That a true, correct, and exact copy of this resolution, together with a complete and exact copy of SEWRPC Community Assistance Planning Report No. 56, Second Edition, shall be forthwith distributed to each of the local legislative bodies of the local governmental units within the Region entitled thereto and to such other bodies, agencies, or individuals as the law may require or as the Commission, its Executive Committee, or its Executive Director, at their discretion, shall determine and direct.

The foregoing resolution, upon motion duly made and seconded, was regularly adopted at the meeting of the Southeastern Wisconsin Regional Planning Commission held on the 4th day of December 1991, the vote being: Ayes 13; Nays 0.



Frank F. Uttech, Chairman

ATTEST:



Kurt W. Bauer, Deputy Secretary

**COMMUNITY ASSISTANCE PLANNING REPORT  
NUMBER 56 (2nd Edition)**

**SANITARY SEWER SERVICE AREAS FOR THE WALWORTH  
COUNTY METROPOLITAN SEWERAGE DISTRICT  
WALWORTH COUNTY, WISCONSIN**

Prepared by the

**Southeastern Wisconsin Regional Planning Commission  
P. O. Box 1607  
Old Courthouse  
916 N. East Avenue  
Waukesha, Wisconsin 53187-1607**

The preparation of this report was financed in part through a planning grant from the Wisconsin Department of Natural Resources.

November 1991

Inside Region \$ 5.00  
Outside Region \$10.00

(This page intentionally left blank)



# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

916 N. EAST AVENUE • P.O. BOX 1607 • WAUKESHA, WISCONSIN 53187-1607

TELEPHONE (414) 547-6721  
TELECOPIER (414) 547-1103

*Serving the Counties of*

KENOSHA  
MILWAUKEE  
OZAUKEE  
RACINE  
WALWORTH  
WASHINGTON  
WAUKESHA

November 11, 1991

TO: The Walworth County Metropolitan Sewerage District and all local units of government within the existing or potential service areas of that District

The adopted regional water quality management plan for southeastern Wisconsin identifies in a preliminary manner recommended sanitary sewer service areas tributary to each of the existing and proposed sewage treatment plants within the Region. The plan recommends that these service areas be refined and detailed through the cooperative efforts of the local units and agencies of government concerned so that the service areas properly reflect local, as well as areawide, development objectives. This refinement and detailing is particularly important in light of provisions in the Wisconsin Administrative Code which require that the Wisconsin Department of Natural Resources with respect to public sanitary sewers, and the Wisconsin Department of Industry, Labor and Human Relations with respect to private sanitary sewers, make a finding that all proposed sanitary sewer extensions be in conformance with the adopted regional water quality management plan and the sanitary sewer service areas identified in that plan.

These Departments, in carrying out their responsibilities in this respect, require that the Southeastern Wisconsin Regional Planning Commission, as the designated areawide water quality management planning agency for the Southeastern Wisconsin Region, review and comment on each proposed sewer extension as to its relationship to the approved plan and sewer service area. If such review can be based on a refined service area cooperatively identified by the local units of government concerned, then no conflicts concerning sanitary sewer extensions should arise, and the entire sewerage system and related land use development process can proceed in a smooth and efficient manner.

Acting in response to the recommendations made in the adopted regional water quality management plan, the Walworth County Metropolitan Sewerage District (WalCoMet) on August 20, 1979, requested that the Regional Planning Commission assist the District and the local units of government involved in refining and detailing the recommended sanitary sewer service area tributary to the WalCoMet sewage treatment plant. The WalCoMet sanitary sewer service area report, as documented in SEWRPC Community Assistance Planning Report No. 56, Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, the first edition of this report, was adopted by the Commission of the Delavan Lake Sanitary District and by the Common Council of the City of Delavan on November 10, 1981; by the Common Council of the City of Elkhorn on November 16, 1981; by the Regional Planning Commission on December 3, 1981; and by the Wisconsin Department of Natural Resources on February 2, 1982.

On April 11, 1991, the Walworth County Metropolitan Sewerage District requested the Regional Planning Commission to amend the currently adopted sanitary sewer service areas attendant to the WalCoMet sewage treatment facility for the year 2000 as identified in SEWRPC Community Assistance Planning Report No. 56, and as amended. This report documents the results of that amendment process.

The report contains a map showing not only the recommended refined sanitary sewer service areas, but also the location and extent of the environmental corridors within those service areas. These environmental corridors contain the best and most important elements of the natural resource base within the sewer service area. Their preservation in essentially natural, open uses is important to the maintenance of the overall quality of the environment in the area, while avoiding the creation of serious and costly developmental problems. Accordingly, urban development should not be encouraged to occur within these corridors, a factor which should be taken into consideration in the future extension of sanitary sewer service.

A public hearing was held on May 28, 1991, to discuss the preliminary findings and recommendations of the sewer service area refinement process and to receive the comments and suggestions of the local elected officials concerned and of interested citizens.

The sanitary sewer service areas presented in this report provides a sound guide which can assist the responsible local public officials in the making of sewer service-related development decisions in the WalCoMet area. Accordingly, careful consideration and adoption of this report by all parties concerned is respectfully urged. The Regional Planning Commission stands ready to assist the various units and agencies of government concerned in implementing the recommendations contained in this report.

Respectfully submitted,



Kurt W. Bauer  
Executive Director

(This page intentionally left blank)

## TABLE OF CONTENTS

	Page		Page
<b>Chapter I—INTRODUCTION</b> . . . . .	1	<b>Currently Approved WalCoMet</b>	
<b>Background</b> . . . . .	1	<b>Sewerage District Sanitary</b>	
<b>Need for Refinement and</b>		<b>Sewer Service Areas</b> . . . . .	13
<b>Detailing of Local Sanitary</b>		<b>Preliminary Refined WalCoMet</b>	
<b>Sewer Service Areas</b> . . . . .	1	<b>Sewerage District Sanitary</b>	
<b>The Walworth County</b>		<b>Sewer Service Areas</b> . . . . .	13
<b>Metropolitan Sewerage District</b>		<b>Refined WalCoMet Sewerage</b>	
<b>Sanitary Sewer Service Areas</b>		<b>District Sanitary Sewer</b>	
<b>Refinement Process</b> . . . . .	3	<b>Service Areas</b> . . . . .	15
<b>Chapter II—STUDY AREA</b>		<b>Water Quality Impacts</b> . . . . .	18
<b>DESCRIPTION</b> . . . . .	5	<b>Cost-Effectiveness Analysis</b>	
<b>Location</b> . . . . .	5	<b>of Sewage Conveyance and</b>	
<b>Population</b> . . . . .	5	<b>Treatment Alternatives</b> . . . . .	18
<b>Environmentally Significant Lands</b> . . . . .	8	<b>Sewage Treatment Plant Capacity</b>	
<b>Chapter III—PROPOSED</b>		<b>Impact Analysis</b> . . . . .	26
<b>SANITARY SEWER</b>		<b>Public Reaction to the Proposed</b>	
<b>SERVICE AREA</b> . . . . .	13	<b>Sanitary Sewer Service Areas</b> . . . . .	27
<b>Significance of Sanitary Sewer</b>		<b>Implementing Recommendations</b> . . . . .	28
<b>Service Area Delineation</b> . . . . .	13	<b>Subsequent Refinements to the</b>	
		<b>WalCoMet Sewerage District</b>	
		<b>Sewer Service Areas</b> . . . . .	28

## LIST OF APPENDICES

		Page
<b>Appendix</b>		
A	<b>Minutes of Public Hearing</b> . . . . .	83
B	<b>Determination of Net Incremental Residential Densities</b> <b>in the Walworth County Metropolitan Sewerage District</b> . . . . .	87

## LIST OF TABLES

Table		Page
<b>Chapter II</b>		
1	<b>Study Area Information by Minor Civil Division</b> . . . . .	7
2	<b>Values Assigned to Natural Resource Base and Resource Base-Related Elements in</b> <b>the Process of Delineating Primary and Secondary Environmental Corridors</b> . . . . .	9
<b>Chapter III</b>		
3	<b>Sanitary Sewer Service Area Information for the</b> <b>Walworth County Metropolitan Sewerage District</b> . . . . .	17

Table	Page	
4	Current and Design Year Flow Rates for the Como Lake Sewer Service Area Economic Analysis . . . . .	20
5	Economic Analysis Cost Estimates of Alternative Sewerage System Plans for the Lake Como Sewer Service Area . . . . .	22

**LIST OF FIGURES**

Figure	Page	
<b>Chapter III</b>		
1	Current Planned Hydraulic Loadings for WalCoMet and Lake Geneva Treatment Plants . . . . .	24

**LIST OF MAPS**

Map	Page	
<b>Chapter I</b>		
1	Recommended Sanitary Sewer Service Areas in the Region: 2000 . . . . .	2
<b>Chapter II</b>		
2	Study Area Identified for Purposes of Refining and Detailing the Walworth County Metropolitan Sewerage District Sanitary Sewer Service Areas . . . . .	6
3	Environmentally Significant Lands in the Walworth County Metropolitan Sewerage District Study Area: 1990 . . . . .	11
<b>Chapter III</b>		
4	Walworth County Metropolitan Sewerage District Sanitary Sewer Service Areas as Defined in SEWRPC Community Assistance Planning Report No. 56 (First Edition) as Amended . . . . .	14
5	Preliminary Refined Walworth County Metropolitan Sewerage District Sanitary Sewer Service Areas . . . . .	16
6	Pre-Public Hearing Walworth County Metropolitan Sewerage District Sanitary Sewer Service Areas . . . . .	19
7	Anticipated Change in the Environmentally Significant Lands in the Walworth County Metropolitan Sewerage District Sewer Service Areas: 1990-2010 . . . . .	21
8	Alternative 1—Connection of the Lake Como Sewer Service Area to the Lake Geneva Sewerage System . . . . .	23
9	Alternative 2—Connection of the Lake Como Sewer Service Area to the WalCoMet Sewerage System . . . . .	25
10	Post-Public Hearing Walworth County Metropolitan Sewerage District Sanitary Sewer Service Areas . . . . .	29
11	Index of Maps Showing Environmentally Significant Lands and Planned Sanitary Sewer Service Area for the Walworth County Metropolitan Sewerage District and Environs . . . . .	31



Map		Page
Map 11-1	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 21 and 22 Township 3 North, Range 15 East . . . . .	32
Map 11-2	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 23 and 24 Township 3 North, Range 15 East . . . . .	33
Map 11-3	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 19 and 20 Township 3 North, Range 16 East . . . . .	34
Map 11-4	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 21 and 22 Township 3 North, Range 16 East . . . . .	35
Map 11-5	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 23 and 24 Township 3 North, Range 16 East . . . . .	36
Map 11-6	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 19 and 20 Township 3 North, Range 17 East . . . . .	37
Map 11-7	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 21 and 22 Township 3 North, Range 17 East . . . . .	38
Map 11-8	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Section 23 Township 3 North, Range 17 East . . . . .	39
Map 11-9	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 27, 28, 33, and 34 Township 3 North, Range 15 East . . . . .	40
Map 11-10	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 25, 26, 35, and 36 Township 3 North, Range 15 East . . . . .	41
Map 11-11	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 29, 30, 31, and 32 Township 3 North, Range 16 East . . . . .	42
Map 11-12	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 27, 28, 33, and 34 Township 3 North, Range 16 East . . . . .	43
Map 11-13	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 25, 26, 35, and 36 Township 3 North, Range 16 East . . . . .	44

Map		Page
Map 11-14	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 29, 30, 31, and 32 Township 3 North, Range 17 East . . . . .	45
Map 11-15	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 27, 28, 33, and 34 Township 3 North, Range 17 East . . . . .	46
Map 11-16	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 26 and 35 Township 3 North, Range 17 East . . . . .	47
Map 11-17	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 2 North, Range 15 East . . . . .	48
Map 11-18	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 1, 2, 11, and 12 Township 2 North, Range 15 East . . . . .	49
Map 11-19	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 5, 6, 7, and 8 Township 2 North, Range 16 East . . . . .	50
Map 11-20	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 2 North, Range 16 East . . . . .	51
Map 11-21	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 1, 2, 11, and 12 Township 2 North, Range 16 East . . . . .	52
Map 11-22	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 5, 6, 7, and 8 Township 2 North, Range 17 East . . . . .	53
Map 11-23	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 2 North, Range 17 East . . . . .	54
Map 11-24	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 2 and 11 Township 2 North, Range 17 East . . . . .	55

Map 11-25	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 15, 16, 21, and 22                  Township 2 North, Range 15 East . . . . .</p>	56
Map 11-26	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 13, 14, 23, and 24                  Township 2 North, Range 15 East . . . . .</p>	57
Map 11-27	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 17, 18, 19, and 20                  Township 2 North, Range 16 East . . . . .</p>	58
Map 11-28	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 15, 16, 21, and 22                  Township 2 North, Range 16 East . . . . .</p>	59
Map 11-29	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 13, 14, 23, and 24                  Township 2 North, Range 16 East . . . . .</p>	60
Map 11-30	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 17, 18, 19, and 20                  Township 2 North, Range 17 East . . . . .</p>	61
Map 11-31	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 15, 16, 21, and 22                  Township 2 North, Range 17 East . . . . .</p>	62
Map 11-32	<p><b>Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 14 and 23                  Township 2 North, Range 17 East . . . . .</p>	63
Map 11-33	<p><b>Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 27, 28, 33, and 34                  Township 2 North, Range 15 East . . . . .</p>	64
Map 11-34	<p><b>Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 25, 26, 35, and 36                  Township 2 North, Range 15 East . . . . .</p>	65
Map 11-35	<p><b>Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs</b>                  U. S. Public Land Survey Sections 29, 30, 31, and 32                  Township 2 North, Range 16 East . . . . .</p>	66

Map 11-36	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 27, 28, 33, and 34 Township 2 North, Range 16 East . . . . .	67
Map 11-37	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 25, 26, 35, and 36 Township 2 North, Range 16 East . . . . .	68
Map 11-38	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 29, 30, 31, and 32 Township 2 North, Range 17 East . . . . .	69
Map 11-39	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 27, 28, 33, and 34 Township 2 North, Range 17 East . . . . .	70
Map 11-40	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 26 and 35 Township 2 North, Range 17 East . . . . .	71
Map 11-41	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 1 North, Range 15 East . . . . .	72
Map 11-42	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 1, 2, 11, and 12 Township 1 North, Range 15 East . . . . .	73
Map 11-43	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 5, 6, 7, and 8 Township 1 North, Range 16 East . . . . .	74
Map 11-44	Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 1 North, Range 16 East . . . . .	75
Map 11-45	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 1, 2, 11, and 12 Township 1 North, Range 16 East . . . . .	76
Map 11-46	Environmentally Significant Lands and Planned Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 5, 6, 7, and 8 Township 1 North, Range 17 East . . . . .	77



<b>Map</b>		<b>Page</b>
<b>Map 11-47</b>	<b>Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 3, 4, 9, and 10 Township 1 North, Range 17 East . . . . .</b>	<b>78</b>
<b>Map 11-48</b>	<b>Environmentally Significant Lands for the Walworth County Metropolitan Sewerage District and Environs U. S. Public Land Survey Sections 1 and 11 Township 1 North, Range 17 East . . . . .</b>	<b>79</b>

(This page intentionally left blank)

## Chapter I

### INTRODUCTION

#### BACKGROUND

On July 12, 1979, the Southeastern Wisconsin Regional Planning Commission formally adopted an areawide water quality management plan for southeastern Wisconsin. The plan is aimed at achieving clean and wholesome surface waters within the seven-county Region, surface waters that are "fishable and swimmable."<sup>1</sup>

The plan has five basic elements: 1) a land use element, consisting of recommendations for the location of new urban development in the Region and for the preservation of primary environmental corridors and prime agricultural lands; 2) a point source pollution abatement element, including recommendations concerning the location and extent of sanitary sewer service areas, the location, type, and capacity of, and the level of treatment to be provided at, sewage treatment facilities, the location and configuration of intercommunity trunk sewers, and the abatement of pollution from sewer system overflows and from industrial wastewater discharges; 3) a nonpoint source pollution abatement element, consisting of recommendations for the control of pollutant runoff from rural and urban lands; 4) a sludge management element, consisting of recommendations for the handling and disposal of sludges from sewage treatment facilities; and 5) recommendations for the establishment of continuing water quality monitoring efforts in the Region.

The plan was formally certified over the period July 23 to September 20, 1979, to all of the local units of government in the Region and to the concerned state and federal agencies. The plan was formally endorsed by the Wisconsin Natural Resources Board on July 25, 1979. Such endorse-

ment is particularly important because under state law and administrative rules certain actions by the Wisconsin Department of Natural Resources (DNR) must be found to be in accordance with the adopted and endorsed plan. These actions include, among others, DNR approval of waste discharge permits, DNR approval of state and federal grants for the construction of wastewater treatment and conveyance facilities, and DNR approval of locally proposed sanitary sewer extensions.

#### NEED FOR REFINEMENT AND DETAILING OF LOCAL SANITARY SEWER SERVICE AREAS

The adopted regional water quality management plan includes recommended sanitary sewer service areas attendant to each recommended sewage treatment facility (see Map 1). There were in the plan, as initially adopted, a total of 85 such identified sanitary sewer service areas. The initially recommended sanitary sewer service areas were based upon the urban land use configuration identified in the Commission-adopted regional land use plan for the year 2000.<sup>2</sup> As such, the delineation of the areas was necessarily general, and may not reflect detailed local planning considerations.

Section NR 110.08(4) and Section ILHR 82.20(4) of the Wisconsin Administrative Code require that the Wisconsin Department of Natural Resources with respect to public sanitary sewers, and the Wisconsin Department of Industry, Labor and Human Relations with respect to private sanitary sewers, make a finding that all proposed sanitary sewer extensions be in conformance with adopted areawide water quality management plans and the sanitary sewer service areas identified in such plans. These

---

<sup>1</sup>The adopted areawide water quality management plan is documented in SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings; Volume Two, Alternative Plans; and Volume Three, Recommended Plan.

---

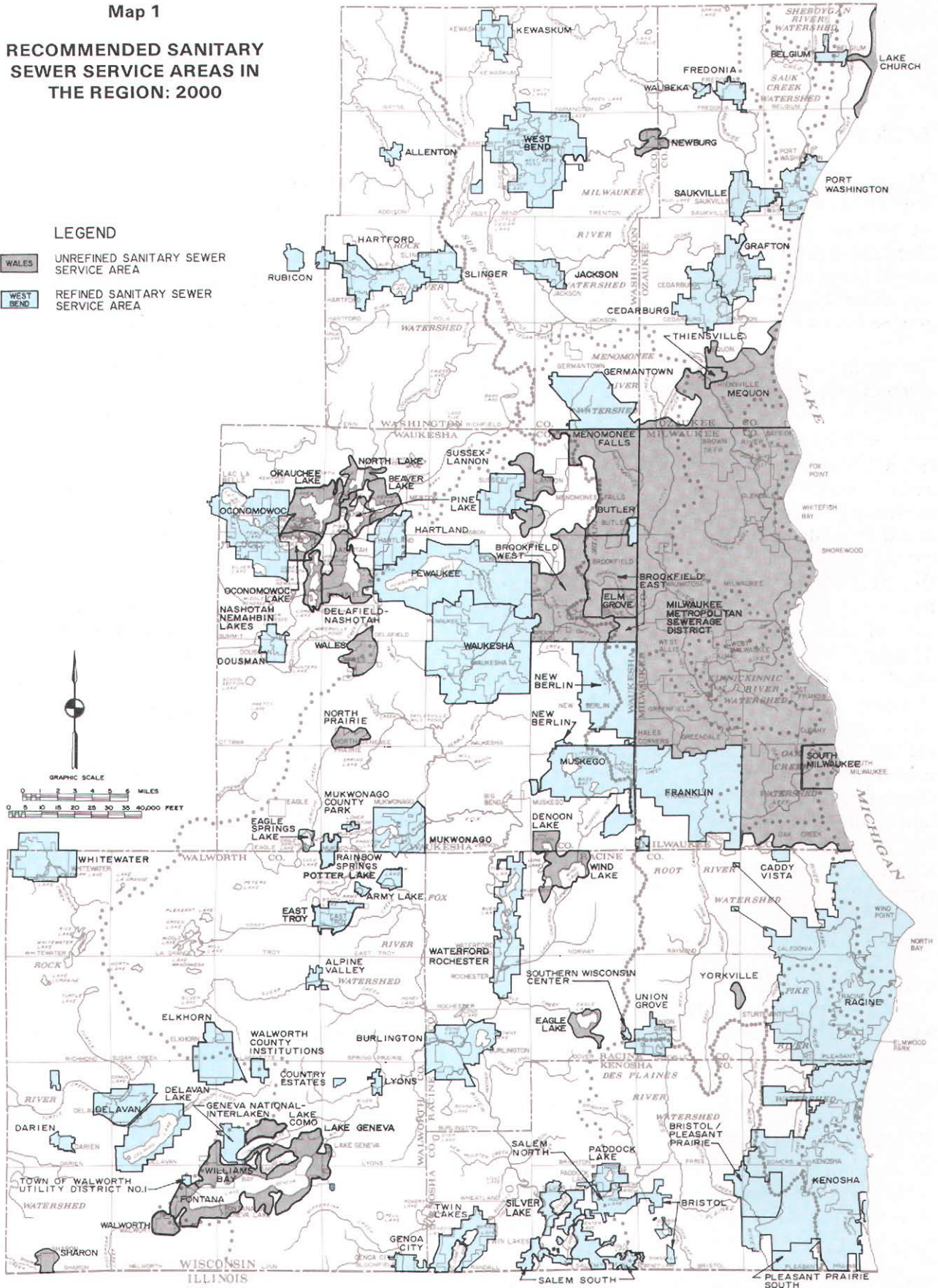
<sup>2</sup>See SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000, Volume One, Inventory Findings; and Volume Two, Alternative and Recommended Plans.

Map 1

**RECOMMENDED SANITARY SEWER SERVICE AREAS IN THE REGION: 2000**

**LEGEND**

- UNREFINED SANITARY SEWER SERVICE AREA
- REFINED SANITARY SEWER SERVICE AREA



Source: SEWRPC.



Departments, in carrying out their responsibilities in this respect, require that the Southeastern Wisconsin Regional Planning Commission, as the designated areawide water quality management planning agency for the Southeastern Wisconsin Region, review and comment on each proposed sewer extension as to its relationship to the approved plan and sewer service areas. In order to properly reflect local, as well as area-wide, planning concerns in the execution of this review responsibility, the Regional Planning Commission, in adopting the areawide water quality management plan, recommended that steps be taken to refine and detail each of the 85 sanitary sewer service areas delineated in the plan in cooperation with the local units of government concerned. The refinement and detailing process consists of the following seven steps:

1. The preparation of a base map at an appropriate scale for each sanitary sewer service area identified in the areawide water quality management plan.
2. The delineation on that base map of the design year 2010 sanitary sewer service area consistent with the objectives set forth in the adopted regional land use plan.<sup>3</sup>
3. The conduct of intergovernmental meetings involving the local or areawide unit or units of government operating the sewage treatment facility or facilities concerned, and the other local units of government that are to be provided sanitary sewer service by the sewage treatment facility or facilities concerned. At these meetings, the initial sanitary sewer service area delineation is to be presented and discussed and the positions of each of the units of government concerned solicited.

---

<sup>3</sup>The sewer service areas in the water quality management plan were based upon the urban land use configurations as set forth in the Commission's year 2000 land use plan. The Commission has since completed a series of alternative year 2010 land use plans, which plans served as a point of departure in the delineation of the sewer service area set forth in this report.

4. The preparation of modifications to the initially proposed sanitary sewer service area to reflect the agreements reached at the intergovernmental meetings, meeting to the fullest extent practicable the objectives expressed both in the adopted area-wide water quality management and regional land use plans and in any adopted local land use and sanitary sewerage system plans.
5. The holding of a public hearing jointly by the Commission and the local or areawide unit or units of government operating the treatment facility or facilities concerned to obtain public reaction to site-specific sewer service area issues that might be raised by the proposed sewer service area delineation.
6. The preparation of a final sanitary sewer service area map and accompanying report.
7. Adoption of the final sewer service area map by the Commission and certification of the map to the Wisconsin Department of Natural Resources and the U. S. Environmental Protection Agency as an amendment to the adopted areawide water quality management plan. Desirably, such adoption by the Commission would follow endorsement of the map by the local or areawide unit or units of government operating the sewage treatment facility or facilities concerned, and by the governing bodies of the local units of government that are to be served by the sewage treatment facility or facilities. While such a consensus by the local governments concerned will always be sought by the Commission, it is recognized that in some cases unanimous support of the refined and detailed sanitary sewer service areas may not be achieved. In those cases, the Commission will have to weigh the positions of the parties concerned and make a final determination concerning the issues involved.

#### THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS REFINEMENT PROCESS

The process of refining and detailing the sanitary sewer service areas in southeastern Wisconsin was initiated subsequent to the

Commission's adoption of the regional water quality management plan in July 1979. By letter dated August 20, 1979, the Walworth County Metropolitan Sewerage District (WalCoMet) requested that the Regional Planning Commission undertake the refinement and detailing of the proposed year 2000 sanitary sewer service areas tributary to the Walworth County Metropolitan Sewerage District sewage treatment facility. A series of interagency meetings regarding this refinement and detailing process were then held, which subsequently culminated in a public hearing held on this matter on February 24, 1981. The WalCoMet sanitary sewer service area report, as documented in SEWRPC Community Assistance Planning Report No. 56, Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, the first edition of this report, was adopted by the Commission of the Delavan Lake Sanitary District, by the Commission of the Walworth County Metropolitan Sewerage District, and by the Common Council of the City of Delavan on November 10, 1981; by the Common Council of the City of Elkhorn on November 16, 1981; and by the Regional Planning Commission on December 3, 1981; and was endorsed by the Wisconsin Department of Natural Resources on February 2, 1982.

The Regional Planning Commission adopted further amendments to the sanitary sewer service areas attendant to the WalCoMet sewage treatment facility as these areas were documented in SEWRPC Community Assistance Planning Report No. 56. These amendments are entitled respectively, Amendment to the Regional Water Quality Management Plan—2000, Village of Williams Bay/Walworth County Metropolitan Sewerage District, March 11, 1985; Amendment to the Regional Water Quality Management Plan—2000, Town of Walworth Utility District No.1/Walworth County Metropolitan Sewerage District, June 15, 1987; Amendment to the Regional Water Quality Management Plan—2000, Town of Darien/Walworth County Metropolitan Sewerage District, June 20, 1988; Amendment to the Regional Water Quality Management Plan—2000, Town of Geneva/Walworth County Metropolitan Sewerage District, November 6, 1989; Amendment to the Regional Water Quality Management Plan—2000, Delavan Lake Sanitary District/Walworth County Metropolitan Sewerage District, December 4, 1989; and Amendment to the Regional

Water Quality Management Plan—2000, Delavan-Delavan Lake/Walworth County Metropolitan Sewerage District, March 6, 1991.

The Regional Planning Commission recognizes that, like other long-range plans, the sewer service area plan should be periodically reviewed to assure that it continues to properly reflect the urban development objectives of the communities involved, especially as such objectives may relate to the amount and spatial distribution of new urban development requiring sewer service. When it is determined by the operator of the sewage treatment facility or by the local units of government involved that an amendment to the sewer service area plan is necessary, the operator of the sewage treatment facility or the local units of government involved need only request the Regional Planning Commission for assistance in undertaking the technical work required to properly amend the plan.

On April 11, 1991, the Walworth County Metropolitan Sewerage District requested the Regional Planning Commission to amend the currently adopted sanitary sewer service areas attendant to the WalCoMet sewage treatment facility to reflect recommendations set forth in the sewerage facilities plan for WalCoMet currently being prepared by the firm of Howard Needles Tammen & Bergendoff.

An intergovernmental meeting was held on April 30, 1991, regarding the proposed amendment to the WalCoMet sanitary sewer service areas. In attendance at that meeting were representatives of all concerned local units of government. By the conclusion of that meeting, all parties concerned had agreed on revised sanitary sewer service areas tributary to the WalCoMet sewage treatment facility for presentation at a public hearing. The public hearing was held on May 28, 1991. The public reaction to the proposed sanitary sewer service areas, as documented in minutes contained in Appendix A, is summarized later in this report. The final, agreed-upon, revised sanitary sewer service areas attendant to the WalCoMet sewage treatment facility are described in Chapter III of this report. The delineation of these areas reflects the intergovernmental decisions made in the abovereferenced meeting and hearing held to consider this matter.

## Chapter II

### STUDY AREA DESCRIPTION

#### LOCATION

The study area considered in the refinement of the Walworth County Metropolitan Sewerage District sanitary sewer service areas is shown on Map 2. The area consists of all the lands encompassed within the corporate limits of the Cities of Delavan and Elkhorn, the Villages of Darien and Williams Bay, and the Town of Delavan, as well as portions of the City of Lake Geneva, the Village of Fontana on Geneva Lake, and the Towns of Darien, Geneva, Lafayette, Linn, Richmond, Sharon, Sugar Creek, and Walworth. As indicated in Table 1, the total study area is 165.9 square miles in extent.

#### POPULATION

As further indicated in Table 1, the estimated resident population of the entire study area in 1985 was 27,000 persons. This population ranged from 5,900 persons, or about 22 percent of the total population within the study area, residing within the City of Delavan; to 100 persons, or less than one percent of the total, residing within the Village of Fontana on Geneva Lake. Of the 27,000 persons within the study area, about 19,100 persons, or about 71 percent, primarily within the Cities of Delavan and Elkhorn, the Village of Williams Bay, and the Town of Delavan, were served by sanitary sewer extended from the WalCoMet sewage treatment facility in 1985. In addition, about 1,100 persons, or about 4 percent of the total study area population, were served with centralized sanitary sewer service extended from the Village of Darien sewage treatment facility; and another 1,100 persons, about 4 percent, were served with centralized sanitary sewer service extended from the City of Lake Geneva sewage treatment facility. The remaining 5,700 persons in the study area were served by onsite soil absorption sewage disposal systems or onsite sewage holding tanks.

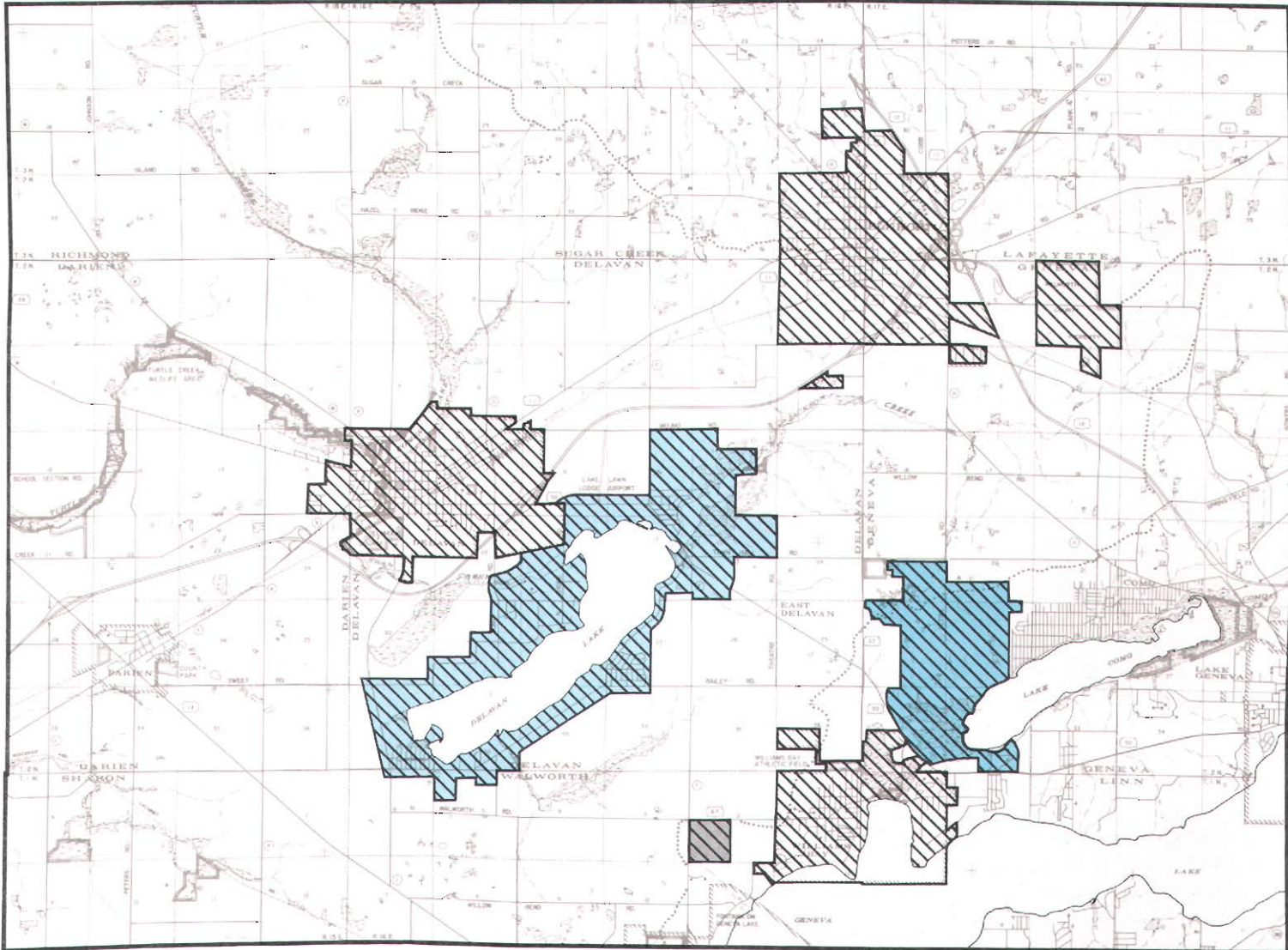
It is estimated that 34,800 persons will reside in the identified study area under the Commission's design year 2010 recommended regional land use plan. It should be noted that the forecast of probable future population levels for

geographic areas such as the WalCoMet study area is a difficult task, accompanied by uncertainties and subject to periodic revision as new information becomes available. The practice that has been typically followed in forecasting population levels for physical development planning is the preparation of a single population forecast believed to be the most representative of future conditions. This traditional approach works well in periods of social and economic stability, when historic trends can be anticipated to continue relatively unchanged over the plan design period. During periods of major change in social and economic conditions, however, when there is great uncertainty as to whether historic trends will continue, alternatives to this traditional approach may be required. One such alternative approach proposed in recent years, and utilized to a limited extent at the national level for public and quasi-public planning purposes, is termed "alternative futures." Under this approach, the development, test, and evaluation of alternative plans is based not upon a single, most probable forecast of socioeconomic conditions, but upon a number of alternative futures chosen to represent a range of conditions which may be expected to occur over the plan design period.





Recognizing the increasing uncertainty inherent in estimating future population levels under the rapidly changing socioeconomic conditions existing in the United States, the Regional Planning Commission began to incorporate the alternative futures approach into its planning program in the late 1970s, the first known attempt to apply this approach to areawide and local planning in the United States. In the exploration of alternative futures for the Southeastern Wisconsin Region, an attempt was made first to identify all those external factors which may be expected to directly or indirectly affect development conditions in the Region, together with the likely range of prospects for these factors. Thus, the preparation of the Commission's new year 2010 regional land use plan incorporated a consideration of three alternative scenarios for regional growth and change, involving different assumptions regarding three major external factors, the cost and availability of energy, population lifestyles, and economic conditions. Two of these

Map 2

STUDY AREA IDENTIFIED FOR PURPOSES OF REFINING AND DETAILING THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS



LEGEND

-  DELAVAN LAKE SANITARY DISTRICT
-  GENEVA NATIONAL SANITARY DISTRICT
-  TOWN OF WALWORTH UTILITY DISTRICT NO. 1
-  WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT



Source: SEWRPC.

Table 1

## STUDY AREA INFORMATION BY MINOR CIVIL DIVISION

Civil Division	Areal Extent		1985 Population	
	Square Miles	Percent	Estimated	Percent
City of Delavan . . . . .	5.3	3.2	5,900	21.9
City of Elkhorn . . . . .	4.6	2.8	4,900	18.1
City of Lake Geneva . . . . .	1.1	0.7	1,500	5.6
Town of Darien . . . . .	23.0	13.9	1,200	4.4
Town of Delavan . . . . .	29.8	18.0	4,100	15.2
Town of Geneva . . . . .	27.7	16.7	3,500	13.0
Town of Lafayette . . . . .	13.8	8.3	500	1.9
Town of Linn . . . . .	8.7	5.2	800	3.0
Town of Richmond . . . . .	12.1	7.3	200	0.7
Town of Sharon . . . . .	8.2	4.9	200	0.7
Town of Sugar Creek . . . . .	16.7	10.1	600	2.2
Town of Walworth . . . . .	10.3	6.2	600	2.2
Village of Darien . . . . .	0.7	0.4	1,100	4.1
Village of Fontana on Geneva Lake . . . . .	0.7	0.4	100	0.3
Village of Williams Bay . . . . .	3.2	1.9	1,800	6.7
Study Area	165.9	100.0	27,000 <sup>a</sup>	100.0

<sup>a</sup>Does not include a seasonal population of about 7,700 persons.

Source: SEWRPC.

scenarios, the high-growth and low-growth scenarios, are intended to represent the upper and lower extremes of possible future regional growth and change, while the third is intended to represent an intermediate future between the two extremes. A set of population and employment projections were then developed for each of the three scenarios.

The year 2010 land use plan also considered alternative development patterns for accommodating the incremental population and employment levels envisioned under the aforescribed growth scenarios. Two development patterns were considered in the preparation of the alternative land use plans, a centralized development pattern which, like the first and second generation adopted regional land use plans, accommodated increases in population and economic activity by promoting a more compact regional settlement pattern, moderating to the extent practicable the current trend toward diffusion of

population, employment, and attendant urban development; and a decentralized development pattern which accommodated the continued diffusion of population and employment levels but in a manner consistent with the protection of the natural resource base of the Region.

Four alternative future land use plans incorporating consideration of the aforementioned growth scenarios and development patterns were thus prepared, an intermediate-growth, centralized land use plan; and three alternative decentralized land use plans based upon the low-, intermediate-, and high-growth scenarios, respectively.

The intermediate-growth centralized land use plan, the Commission's recommended land use plan as previously noted, would accommodate a year 2010 population level of 34,800 persons in the WalCoMet study area. Under the alternative futures approach utilized by the Commission for



its work, however, the population level within the study area could range from a low of 27,400 persons under the low-growth, decentralized land use plan, to a high of about 58,800 persons under the high-growth, decentralized land use plan.

## ENVIRONMENTALLY SIGNIFICANT LANDS

Environmental corridors are defined as linear areas in the landscape containing concentrations of natural resource and resource-related amenities. These corridors generally lie along the major stream valleys, around major lakes, and in the Kettle Moraine area of southeastern Wisconsin. Almost all of the remaining high-value wetlands, woodlands, wildlife habitat areas, major bodies of surface water, and delineated floodlands and shorelands are contained within these corridors. In addition, significant groundwater recharge and discharge areas, many of the most important recreational and scenic areas, and the best remaining potential park sites are located within the environmental corridors. Such corridors are, in effect, a composite of the most important individual elements of the natural resource base in southeastern Wisconsin, and have immeasurable environmental, ecological, and recreational value.

The land use element of the adopted regional water quality management plan recommends that lands identified as primary environmental corridors not be developed for intensive urban use. Accordingly, the plan further recommends that sanitary sewers not be extended into such corridors for the purpose of accommodating urban development in the corridors. It was, however, recognized in the plan that it would be necessary in some cases to construct sanitary sewers across and through primary environmental corridors, and that certain land uses requiring sanitary sewer service could be properly located in the corridors, including park and outdoor recreation facilities and certain institutional uses. In some cases, very low-density residential development on five-acre lots, compatible with the preservation of the corridors in essentially natural, open uses, may also be permitted to occupy corridor lands, and it may be desirable to extend sewers into the corridors to serve such uses. Basically, however, the adopted regional land use plan seeks to ensure

that the primary environmental corridor lands are not destroyed through conversion to intensive urban uses.

One of the first steps in refining the WalCoMet sanitary sewer service areas was to map in detail the environmentally significant lands in the study area. Accordingly, Commission inventories were reviewed and updated as necessary with respect to the following elements of the natural resource base: lakes, streams, and associated shorelands and floodlands; wetlands; woodlands; wildlife habitat areas; areas of rugged terrain and high-relief topography; wet, poorly drained, and organic soils; and remnant prairies. In addition, inventories were reviewed and updated as necessary with respect to such natural resource-related features as existing parks, potential park sites, sites of historic and archaeological value, areas possessing scenic vistas or viewpoints, and areas of scientific value.

Each of these natural resource and resource-related elements was mapped on one inch equals 400 feet scale, ratioed and rectified aerial photographs. A point system for value rating the various elements of the resource base was established (see Table 2). The primary environmental corridors were delineated using this rating system. To qualify for inclusion in a primary environmental corridor, an area must exhibit a point value of 10 or more. In addition, a primary environmental corridor must be at least 400 acres in size, be at least two miles long, and have a minimum width of 200 feet. This environmental corridor refinement process is more fully described in SEWRPC Technical Record, Vol. 4, No. 2, in an article entitled, "Refining the Delineation of Environmental Corridors in Southeastern Wisconsin." The primary environmental corridors as delineated in the WalCoMet study area are shown on Map 3.

In addition, Map 3 identifies secondary environmental corridors. The secondary environmental corridors, while not as significant as the primary environmental corridors in terms of overall resource values, should be considered for preservation as the process of urban development proceeds, because such corridors often provide economical drainageways, as well as needed

“green space,” through developing residential neighborhoods. To qualify for inclusion in a secondary environmental corridor, an area must exhibit a point value of 10 or more, and have a minimum area of 100 acres and a minimum length of one mile.

Also identified on Map 3 are isolated natural areas. Isolated natural areas generally consist of those natural resource base elements that have “inherent natural value,” such as wetlands, woodlands, wildlife habitat areas, and surface water areas, but that are separated physically from the primary and secondary environmental corridors by intensive urban or agricultural land uses. Since isolated natural areas may provide the only available wildlife habitat in an area, provide good locations for local parks and nature study areas, and lend aesthetic character and natural diversity to an area, they should also be protected and preserved in a natural state to the extent practicable. An isolated natural area must be at least five acres in size.

Lands encompassed within the primary environmental corridors of the WalCoMet study area in 1985 totaled 26.1 square miles, or about 16 percent of the total study area. Lands encompassed within the secondary environmental corridors totaled about 4.4 square miles, or about 2 percent of the study area. Lands encompassed within isolated natural areas totaled about 4.5 square miles, or about 3 percent of the study area. Thus, all environmentally significant lands in the WalCoMet study area comprise about 35.0 square miles, or 21 percent of the study area.

While the adopted regional water quality management plan places great emphasis upon the protection of the lands identified as primary environmental corridors in essentially natural, open space uses, it recognizes that there may be situations in which the objective of preserving the corridor lands directly conflicts with other legitimate regional and local development objectives. For example, the regional plan recognizes that if a community were to determine the need for a strategic arterial street extension through the primary environmental corridor lands in order to service an important local development project, the street extension may be considered to be of greater community benefit than the preservation of a small segment of the primary environmental corridor. When such conflicts in

Table 2

**VALUES ASSIGNED TO NATURAL RESOURCE BASE AND RESOURCE BASE-RELATED ELEMENTS IN THE PROCESS OF DELINEATING PRIMARY AND SECONDARY ENVIRONMENTAL CORRIDORS**

Resource Base or Related Element	Point Value
<b>Natural Resource Base</b>	
Lake	
Major (50 acres or more) . . . . .	20
Minor (5-49 acres) . . . . .	20
Rivers or Streams (perennial) . . . . .	10
Shoreland	
Lake or Perennial River or Stream . . . . .	10
Intermittent Stream . . . . .	5
Floodland (100-year recurrence interval) . . . . .	3
Wetland . . . . .	10
Wet, Poorly Drained, or Organic Soil . . . . .	5
Woodland . . . . .	10
Wildlife Habitat	
High Value . . . . .	10
Medium Value . . . . .	7
Low Value . . . . .	5
Steep Slope	
20 Percent or More . . . . .	7
13-19 Percent . . . . .	5
Prairie . . . . .	10
<b>Natural Resource Base-Related</b>	
Existing Park or Open Space Site	
Rural Open Space Site . . . . .	5
Other Park and Open Space Sites . . . . .	2
Potential Park Site	
High Value . . . . .	3
Medium Value . . . . .	2
Low Value . . . . .	1
Historic Site	
Structure . . . . .	1
Other Cultural . . . . .	1
Archaeological . . . . .	2
Scenic Viewpoint . . . . .	5
Scientific Area	
State Scientific Area . . . . .	15
State Significance . . . . .	15
County Significance . . . . .	10
Local Significance . . . . .	5

Source: SEWRPC.

legitimate community development objectives occur, it is important that they be resolved sensitively, and that any damage to the natural environment in the corridors be minimized.

It should be noted that while almost all the delineated floodlands in the WalCoMet study area are contained within the environmental corridors, there are small areas of the floodlands

utilized for agricultural or other open space uses located outside such corridors. The Regional Planning Commission recognizes that such floodlands are generally unsuitable for intensive urban development owing to poor soil conditions


and periodic flood inundation. The Commission thus recommends that as development of lands located within urban areas and adjacent to these floodland areas occurs, such floodland areas be preserved in essentially natural, open space uses.

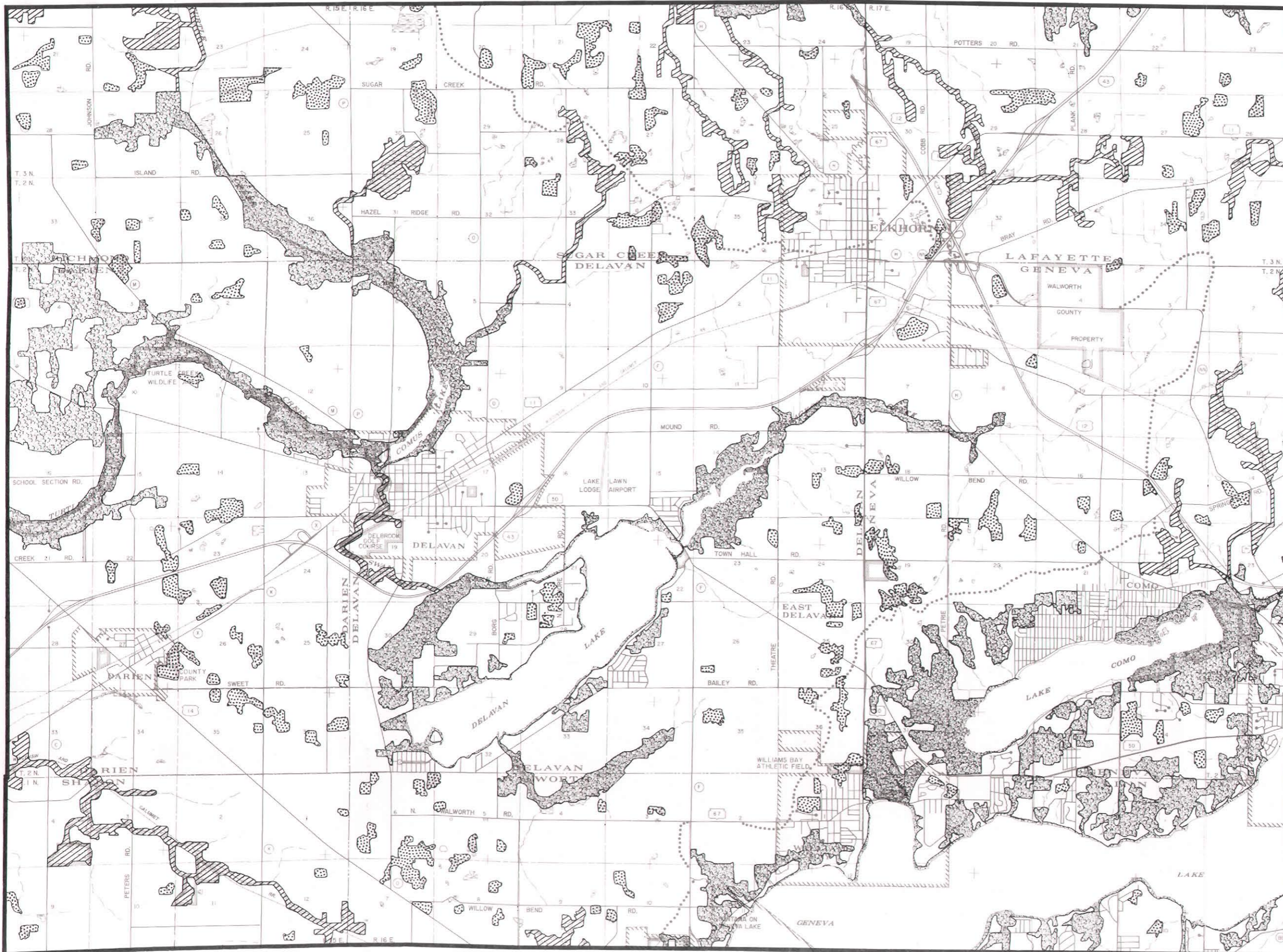


Map 3

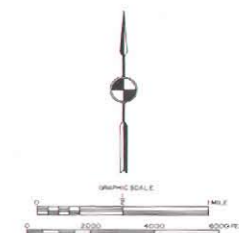
ENVIRONMENTALLY SIGNIFICANT  
LANDS IN THE WALWORTH COUNTY  
METROPOLITAN SEWERAGE DISTRICT  
STUDY AREA: 1990

LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.





(This page intentionally left blank)

## Chapter III

### PROPOSED SANITARY SEWER SERVICE AREA

#### SIGNIFICANCE OF SANITARY SEWER SERVICE AREA DELINEATION

As noted earlier in this report, recent changes in the Wisconsin Department of Natural Resources (DNR) and Wisconsin Department of Industry, Labor and Human Relations (DILHR) rules governing the extension of sanitary sewers have made the delineation of local sanitary sewer service areas an important process for local units of government and private land developers. Prior to the recent rule changes, DNR and DILHR review and approval of locally proposed sanitary sewer extensions was confined primarily to engineering considerations, and was intended to ensure that the sewers were properly sized and constructed. The recent rule changes significantly expanded the scope of the state review process to include water quality-oriented land use planning considerations. Before the two state agencies concerned can approve a locally proposed sanitary sewer extension, they must make a finding that the lands to be served by the proposed extension lie within an approved sanitary sewer service area. Such areas are identified in the Commission's adopted, area-wide, water quality management plan and any subsequent amendments thereto. If a locally proposed sanitary sewer extension is designed to serve areas not recommended for sewer service in an areawide water quality management plan, the state agencies concerned must deny approval of the extension. Consequently, it is important that an intergovernmental consensus be reached in the delineation of proposed sanitary sewer service areas.

#### CURRENTLY APPROVED WALCOMET SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS

The plan year 2000 sanitary sewer service areas tributary to the Walworth County Metropolitan Sewerage District treatment facility as set forth in the currently adopted sanitary sewer service area plan, as documented in the first edition of this report, and as amended, are shown on Map 4. The combined service areas total about 26.4 square miles, or about 16 percent of the total study area of 165.9 square miles. The 1985

resident population of these areas totaled 16,900 persons.<sup>1</sup> Under the Commission's adopted water quality management plan, as amended, the year 2000 resident population level of these areas would approximate 25,000 persons.<sup>2</sup> The currently adopted plan, as amended, provides for the protection of the primary environmental corridors of the study area, as well as for a sound urban development pattern in these areas.

#### PRELIMINARILY REFINED WALCOMET SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS

A comprehensive review of the WalCoMet sanitary sewer service areas was last undertaken during the preparation of SEWRPC Community Assistance Planning Report No. 56 in August 1981. As previously noted, a number of ad hoc amendments to this report have been made over the time-period March 1985 to March 1991. The purpose of this refinement effort is to review comprehensively once again the sewer service needs of lands envisioned to be tributary to the WalCoMet treatment facility; to incorporate in one document the ad hoc amendments made to the service areas over the last 10 years; and to adjust and extend, as necessary, the sewer service area boundaries to accommodate year 2010 population levels envisioned within these service areas.

A number of important factors were considered in the delineation of the preliminarily refined sanitary sewer service areas for the Walworth County Metropolitan Sewerage District sewage treatment facility, including: the currently adopted sanitary sewer service areas as shown on Map 4; the sewerage facilities plan for WalCoMet currently under preparation by a consultant to the District; and the recommended

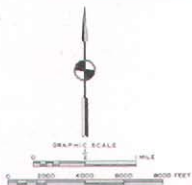
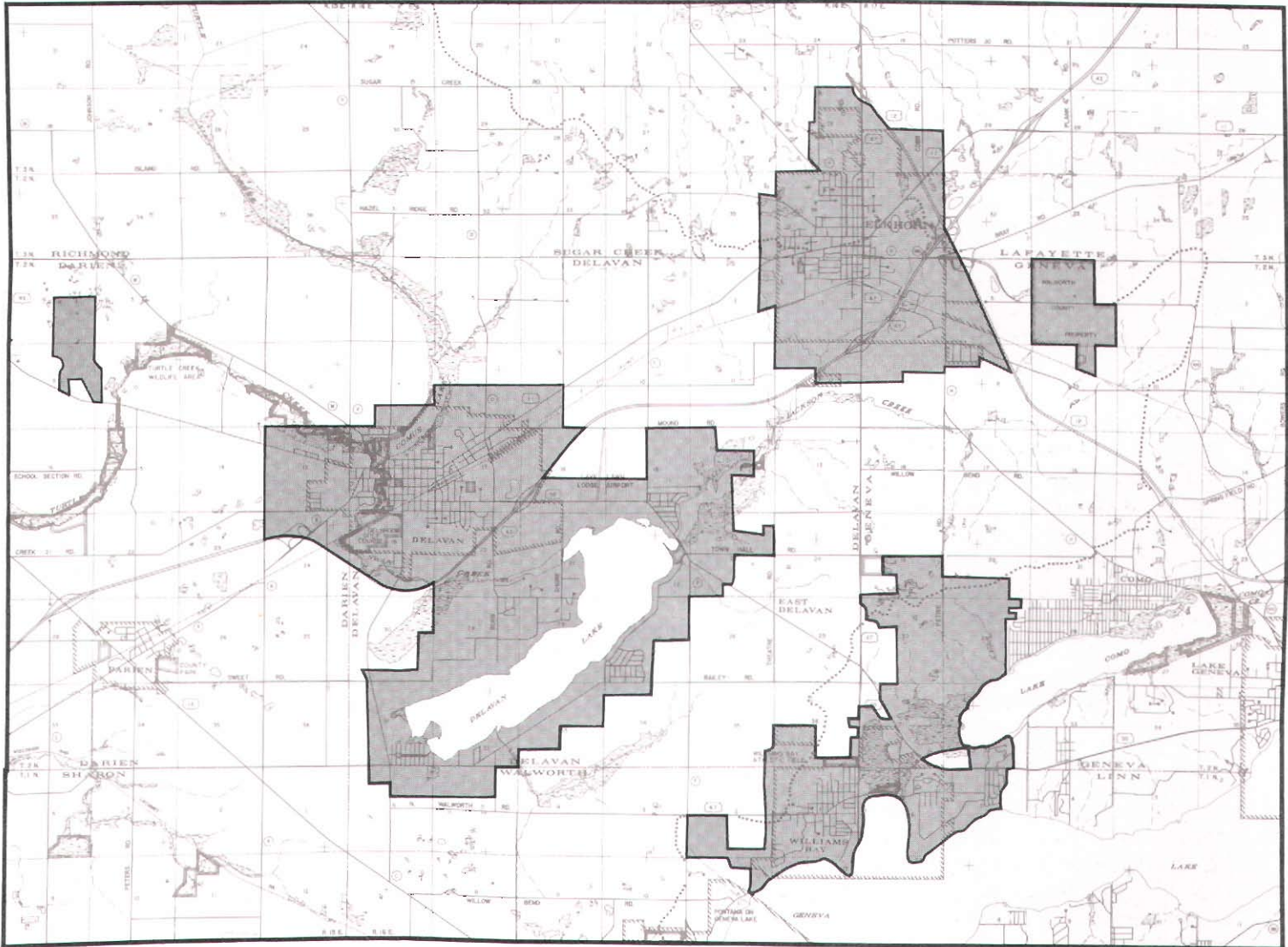
---

<sup>1</sup> Does not include a seasonal population of 5,400 persons.

<sup>2</sup> Does not include a seasonal population of 9,600 persons.

Map 4

WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS AS DEFINED IN SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 56 (FIRST EDITION) AS AMENDED



Source: SEWRPC.

year 2010 regional land use plan currently under preparation by the Regional Planning Commission staff.

The refinement effort also considered the location of areas where onsite soil absorption sewage disposal systems were known to be failing; the location of existing property ownership boundaries; and certain pertinent aspects of the natural resource base, including the location and extent of soils suitable for urban development, the location and extent of primary and secondary environmental corridors, and the location and extent of prime agricultural lands.

As previously noted, the Commission, as part of its regional planning program, including the delineation of sanitary sewer service areas, and the subsequent refinements thereof, utilizes the "alternative futures" concept to deal with the uncertainties regarding factors affecting future growth and development within the Region. The sewer service area refinement effort for the Walworth County Metropolitan Sewerage District thus incorporates a range of population levels with the most reasonable lower end of the population range based upon the Commission's intermediate-growth centralized land use plan, and most reasonable upper end of the population range being based upon the Commission's high-growth decentralized land use plan. Indeed, local sanitary sewer service area and sewerage facility planning work should consider a range of population levels in the evaluation of alternative facility plans in order to identify alternatives which perform well under a reasonable range of possible future conditions. Construction of certain facilities and mechanical and electrical components, such as pumps, compressors, and chemical feed equipment, of sewage treatment facilities are typically based upon relatively short-term population and loading forecasts. These facilities are often replaced or rebuilt at intervals of 10 to 15 years and are amenable to expansion in a staged manner. Accordingly, capital investment in such facilities are often limited to those relatively certain to be needed over a 15 to 20-year design period. The use of the intermediate population forecast, thus, may be most appropriate for use in the design of such facilities.

Consideration of a high-growth population forecast, however, may be appropriate in delineating a service area and in the design of certain components of the sewerage system that

have a longer life, including gravity flow conveyance facilities and certain treatment plant components such as hydraulic conduits and tanks. With respect to the size of the service area, the high-growth population forecast may be the most logical to use since the Commission forecasting methodology analyses indicate that such a level is indeed potentially achievable within the Southeastern Wisconsin Region. A sanitary sewer service area size based upon that level may also be desirable in order to provide flexibility to communities in determining the spatial distribution of anticipated new urban development and to facilitate the operation of the urban land market. With respect to the design of certain components of the sewerage system, the use of the high-growth population forecast may also be desirable where the physical life of the facilities is substantially greater than 20 years. Thus, facility construction based upon the high-growth forecast and loading levels may be warranted where the physical life of the facilities extends beyond the 20-year planning period.

As shown on Map 5, the preliminary sanitary sewer service areas for the WalCoMet Sewerage District sewage treatment facility together total about 36.7 square miles, or about 22 percent of the total study area of 165.9 square miles.

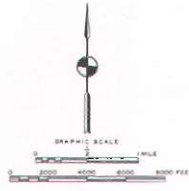
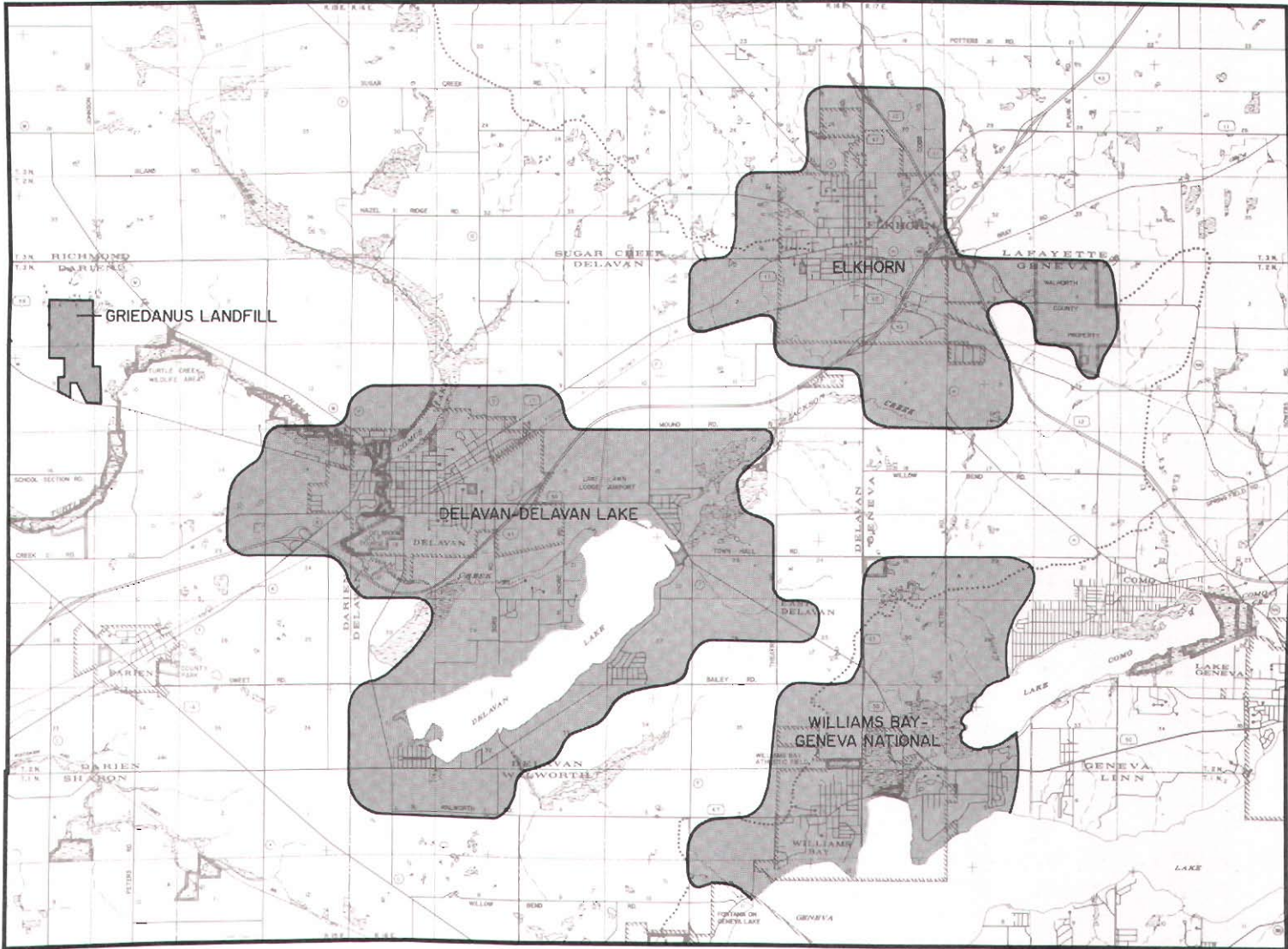
#### REFINED WALCOMET SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS

An intergovernmental meeting attended by representatives of Walworth County, the Cities of Delavan and Elkhorn, the Village of Williams Bay, the Town of Geneva, the Delavan Lake Sanitary District, the Geneva National Sanitary District, the Walworth County Metropolitan Sewerage District, and the Regional Planning Commission, was held on April 30, 1991, to review the preliminarily refined sewer service areas and to modify as necessary, those service areas, based on local input and suggestions. A number of suggested changes to the preliminary sewer service areas were made at the April 30, 1991, intergovernmental meeting, the most significant of which was the request by the representative of the Town of Geneva to include the Lake Como area to the WalCoMet Sewerage District sewage treatment facility sewer service areas.



Map 5

PRELIMINARY REFINED WALWORTH COUNTY METROPOLITAN  
SEWERAGE DISTRICT SANITARY SEWER SERVICE AREAS



Source: SEWRPC.

The refined year 2010 sanitary sewer service areas anticipated to be tributary to the WalCoMet sewage treatment facility, as agreed upon at the April 30, 1991, intergovernmental meeting and as submitted to public hearing; are shown on Map 6, together with existing trunk sewers.

The combined gross WalCoMet sanitary sewer service areas total about 39.9 square miles, or about 24 percent of the total study area of 165.9 square miles. This gross sewer service area includes 4.8 square miles of primary environmental corridors, 0.5 square mile of secondary environmental corridors, and 0.8 square mile of isolated natural areas. Therefore, a total of 6.1 square miles, or about 15 percent of the combined sewer service areas, would be encompassed in environmentally sensitive areas, consisting of some primary and secondary environmental corridor and isolated natural area lands.

It should be noted that the environmentally significant lands indicated on Map 6 total approximately 130 acres more than the environmentally significant lands indicated on Map 3. As indicated on Map 7, 30 acres are located in

four areas within the 100-year recurrence interval floodplain, adjacent to Swan Creek, and are proposed to remain undeveloped. Of these four areas, two areas encompassing about 23 acres are anticipated to be converted to primary environmental corridor and two areas encompassing seven acres are anticipated to be converted to secondary environmental corridor over the plan design period. In addition, approximately 100 acres located within the 100-year recurrence interval flood hazard area adjacent to Jackson Creek are proposed to remain undeveloped and converted to wetland areas and sedimentation basins in connection with the rehabilitation and improvement of Delavan Lake. Such areas are envisioned to be added to the primary environmental corridor over the plan design period.

As indicated in Table 3, the refined year 2010 sanitary sewer service areas tributary to the WalCoMet sewage treatment facility would, under the Commission's high-growth, decentralized land use plan, accommodate a plan year 2010 population of about 43,000 persons. Population levels within these areas, however, would

Table 3

**SANITARY SEWER SERVICE AREA INFORMATION FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT**

Sanitary Sewer Service Area	Areal Extent	1985 Population		2010 Population	
	Square Miles	Estimated	Percent	Planned	Percent
Delavan-Delavan Lake . . . . .	17.8	9,400	49.2	22,200	52.0
Elkhorn . . . . .	11.1	5,700	29.9	14,300	33.5
Griedanus Landfill . . . . .	0.5	--	--	--	--
Williams Bay-Geneva National-Lake Como . . . . .	10.5	4,000	20.9	6,200 <sup>a</sup>	14.5
<b>Total</b>	<b>39.9</b>	<b>19,100<sup>b</sup></b>	<b>100.0</b>	<b>42,700<sup>c</sup></b>	<b>100.0</b>

<sup>a</sup>It is envisioned under the sewerage facilities plan currently under preparation for WalCoMet that the population level for the Lake Como area will not experience any significant growth beyond the present population of 1,400 persons.

<sup>b</sup>Does not include a seasonal population of about 4,200 persons within the Delavan-Delavan Lake sewer service area; and about 3,500 persons within the Williams Bay-Geneva National-Lake Como sewer service area.

<sup>c</sup>Does not include a seasonal population of about 4,200 persons within the Delavan-Delavan Lake sewer service area and about 9,500 persons within the Williams Bay-Geneva National-Lake Como sewer service area.

Source: SEWRPC.

approximate about 25,000 persons under the intermediate-growth, centralized land use plan, and could be as low as 19,600 persons under the low-growth, decentralized land use plan. The incremental population and housing unit levels envisioned in the WalCoMet sewer service areas would be accommodated at a combined density of about 2.1 dwelling units per net residential acre. This density lies within the recommended density range for the WalCoMet area of the region as identified in the Commission-adopted regional land use plan for the year 2010. Information concerning the methodology utilized in the determination of net incremental residential densities in the WalCoMet areas are set forth in Appendix B.

### WATER QUALITY IMPACTS

Under this recommended sanitary sewer service area plan, it is envisioned that all urban lands located within the planned urban service area would receive sanitary sewer service. It is also envisioned that all lands identified as primary environmental corridor not be developed for intensive urban use. It is recognized, however, that certain land uses requiring sanitary sewer service could be properly located in the corridors, including park and outdoor recreation facilities, certain institutional uses, and, in some cases, very low density residential development on five-acre lots. Accordingly, assuming proper site development and construction practices, including appropriate soil erosion control practices,<sup>3</sup> and compatible development within primary and secondary environmental corridors, isolated natural areas, or lands adjacent to such areas, there should be no significant adverse water quality impacts attributable to the development of the planned sanitary sewer service areas.

---

<sup>3</sup>*The Wisconsin Department of Natural Resources, in conjunction with the League of Wisconsin Municipalities, published a model ordinance which local units of government are encouraged to adopt to control construction site erosion as documented in "Model Ordinance," The Municipality, Volume 82, No. 1.*

### COST-EFFECTIVENESS ANALYSIS OF SEWAGE CONVEYANCE AND TREATMENT ALTERNATIVES

As noted earlier, this amendment includes a proposed change in the structure of the regional water quality management plan which provides for the transfer of the Como Lake sewer service area for sewage treatment purposes from the City of Lake Geneva sewerage system to the WalCoMet sewerage system. The Como Lake sewer service area consists of the existing and currently unsewered development on the north shore of Lake Como. The adopted regional water quality management plan currently recommends that the Lake Como area be connected to the Lake Geneva sewerage system for treatment purposes. As noted previously, the Town of Geneva requested that the area be transferred to WalCoMet for treatment purposes. In addition, recent facilities planning conducted by WalCoMet included recommendations and supporting analysis for transferring the Como Lake sewer service area to the WalCoMet sewerage system.<sup>4</sup>

This section of the sewer service area plan presents information on the relative cost effectiveness of the alternative means of providing treatment for sewage from the Como Lake sewer service area. In considering this matter, the Commission staff independently evaluated the alternatives. In so doing, the Commission drew upon, as appropriate, information included in the facility plan prepared for WalCoMet.

The first alternative considered provides for connection of the Como Lake sewer service area to the Lake Geneva sewerage system via a pumping station, force main, and gravity sewer. Under the second alternative, the Como Lake sewer service area would be connected to the WalCoMet sewerage system via a pumping station and force main which would connect to the existing Geneva National sewerage system which, in turn, is connected to the WalCoMet system.




---

<sup>4</sup>*Howard Needles Tammen & Bergendoff, Master Plan—Walworth County Metropolitan Sewerage District, Sanitary Sewer Service Areas, November 1990.*

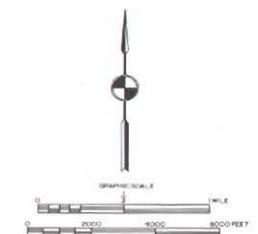


PRE-PUBLIC HEARING  
WALWORTH COUNTY METROPOLITAN  
SEWERAGE DISTRICT SANITARY  
SEWER SERVICE AREAS

LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  NET SANITARY SEWER SERVICE AREA (EXISTING)
-  NET SANITARY SEWER SERVICE AREA (2010)
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY
-  EXISTING SEWAGE TREATMENT FACILITY
-  EXISTING PUMPING STATION
-  EXISTING TRUNK SEWER
-  EXISTING FORCE MAIN
-  PROPOSED PUMPING STATION
-  PROPOSED TRUNK SEWER
-  PROPOSED FORCE MAIN

Source: SEWRPC.





The analyses conducted were based upon the estimated future wastewater hydraulic loadings set forth in Table 4. The future condition hydraulic flow rates for the wastewater generated in the Como Lake sewer service area are estimated at 0.27 million gallons per day (mgd) on an annual average basis, 0.56 mgd on a maximum monthly average basis, and 0.97 mgd on a maximum daily flow basis during the summer months. The year 2010 loadings to the WalCoMet sewage treatment plant are estimated to be 6.56 mgd on an annual average basis, 6.70 mgd on a maximum monthly average basis, and 9.91 mgd on a maximum daily flow basis. These estimates do not include potential future flow contributions from the Lauderdale Lakes, Darien, and Como Lake areas. The WalCoMet sewage treatment plant has a capacity of 3.86 mgd on an average annual daily basis. In this analysis, it was assumed that the maximum

daily average flow computed on a monthly basis cannot exceed the average annual daily capacity. The City of Lake Geneva year 2010 loadings to the City's sewage treatment plant are estimated to be 1.27 mgd on an average annual basis, 1.85 mgd on a maximum monthly average basis, and 2.36 mgd on a maximum daily flow basis. The Lake Geneva sewage treatment plant has a capacity of 1.70 mgd on an average daily and maximum monthly average basis.

Table 5 summarizes the findings of the economic analysis of the two alternatives considered. Under Alternative 1, the wastewater from the Como Lake sewer service area would be conveyed to the City of Lake Geneva sewage treatment plant via an 8-inch force main and a 15-inch gravity sewer, as shown on Map 8. The force main would extend along the north side of Lake Como along an alignment generally follow-

**Table 4**  
**CURRENT AND DESIGN YEAR FLOW RATES FOR THE**  
**COMO LAKE SEWER SERVICE AREA ECONOMIC ANALYSIS**

Service Area	Current Hydraulic Loadings (million gallons per day)			Planned Future 2010 Hydraulic Loadings (million gallons per day)		
	Average Annual	Maximum Monthly	Maximum Daily	Average Annual	Maximum Monthly	Maximum Daily
Como Lake Sewer Service Area . . . . .	--	--	--	0.27 <sup>a</sup>	0.56 <sup>b</sup>	0.97 <sup>a</sup>
WalCoMet Sewage Treatment Plant . . . . .	2.50 <sup>c</sup>	2.85 <sup>c</sup>	4.51 <sup>c</sup>	6.56 <sup>a,d</sup>	6.70 <sup>b,d</sup>	9.91 <sup>b,d</sup>
Lake Geneva Sewage Treatment Plant . . . . .	0.91 <sup>c</sup>	1.25 <sup>c</sup>	1.52 <sup>c</sup>	1.27 <sup>b</sup>	1.85	2.36 <sup>b</sup>

<sup>a</sup>From November 1990 WalCoMet facility plan.

<sup>b</sup>Calculated by SEWRPC using year 2010 population level with 125 gallons per day (gpd), 210 gpd, and 295 gpd as the average, daily maximum monthly average, and maximum daily, respectively, per capita loadings for the planned increase in population. Planned population for Lake Como and Lake Geneva sewer service areas based upon the intermediate growth regional land use plan. Year 2010 population for the WalCoMet sewer service area is based upon the November 1990 facility plan design population.

<sup>c</sup>From 1989 plant operation reports.

<sup>d</sup>Does not include flows from Como Lake, Darien, and Lauderdale sewer service areas.







Source: SEWRPC.

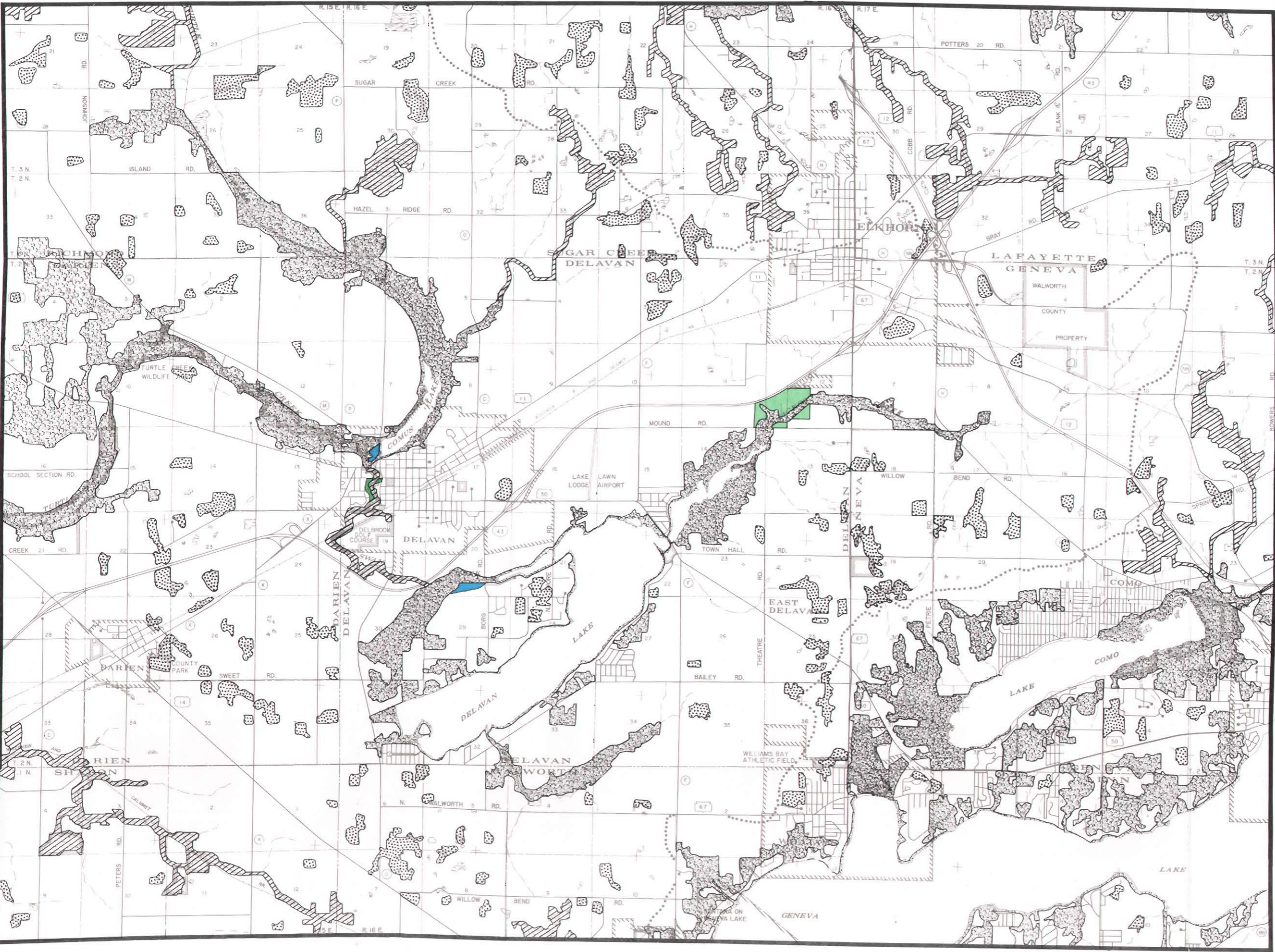


Map 7

**ANTICIPATED CHANGE IN THE ENVIRONMENTALLY SIGNIFICANT LANDS IN THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT SEWER SERVICE AREAS: 1990-2010**

**LEGEND**

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  FLOODLANDS PROPOSED TO REMAIN UNDEVELOPED AND ADDED TO THE PRIMARY ENVIRONMENTAL CORRIDOR
-  FLOODLANDS PROPOSED TO REMAIN UNDEVELOPED AND ADDED TO THE SECONDARY ENVIRONMENTAL CORRIDOR
-  AREA PROPOSED TO REMAIN UNDEVELOPED AND ADDED TO THE PRIMARY ENVIRONMENTAL CORRIDOR



Source: SEWRPC.



Table 5

ECONOMIC ANALYSIS COST ESTIMATES OF ALTERNATIVE SEWERAGE SYSTEM PLANS FOR THE LAKE COMO SEWER SERVICE AREA

Alternatives and Components	Initial Capital Cost	Operation and Maintenance Cost 1990-2010	Present Worth: 1990-2040 <sup>a</sup>			Equivalent Annual Cost: 1990-2040 <sup>a</sup>		
			Construction	Operation and Maintenance	Total	Construction	Operation and Maintenance	Total
Alternative 1—Conveyance of Sewage to City of Lake Geneva Sewerage System								
Como Lake to Lake Geneva Trunk Sewer <sup>b</sup>	\$1,220,000	\$20,000	\$1,220,000	\$315,000	\$1,535,000	\$ 77,000	\$20,000	\$ 97,000
Lake Geneva Sewerage System Metering and Connection	50,000	-- <sup>b</sup>	50,000	--	50,000	3,000	--	3,000
Sewage Treatment Plant	1,500,000 <sup>c</sup>	-- <sup>b</sup>	1,100,000	--	1,100,000	70,000	--	70,000
WalCoMet Sewage Treatment Plant	1,300,000 <sup>c</sup>	-- <sup>b</sup>	971,000	--	971,000	62,000	--	62,000
<b>Total</b>	<b>\$4,070,000</b>	<b>\$20,000</b>	<b>\$3,341,000</b>	<b>\$315,000</b>	<b>\$3,656,000</b>	<b>\$212,000</b>	<b>\$20,000</b>	<b>\$232,000</b>
Alternative 2—Conveyance of Sewage to WalCoMet Sewerage System via Bailey Road								
Como Lake to Geneva National Trunk Sewer	\$ 670,000	\$17,000	\$ 670,000	\$268,000	\$ 938,000	\$43,000	\$17,000	\$ 60,000
Geneva National Pumping Station Expenses	50,000 <sup>d</sup>	1,000	50,000	16,000	66,000	3,000	1,000	4,000
Williams Bay Pumping Station No. 2 and Force Main	130,000 <sup>e</sup>	1,000	97,000	12,000	109,000	6,000	800	6,800
WalCoMet Sewerage System Metering and Connection	50,000	-- <sup>b</sup>	50,000	--	50,000	3,000	--	3,000
Sewage Treatment Plant	1,300,000 <sup>c</sup>	-- <sup>b</sup>	971,000	--	971,000	62,000	--	62,000
Lake Geneva Sewage Treatment Plant	1,500,000 <sup>f</sup>	-- <sup>b</sup>	557,000	--	557,000	35,000	--	35,000
<b>Total</b>	<b>\$3,700,000</b>	<b>\$19,000</b>	<b>\$2,395,000</b>	<b>\$296,000</b>	<b>\$2,691,000</b>	<b>\$152,000</b>	<b>\$18,800</b>	<b>\$170,800</b>

<sup>a</sup>The economic analysis was conducted assuming a 50-year analysis period and a 6 percent interest rate.

<sup>b</sup>Operation and maintenance cost for sewage treatment and metering are assumed to be similar for both sewage treatment plants and are not included in the analysis.

<sup>c</sup>Cost expected to be incurred in about 1995.

<sup>d</sup>Cost based upon the November 1990 WalCoMet facility plan and includes the addition of one pump.

<sup>e</sup>Cost based upon the November 1990 WalCoMet facility plan and includes provision of added capacity in the Williams Bay pumping station and the oversizing of the force main from that station to the WalCoMet gravity sewer at North Shore Drive. These costs are assumed to be incurred five years into the planning period.

<sup>f</sup>Costs expected to be incurred in about the year 2007.

Source: SEWRPC.

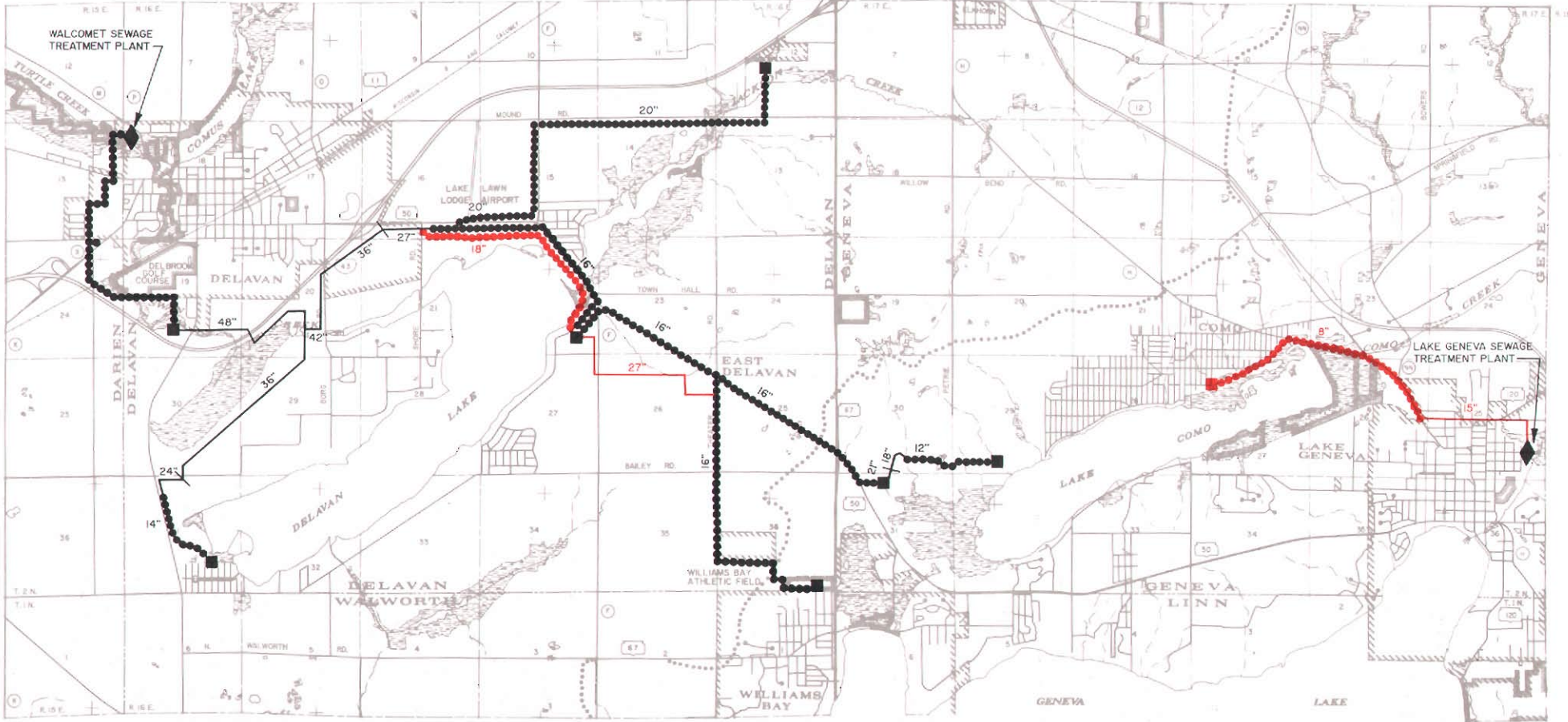
ing the north shore of Lake Como and CTH H to the City of Lake Geneva, and then through the City to the existing Lake Geneva sewage treatment plant.

This alternative also includes provisions for the expansion of the Lake Geneva sewage treatment








plant and the WalCoMet sewage treatment plant. Consideration of both plants in both alternatives was necessary since the time of the expansion of each plant is dependent upon the Como Lake connection as shown in Figure 1. Under Alternative 1, expansion of both sewage treatment plants is envisioned to occur in 1995. While the timing of the expansions at each

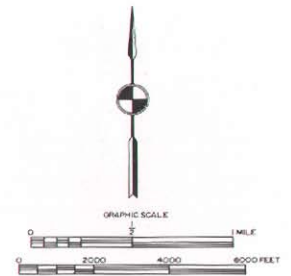
Map 8

ALTERNATIVE 1—CONNECTION OF THE LAKE COMO SEWER SERVICE AREA TO THE LAKE GENEVA SEWERAGE SYSTEM



LEGEND

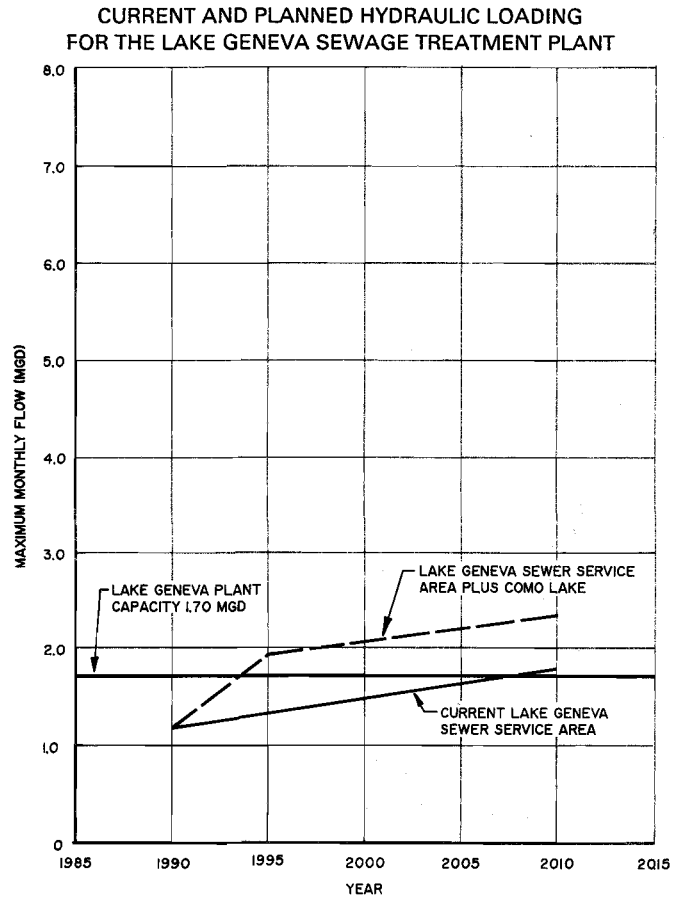
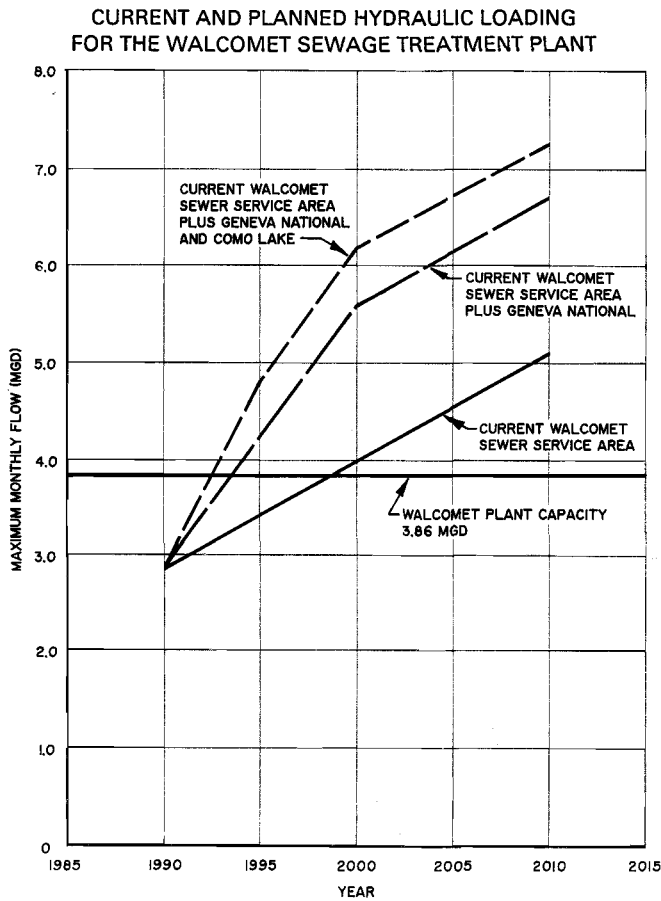
-  EXISTING PUBLIC SEWAGE TREATMENT PLANT
-  EXISTING GRAVITY SEWER AND SIZE IN INCHES
-  EXISTING FORCE MAIN AND SIZE IN INCHES
-  EXISTING PUMPING STATION
-  PROPOSED GRAVITY SEWER AND SIZE IN INCHES
-  PROPOSED FORCE MAIN AND SIZE IN INCHES
-  PROPOSED PUMPING STATION



Source: SEWRPC.

Figure 1

CURRENT AND PLANNED HYDRAULIC LOADINGS FOR WALCOMET AND LAKE GENEVA TREATMENT PLANTS



Source: SEWRPC.

sewage treatment plant is expected to be impacted by the Como Lake connection, the plant sizing under each alternative is not expected to be impacted. Rather, the size of the expansion is expected to be governed by logical modular increments. In the case of the WalCoMet plant, the next expansion is expected to be from the current average hydraulic capacity of 3.86 mgd to about 5.5 mgd. In the case of the Lake Geneva plant, the next expansion is expected to be from the current capacity of 1.7 mgd to about 2.5 mgd.

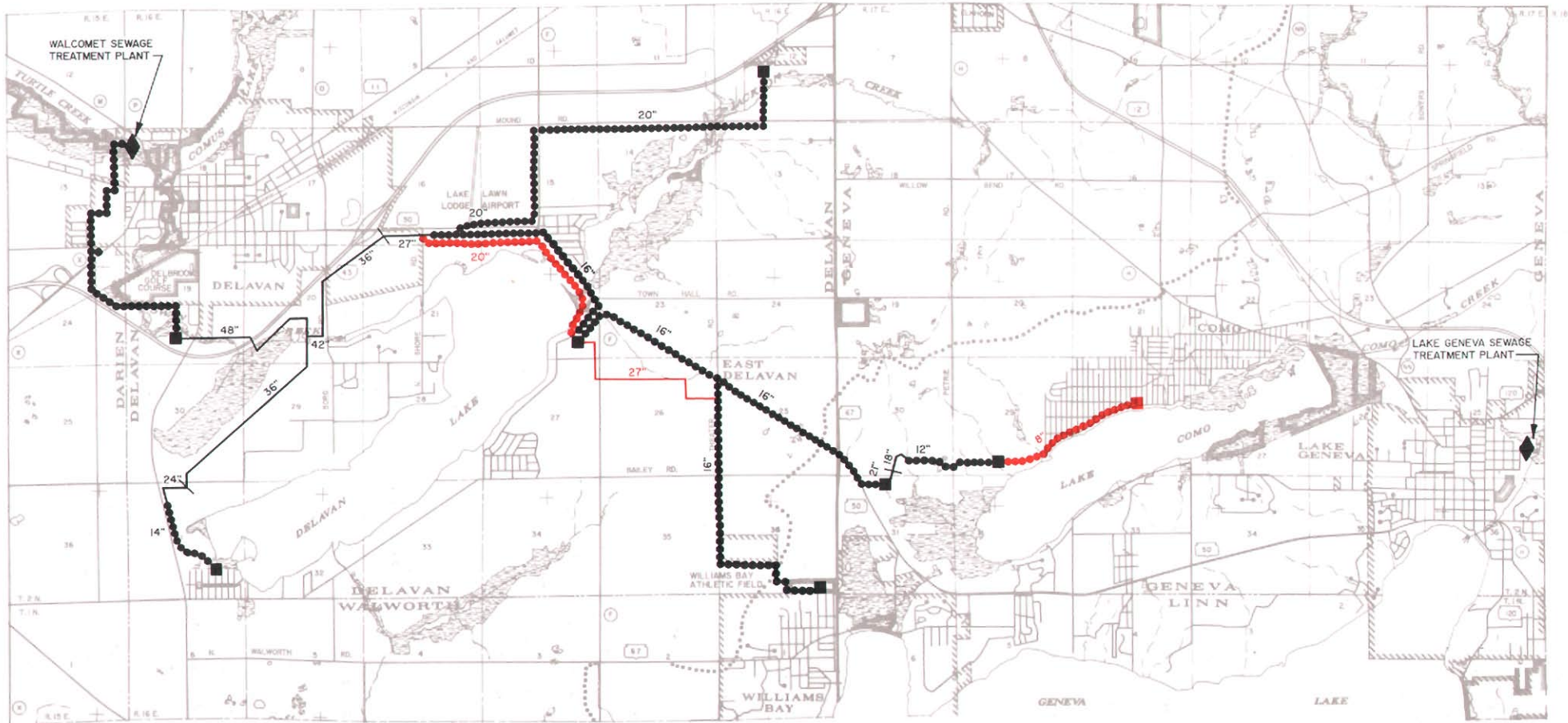
As shown on Table 5, the total capital cost of Alternative 1 is estimated to be \$4,070,000, of which \$2,800,000 would be expended in about 1995 and \$1,270,000 would have to be invested initially. The average annual operation and maintenance cost over a 50-year design period is estimated at \$20,000. This alternative would

have a total present worth of about \$3,656,000, representing an equivalent annual cost of about \$232,000.








Under Alternative 2, wastewater from the Como Lake sewer service area would be conveyed to the WalCoMet system through a pumping station and 8-inch force main to the existing Geneva National System as shown on Map 9. The existing Geneva National main pumping station capacity would have to be expanded through the addition of one pump. The 27-inch gravity sewer between Theatre Road and the Williams Bay Pumping Station No. 2 is currently being bid for construction in Summer 1991. That sewer includes capacity for the Lake Como area. An analysis conducted as part of that project design indicated no significant change in that sewer project if the Como Lake sewer service area was not provided for in the

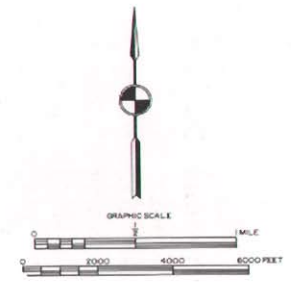
Map 9

ALTERNATIVE 2—CONNECTION OF THE COMO LAKE SEWER SERVICE AREA TO THE WALCOMET SEWERAGE SYSTEM



LEGEND

-  EXISTING PUBLIC SEWAGE TREATMENT PLANT
-  EXISTING GRAVITY SEWER AND SIZE IN INCHES
-  EXISTING FORCE MAIN AND SIZE IN INCHES
-  EXISTING PUMPING STATION
-  PROPOSED GRAVITY SEWER AND SIZE IN INCHES
-  PROPOSED FORCE MAIN AND SIZE IN INCHES
-  PROPOSED PUMPING STATION



Source: SEWRPC.



design. However, the Williams Bay Pumping Station No. 2 and a new force main which is envisioned to be connected to the 27-inch gravity sewer at North Shore Drive would be impacted, with the Como Lake area contributing about 12 percent of the design capacity. The upgrading of Williams Bay Pumping Station No. 2 and the force main for that pumping station is estimated to be affected by the Lake Como area connection, with the incremental cost estimated to be \$100,000. The cost of these improvements are expected to be incurred five years into the planning period. The Como Lake area is not expected to impact the sizing of other downstream facilities since the Como Lake area contributes about 6 percent or less of the flows to those facilities. The cost of \$50,000 for a connecting manhole and metering system has been included.

As discussed under Alternative 1, the cost analysis includes provisions for expansion of both the Lake Geneva and WalCoMet sewage treatment plants. As shown in Figure 1, the WalCoMet expansion would be needed as soon as possible and was assumed to be constructed in 1995. The Lake Geneva plant expansion would be constructed in about the year 2007.

As shown in Table 5, the initial capital cost of Alternative 2 is estimated to be \$3,700,000, of which \$143,000 would be deferred for about five years, \$1,500,000 would be deferred until about the year 2007, and \$170,000 would be expended initially. The average annual operation and maintenance cost over a 20-year period is estimated at \$19,000 per year. This alternative would have a total present worth of about \$2,691,000, representing an equivalent annual cost of about \$170,800.

It was assumed for purposes of this analysis that the incremental cost of providing for sewage treatment, operation and maintenance, at the WalCoMet plant and the Lake Geneva plant would be similar and was not included in the analysis since the cost would be common to both alternatives.

The foregoing analysis indicates that the cost of providing for conveyance of wastewater from the planned Como Lake sewer service area to the WalCoMet system under Alternative 2 is less costly than conveyance to the City of Lake Geneva system. The equivalent annual cost for

Alternative 2 is about \$61,000, or about 26 percent less costly than the cost for Alternative 1.

In preparing the regional water quality management plan, the Commission conducted a number of economic analyses of alternative sewerage system configurations throughout the Region. In comparing alternatives, the guidelines used by the Commission, which were endorsed by the technical advisory committees concerned and supported by U. S. Environmental Protection Agency guidelines, indicated that, if two compared alternatives were found to be equivalent annual costs greater than 10 percent of one another, then the least-cost alternative would, absent any overriding environmental considerations, conclusively be determined to be the most cost-effective alternative. Since the difference in the cost of Alternative 2 compared to the cost for Alternative 1 in the above comparisons substantially exceed 10 percent, and since no major environmental considerations would favor Alternative 1, it is determined that the connection of the proposed sewer service area to the WalCoMet system is the most cost-effective means in which to accommodate treatment of wastes.

Based upon the foregoing analyses, it is concluded that the regional water quality management plan should be amended by designating the WalCoMet Sewerage District treatment facility as the receiving sewage treatment plant for sewage generated in the Como Lake sewer service area. The Como Lake area would be removed from the Lake Geneva sewage treatment plant service area.

#### SEWAGE TREATMENT PLANT CAPACITY IMPACT ANALYSIS

The present hydraulic capacity of the WalCoMet Sewerage District sewage treatment plant is 3.86 mgd on an average annual flow basis. The current average hydraulic loading on the plant is about 2.50 mgd on an average annual basis and 2.85 mgd on a maximum monthly basis. The projected future, approximately year 2010, average daily hydraulic loading is estimated to be 6.50 mgd on an average daily basis and 6.70 mgd on a maximum monthly basis, considering the current users of that system, including the Village of Williams Bay.



As shown in Figure 1, a plant capacity expansion will be needed by about the year 1995 without consideration of the Como Lake area. If the Como Lake area is added, the plant expansion will be theoretically needed about one or two years earlier. Since the 1995 date is likely the earliest possible "on-line" expansion date, the Como Lake area connection may have to be deferred until that expansion is completed unless other development in the area, including the Geneva National development, takes place at a slower than projected rate.

## **PUBLIC REACTION TO THE PROPOSED SANITARY SEWER SERVICE AREAS**

A public hearing was held on May 28, 1991, for the purpose of receiving comments on the refined sanitary sewer service areas as shown on Map 6. This hearing was sponsored by the Walworth County Metropolitan Sewerage District and the Regional Planning Commission. A copy of the transcript of the public hearing is presented in Appendix A.

A brief summary of the sewer service area refinement report for the WalCoMet sanitary sewer service areas was presented prior to receipt of public comment. The rationale for refining and detailing the sanitary sewer service areas tributary to the sewage treatment plant operated by the Walworth County Metropolitan Sewerage District was discussed, as was the importance of the final delineation of the service areas. In addition, the significance of the environmentally sensitive lands within the WalCoMet study area was discussed. Comments on the report and accompanying maps were then solicited.

A review of the hearing record indicates that three substantive concerns were raised. The first concern related to a possible addition to the initially proposed sewer service areas. It was recommended, and the Walworth County Metropolitan Sewerage District concurred, that the Delavan-Delavan Lake sewer service area, as shown on Map 6, be modified to include approximately 50 acres of land associated with the Sunset Hills Estates subdivision located north of Creek Road in U. S. Public Land Survey Sections 22 and 23, Township 2 North, Range 15 East. Such lands, currently being developed with onsite soil absorption sewage disposal systems, are located immediately adjacent to the initially proposed Delavan-Delavan Lake sewer service

area as set forth in this report and were suggested by the District Commissioner for inclusion within the service area to enable public sewer service to be provided in the event that operational problems occur with onsite sewage disposal systems within this development. Of the 50 acres to be added to the Delavan-Delavan Lake sewer service area, 10 acres are currently identified as isolated natural area, including about one acre of wetlands. The aforementioned change is reflected on Map 10.

The second area of concern related to the delineation of the Williams Bay sewer service area. Specifically, a representative of the Town of Linn requested that the sewer service area boundary in U. S. Public Land Survey Section 5, Township 1 North, Range 17 East, remain as set forth in the currently adopted sewer service area report. The Village of Williams Bay and the Walworth County Metropolitan Sewerage District subsequently concurred with this request, and the change is also reflected on Map 10.

The third area of concern related to changes in the delineation of environmentally significant lands within the WalCoMet study area since the adoption of the initial service area report in 1981. To address this issue, maps indicating changes to environmentally significant lands over the 1980-1990 time period were provided to each community within the study area. Comments concerning such changes were solicited and incorporated, as appropriate, into the final delineation of environmentally significant lands, as indicated on Map 10.

In addition, following the public hearing and consistent with the direction of the Walworth County Metropolitan Sewerage District made at the conclusion of the hearing that the several local governments concerned submit any additional comments for consideration, three requests for minor modifications to the WalCoMet sewer service areas were made. The first request, from the City of Elkhorn, involved the addition to the Elkhorn sewer service area of approximately 159 acres on the east side of the intersection of USH 12 and STH 11 in U. S. Public Land Survey Sections 30 and 31, Township 3 North, Range 17 East; and the deletion from the service area of approximately 253 acres of land north of Jackson Creek between USH 12 and CTH H in U. S. Public Land Survey Section 8, Township 2 North, Range 17 East. The

second request, from the Delavan Lake Sanitary District, involved the addition to the Delavan-Delavan Lake sewer service area of approximately 15 acres of land located north of North Walworth Road in the northwest one-quarter of U. S. Public Land Survey Section 5, Township 1 North, Range 16 East. The third request, from the City of Delavan, involved the modification of certain primary environmental corridor lands along the north shore of Delavan Lake. The Commission staff, upon field investigation of the subject corridor, determined that approximately four acres of land initially identified as primary environmental corridor only marginally met such corridor criteria and concurred with the City of Delavan that the primary environmental corridor in this area should be redelineated to exclude such lands. The Walworth County Metropolitan Sewerage District also concurred with the foregoing requests for changes to the sewer service area and such changes are reflected on Map 10.

Detailed delineations of the final WalCoMet sanitary sewer service areas and environmentally significant lands within these areas are shown on a series of aerial photographs reproduced as Map 11, beginning on page 31 and continuing through page 79 of this report.

## IMPLEMENTING RECOMMENDATIONS

It is recommended that the following steps be taken to implement the sanitary sewer service area proposals contained in this report:

1. Formal adoption or endorsement of SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000, and this SEWRPC Community Assistance Planning Report by the Walworth County Metropolitan Sewerage District as the operator of the sewage treatment facility; by the Common Councils of the Cities of Delavan and Elkhorn, by the Village Board of the Village of Williams Bay, by the Town Boards of the Towns of Darien, Delavan, Geneva, Lafayette, Linn, Sugar Creek, and Walworth as having lands affected by the planned sanitary sewer service area; by the Walworth County Park and Planning Commission as the county planning agency having joint responsibil-

ity with the Towns in planning and zoning and otherwise regulating the development of lands in the study area outside of the incorporated area; and by the Commissions of the Delavan Lake Sanitary District, Geneva National Sanitary District, and the Town of Walworth Utility District No. 1.

2. Formal adoption of this SEWRPC Community Assistance Planning Report by the Regional Planning Commission as an amendment to the regional water quality management plan set forth in SEWRPC Planning Report No. 30, with certification of this report as a plan amendment to all parties concerned, including the Wisconsin Natural Resources Board and the U. S. Environmental Protection Agency.
3. Review by all of the local units of government concerned of their zoning, land subdivision control, and related ordinances to ensure that the policies expressed in such ordinances reflect the urban development recommendations inherent in the final delineated WalCoMet sanitary sewer service area as shown on Maps 6 and 8. In particular, steps should be taken to ensure that those lands identified as being environmentally significant in this report are properly zoned to reflect a policy of retaining such lands, insofar as possible, in essentially natural, open uses.
4. Review by the Cities of Delavan and Elkhorn, the Delavan Lake and Geneva National Sanitary Districts and Walworth County, of utility extension policies to ensure that such policies are consistent with the urban land development recommendations inherent in the delineation of the planned sanitary sewer service areas.














## SUBSEQUENT REFINEMENTS TO THE WALCOMET SEWERAGE DISTRICT SEWER SERVICE AREAS

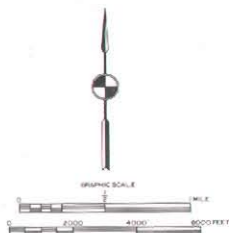
This report presents refined sewer service areas for the Walworth County Metropolitan Sewerage District. The refined sewer service areas were delineated cooperatively by the units and agencies of government concerned, and was subjected



Map 10  
 POST-PUBLIC HEARING  
 WALWORTH COUNTY METROPOLITAN  
 SEWERAGE DISTRICT SANITARY  
 SEWER SERVICE AREAS

LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  NET SANITARY SEWER SERVICE AREA (EXISTING)
-  NET SANITARY SEWER SERVICE AREA (2010)
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY
-  EXISTING SEWAGE TREATMENT FACILITY
-  EXISTING PUMPING STATION
-  EXISTING TRUNK SEWER
-  EXISTING FORCE MAIN
-  PROPOSED PUMPING STATION
-  PROPOSED TRUNK SEWER
-  PROPOSED FORCE MAIN



Source: SEWRPC.

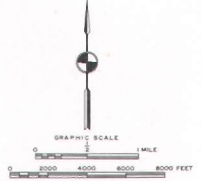
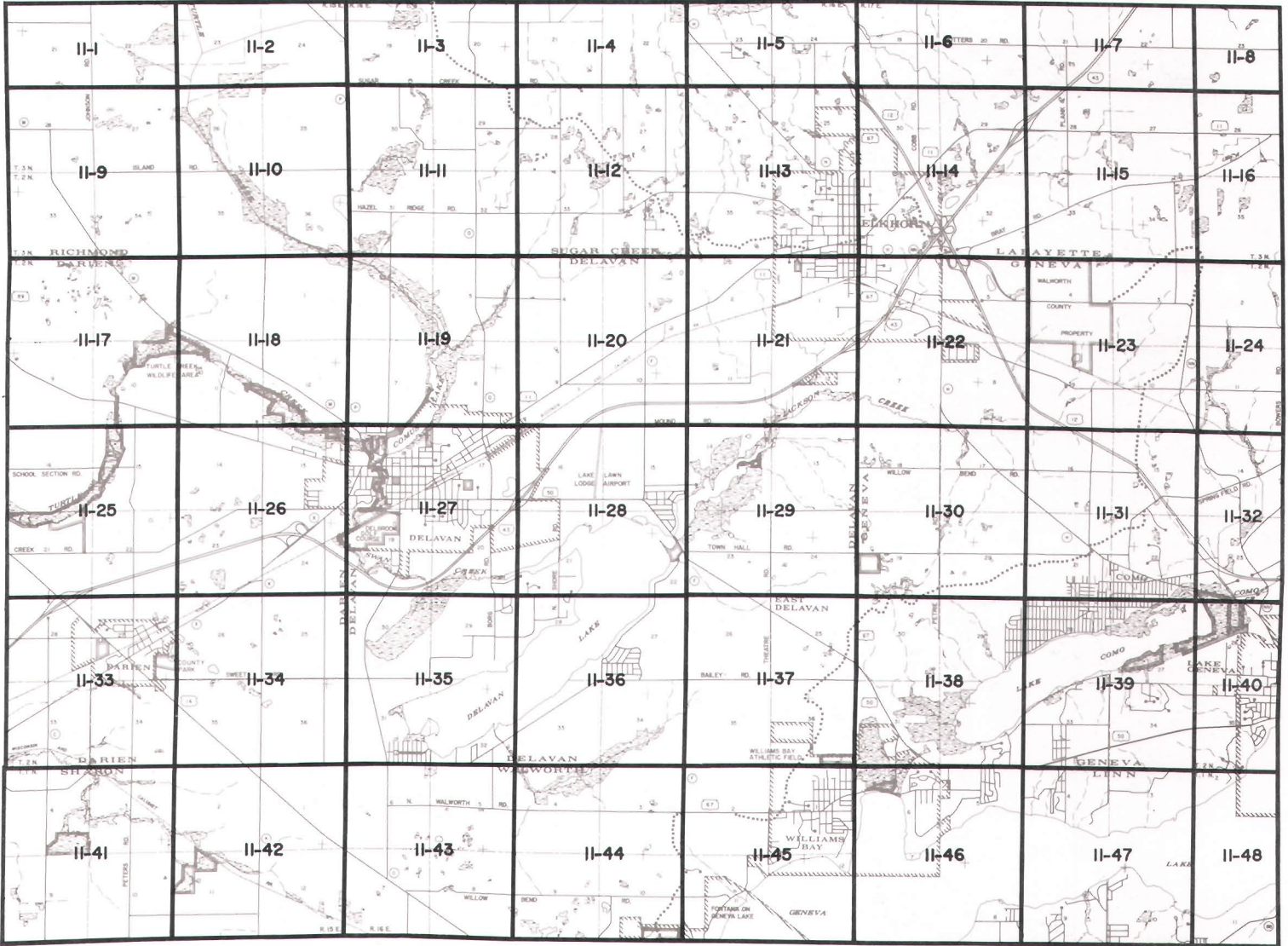


to review at a public hearing. It is envisioned that the delineated sewer service area will accommodate all new urban development anticipated in the WalCoMet area to the year 2010. Like other long-range plans, however, this sewer service area plan should be periodically reviewed, every five years, to assure that it continues to properly reflect the urban development objectives of the communities involved, especially as such objectives may relate to the amount and spatial distribution of new urban development requiring sewer service. Should it be determined by the WalCoMet Sewerage District, as the operators of the sewage treatment facility involved, that amendments to the sewer service area plan as presented herein are necessary, the District should ask the Southeastern Wisconsin Regional Planning Commission for assistance in undertaking the technical work required to properly amend the plan. Any such

plan revision should be carried out in a manner similar to that utilized in the refinement effort described in this report. While plan amendment may be expedited because study area base maps have been prepared and certain inventories completed as part of the sewer service area planning documented herein, such amendment should be subject to the same analyses and interagency review, and should include a public hearing to obtain the comments and suggestions of those citizens and landowners most affected by the proposed changes to the sewer service area boundary. Upon agreement on a revised sewer service area, the new plan map should be endorsed by the Commissioners of the Walworth County Metropolitan Sewerage District and by the Southeastern Wisconsin Regional Planning Commission prior to certification to the Wisconsin Department of Natural Resources and the U. S. Environmental Protection Agency.

Map 11

INDEX OF MAPS SHOWING ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREA FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS



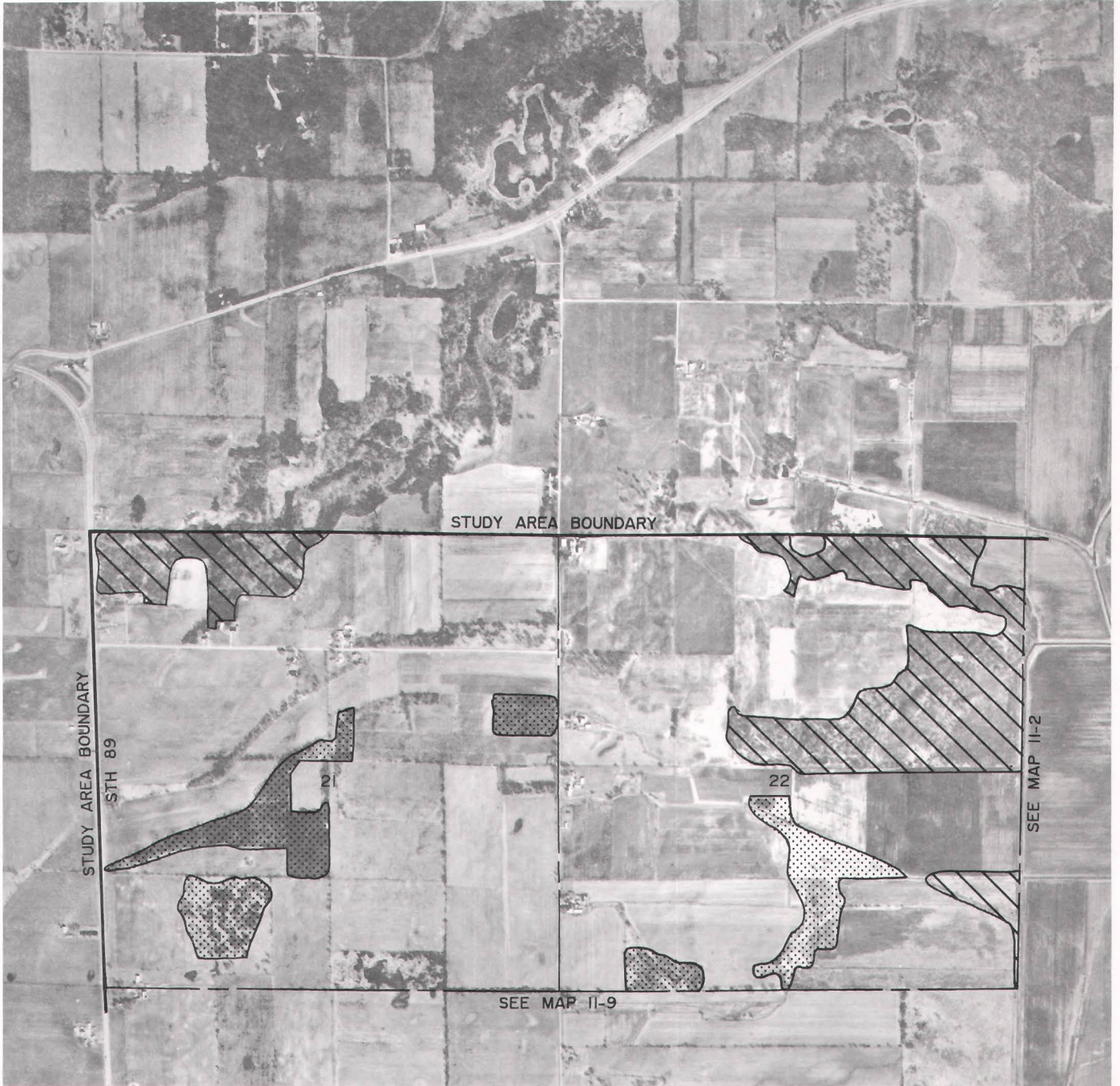
Source: SEWRPC.



Map 11-1

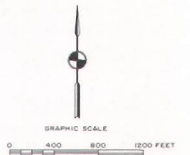
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 21 and 22  
Township 3 North, Range 15 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



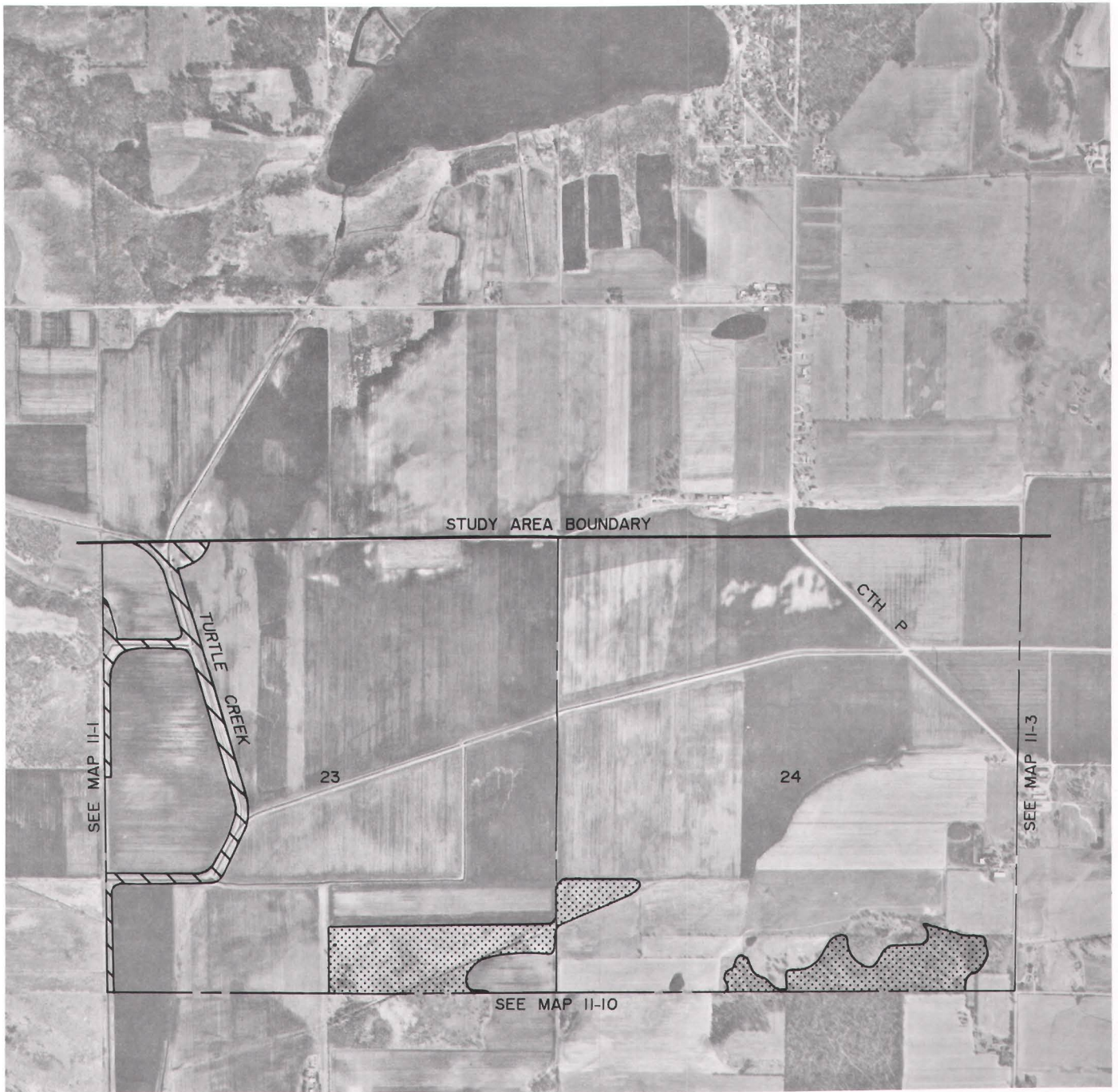
Source: SEWRPC.



Map 11-2

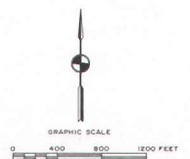
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 23 and 24  
Township 3 North, Range 15 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.



Map 11-3

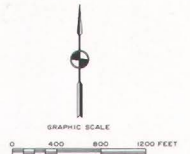
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 19 and 20  
Township 3 North, Range 16 East



LEGEND

 ISOLATED NATURAL AREA



Source: SEWRPC.



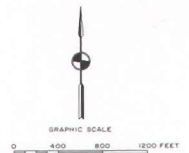
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 21 and 22  
Township 3 North, Range 16 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA





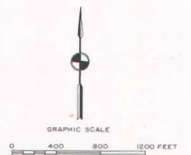
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 23 and 24  
Township 3 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.



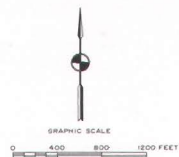
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 19 and 20  
Township 3 North, Range 17 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA





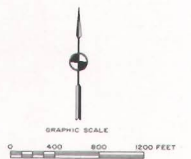
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 21 and 22  
Township 3 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.



Map 11-8

ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Section 23  
Township 3 North, Range 17 East



LEGEND

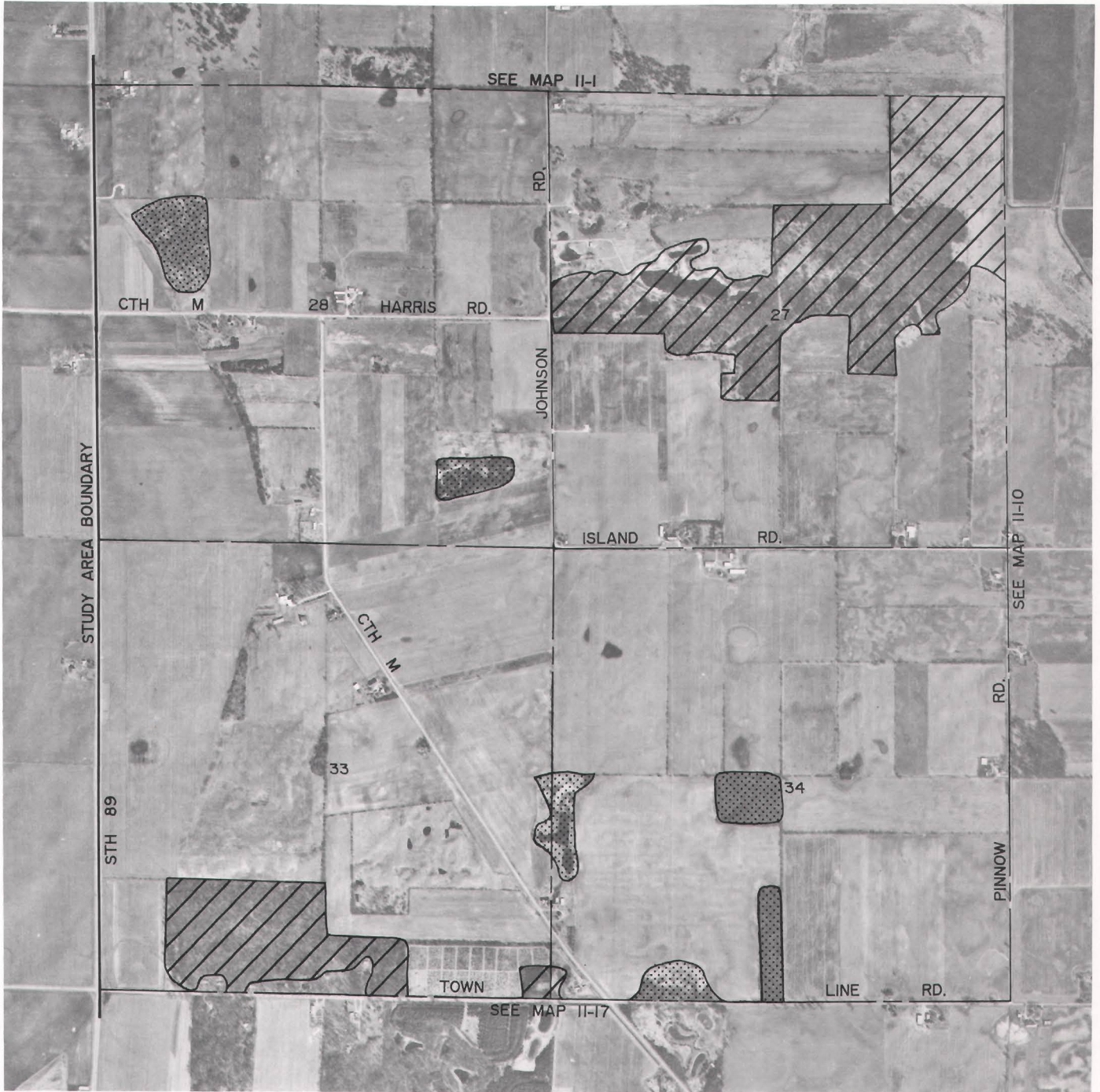
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA





Map 11-9

ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 3 North, Range 15 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



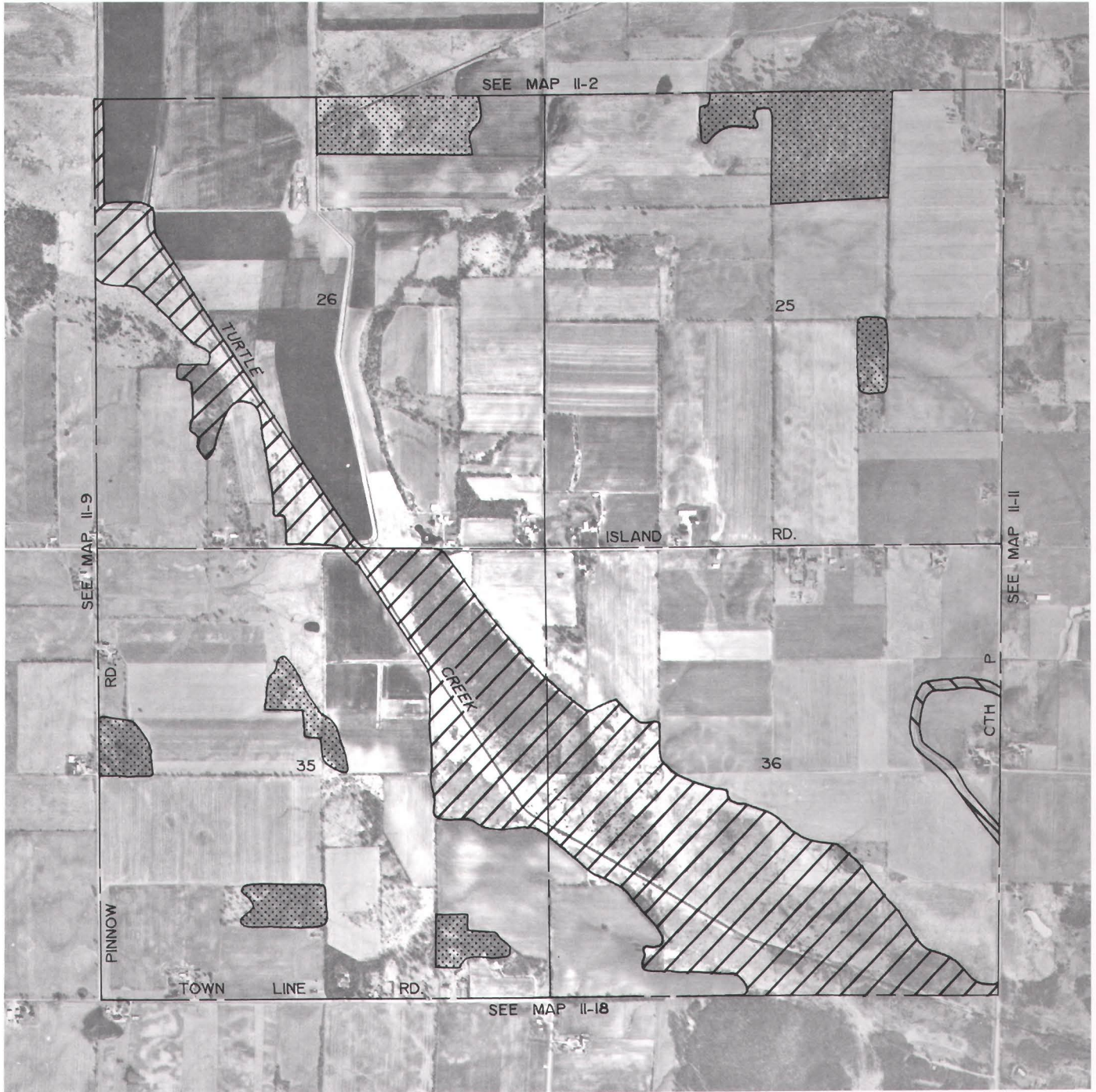
Source: SEWRPC.






Map 11-10

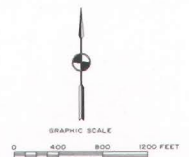
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 25, 26, 35, and 36  
Township 3 North, Range 15 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.



ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 29, 30, 31, and 32  
Township 3 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.



Map 11-12

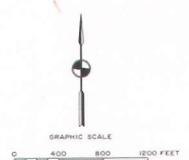
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 3 North, Range 16 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA

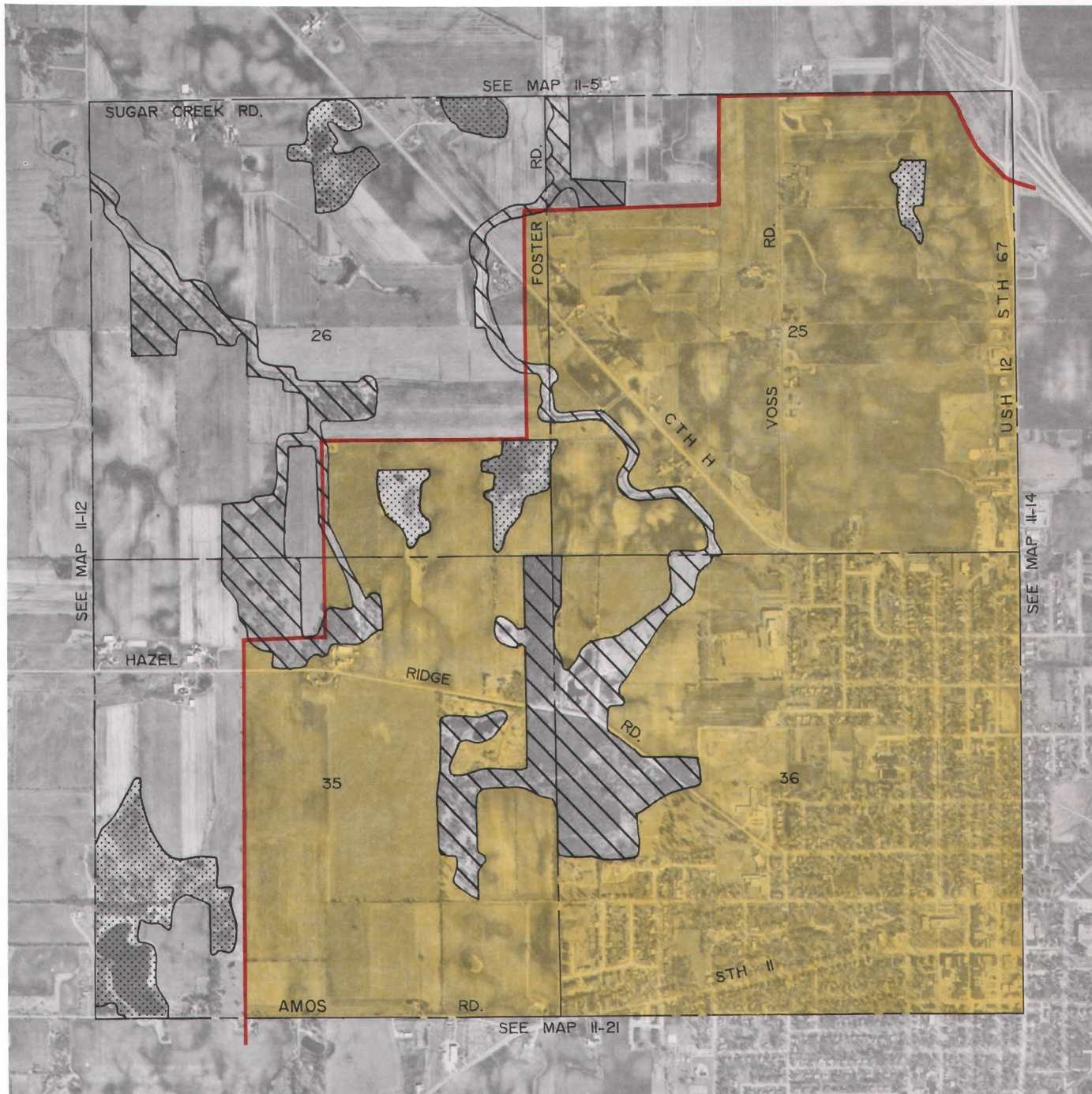


Source: SEWRPC.







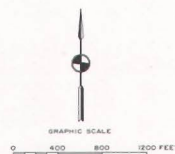
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 25, 26, 35, and 36  
Township 3 North, Range 16 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

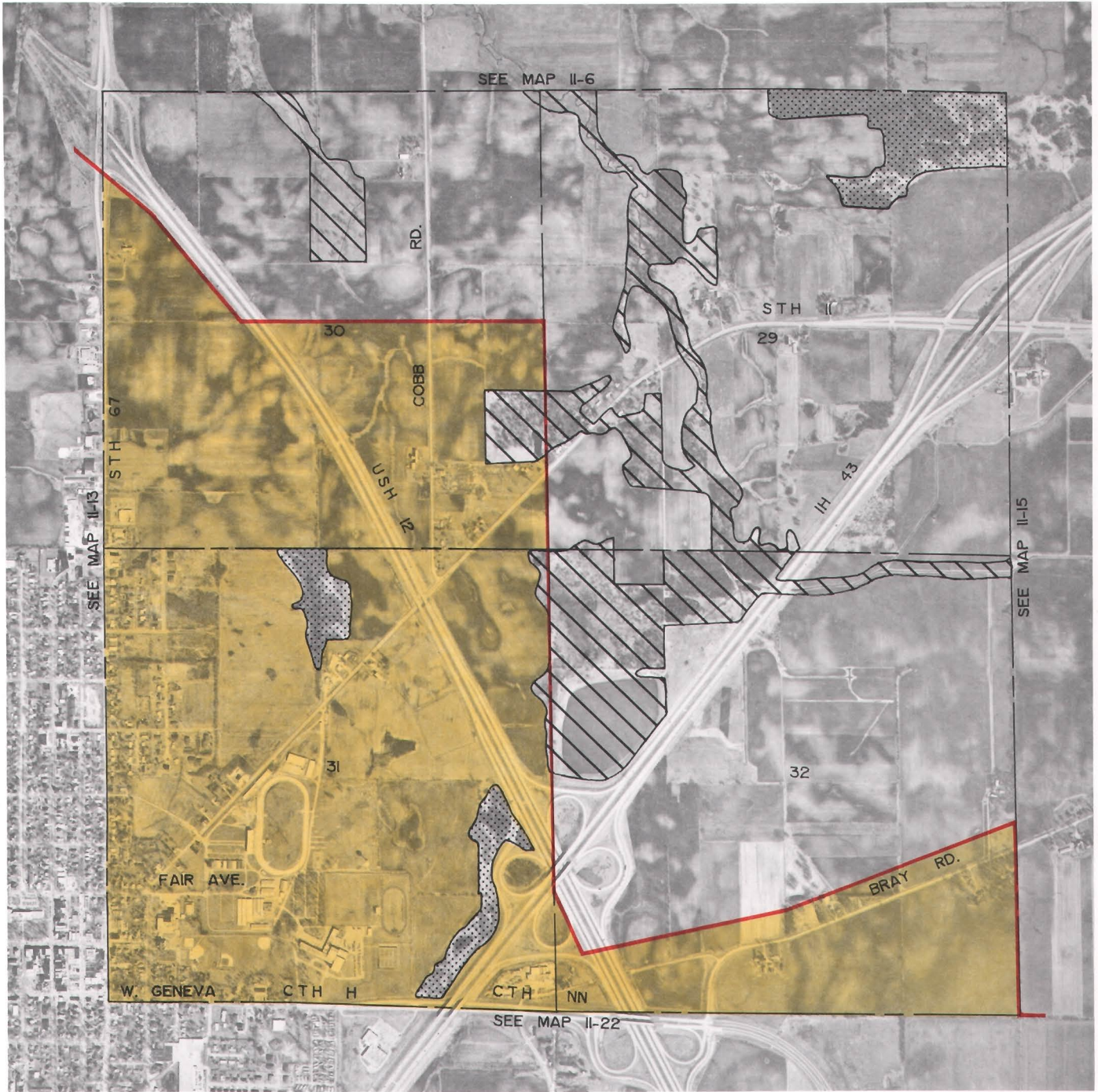


Source: SEWRPC.







ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 29, 30, 31, and 32  
Township 3 North, Range 17 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY








ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 3 North, Range 17 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

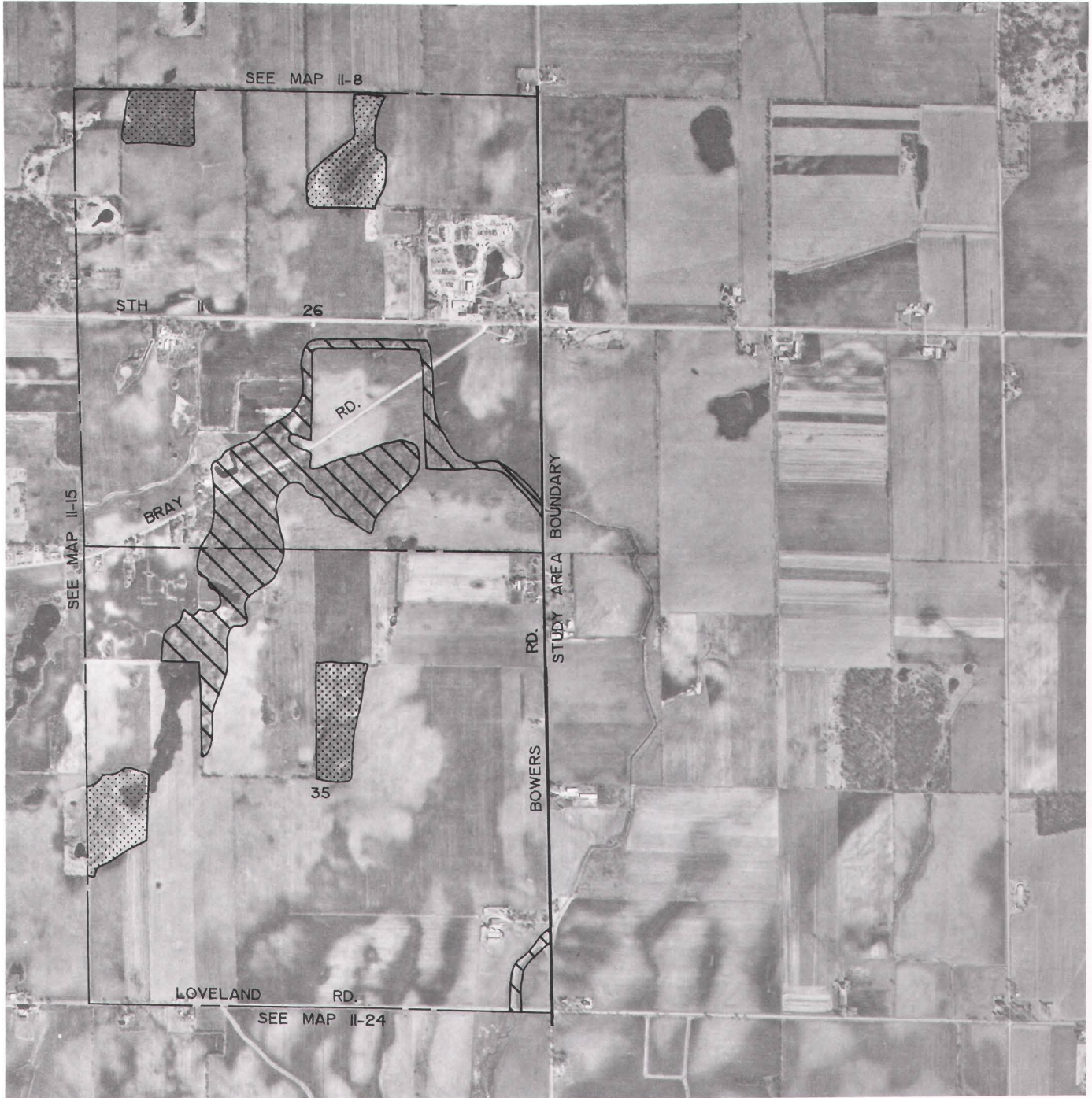


Source: SEWRPC.



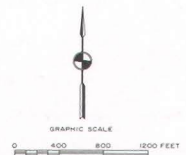
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 26 and 35  
Township 3 North, Range 17 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA









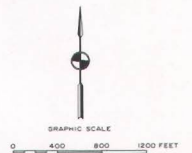
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 2 North, Range 15 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.







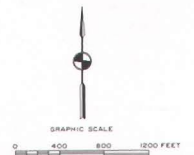
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12  
Township 2 North, Range 15 East



LEGEND

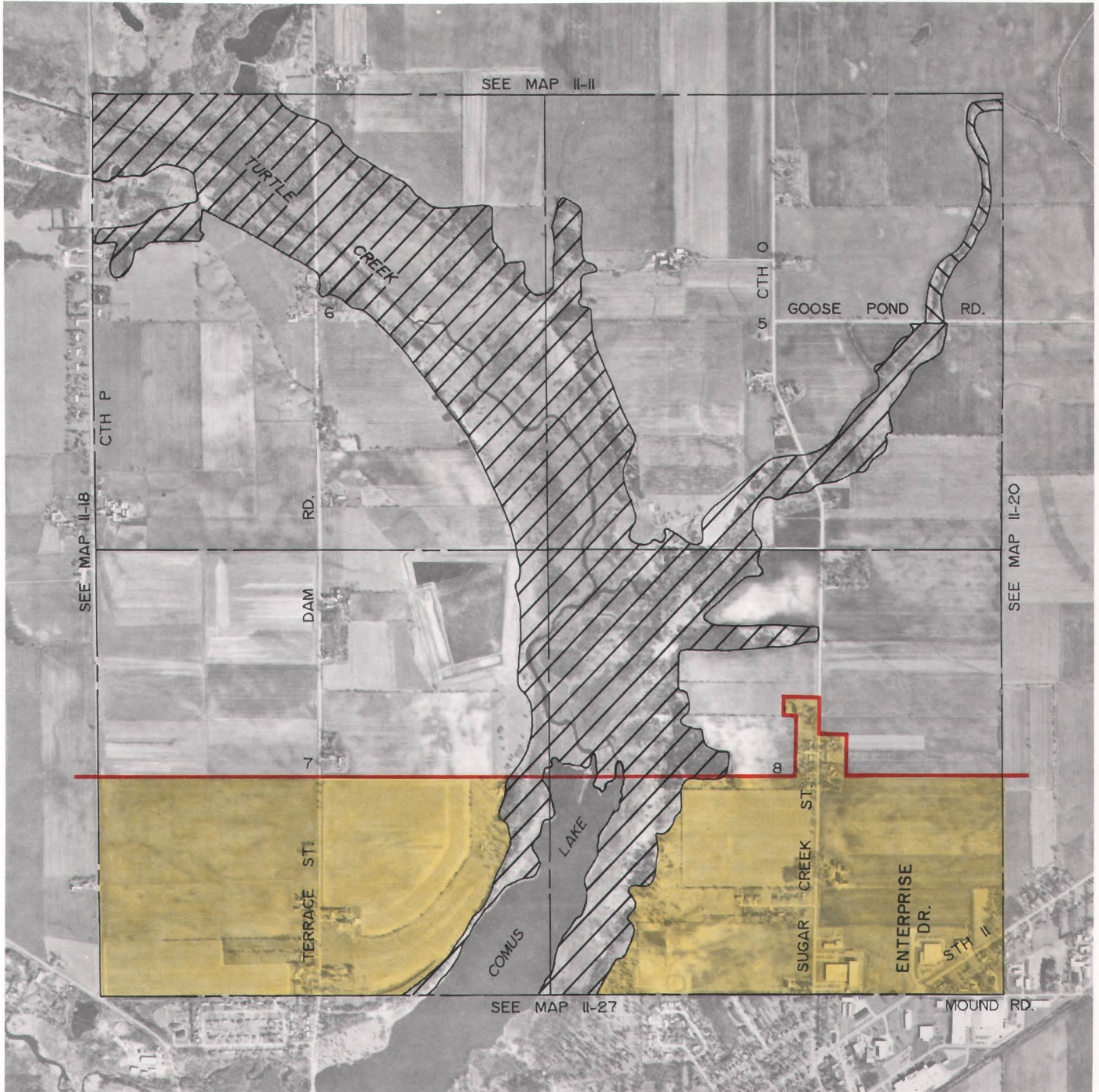
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY








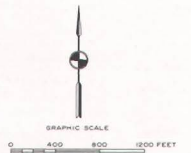
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 5, 6, 7, and 8  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

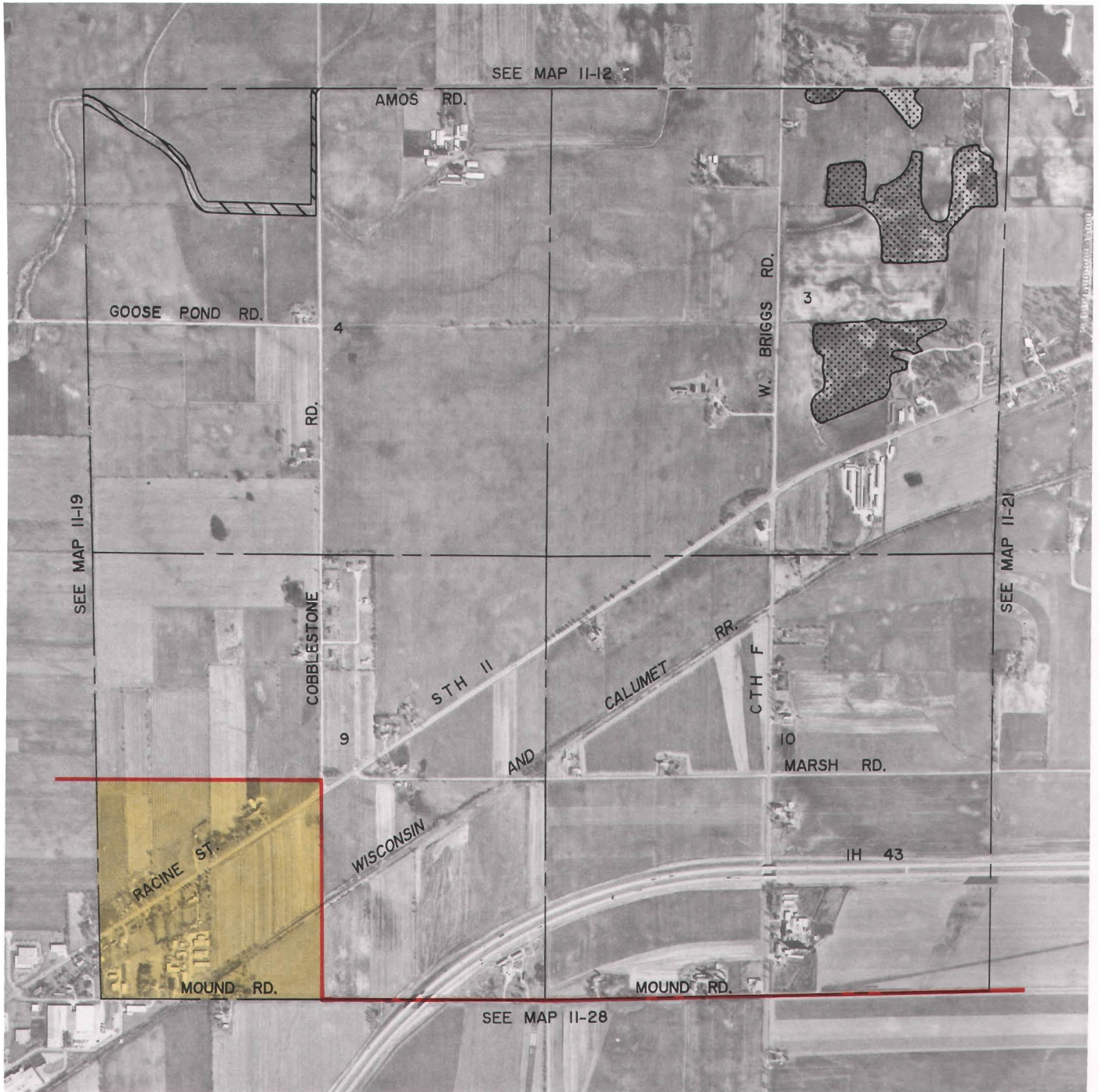


Source: SEWRPC.







ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 2 North, Range 16 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

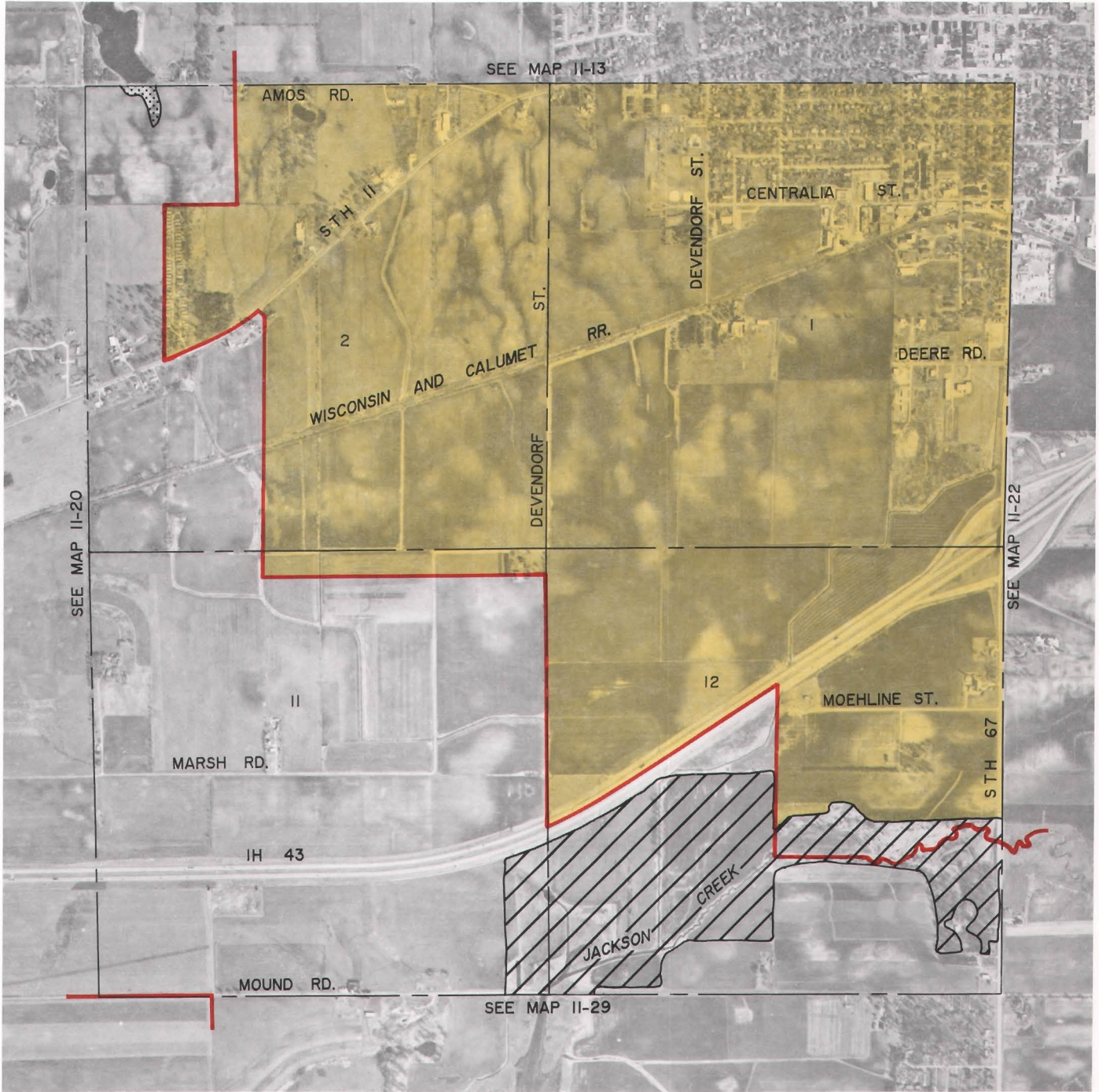








Map 11-21

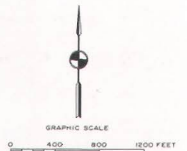
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

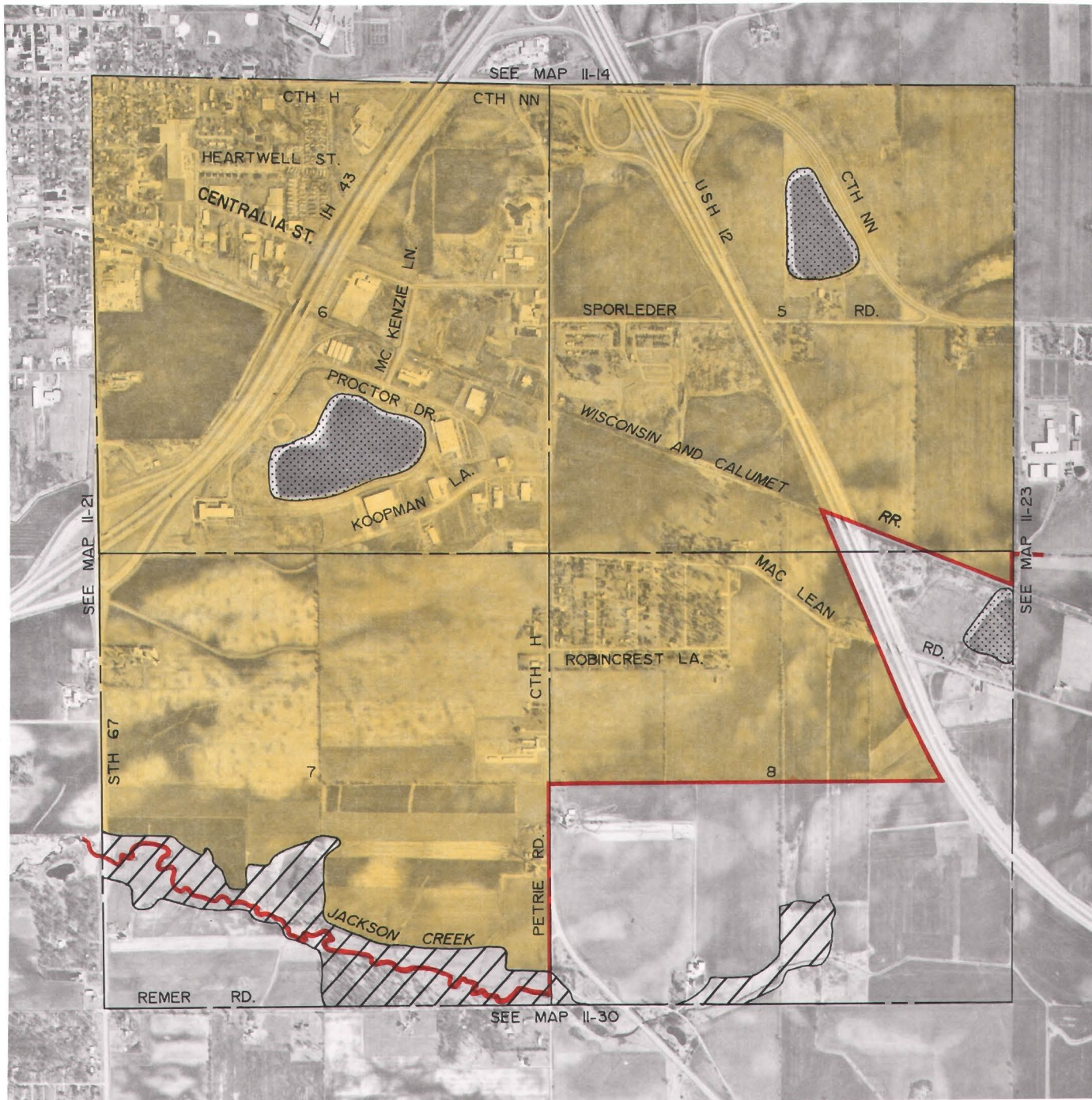


Source: SEWRPC.







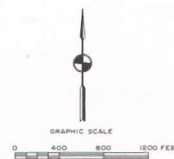
**ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS**

U. S. Public Land Survey Sections 5, 6, 7, and 8  
Township 2 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

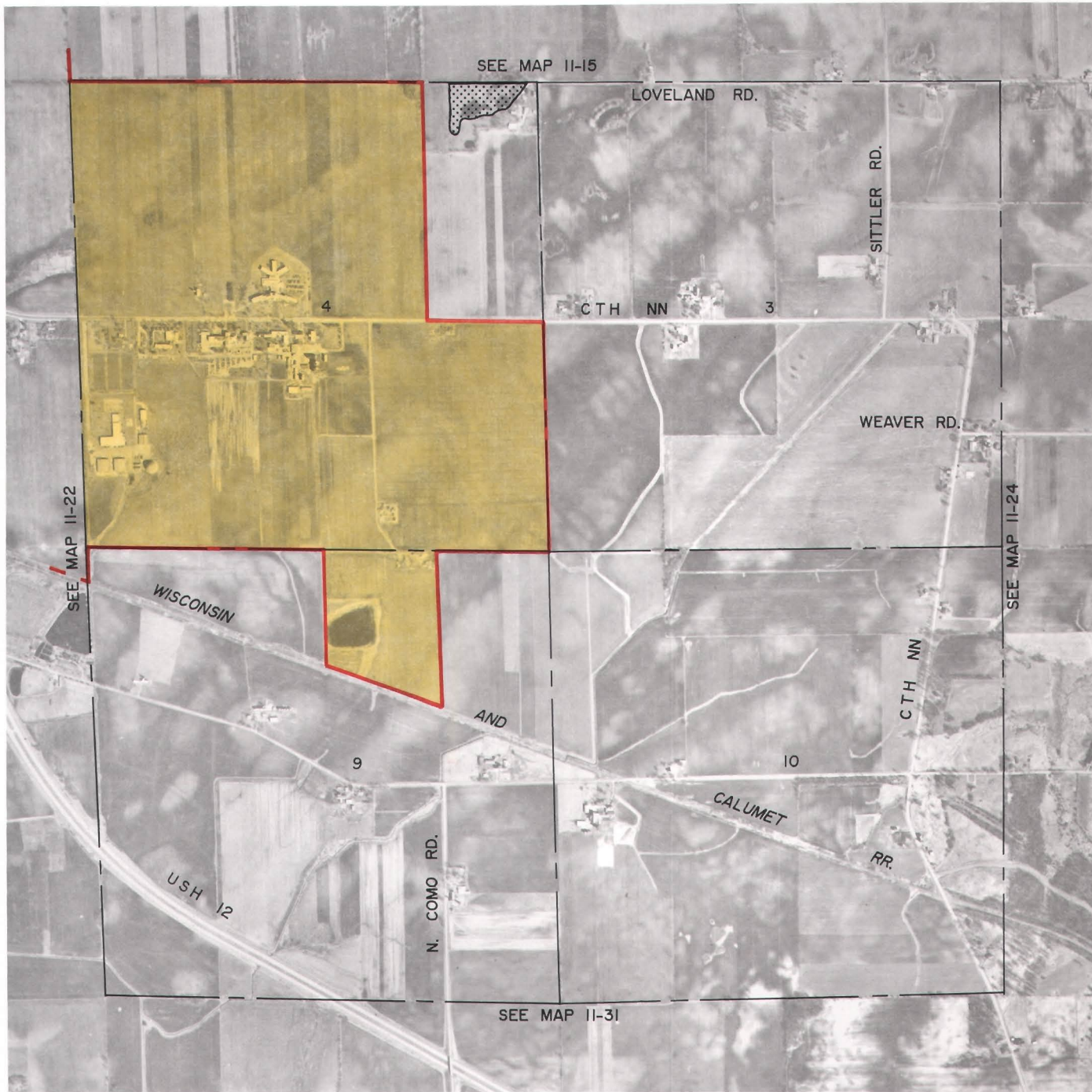







Map 11-23

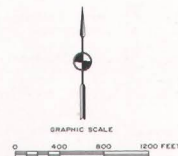
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 2 North, Range 17 East



LEGEND

-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.



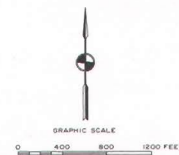
**ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS**

U. S. Public Land Survey Sections 2 and 11  
Township 2 North, Range 17 East



LEGEND

 SECONDARY ENVIRONMENTAL CORRIDOR



Source: SEWRPC.




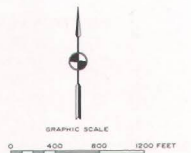
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 15, 16, 21, and 22  
Township 2 North, Range 15 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

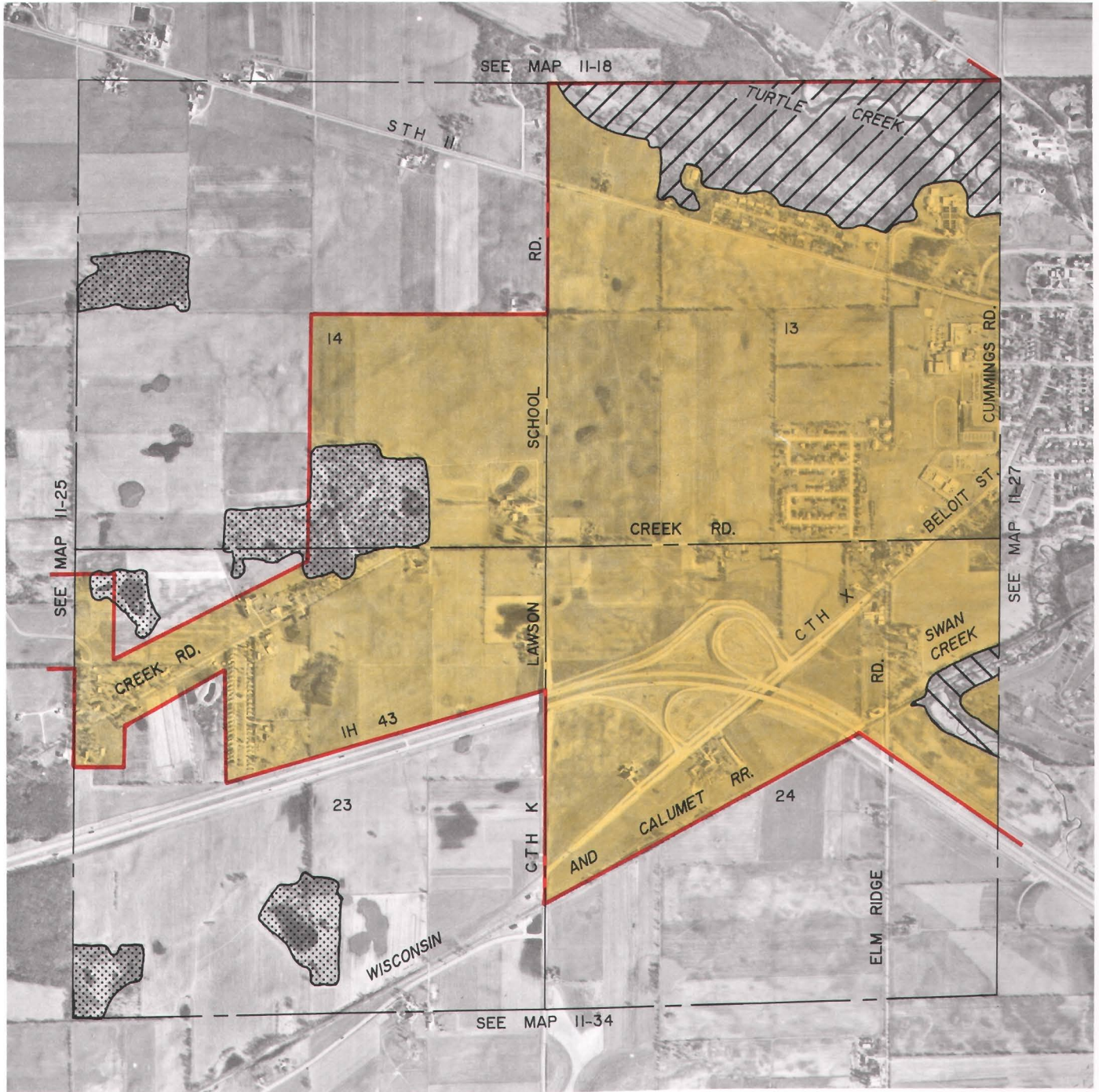


Source: SEWRPC.








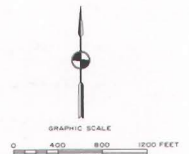
**ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS**

U. S. Public Land Survey Sections 13, 14, 23, and 24  
Township 2 North, Range 15 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

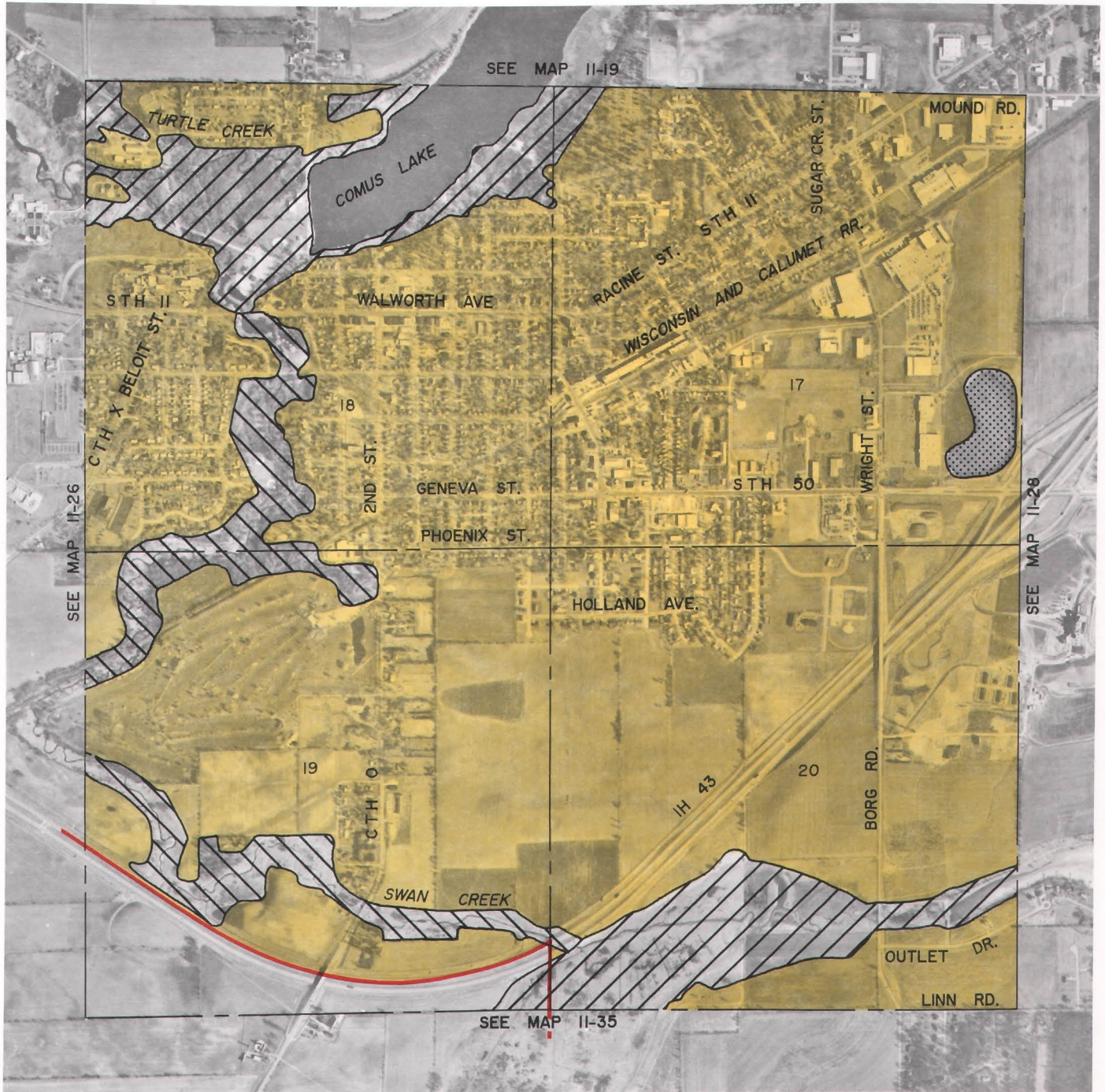


Source: SEWRPC.








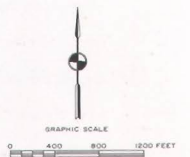
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 17, 18, 19, and 20  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

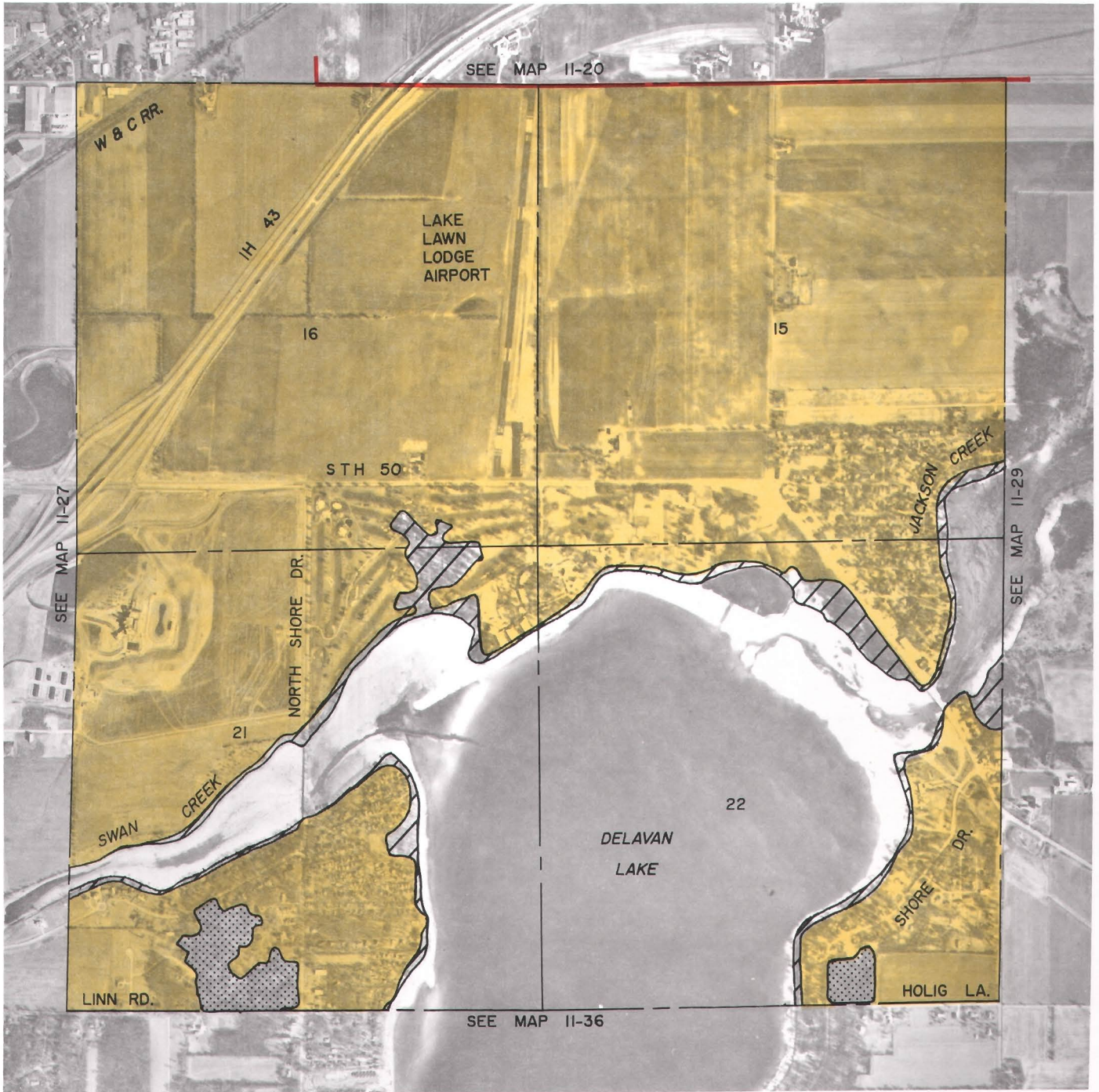


Source: SEWRPC.







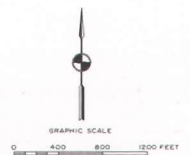
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 15, 16, 21, and 22  
Township 2 North, Range 16 East



LEGEND

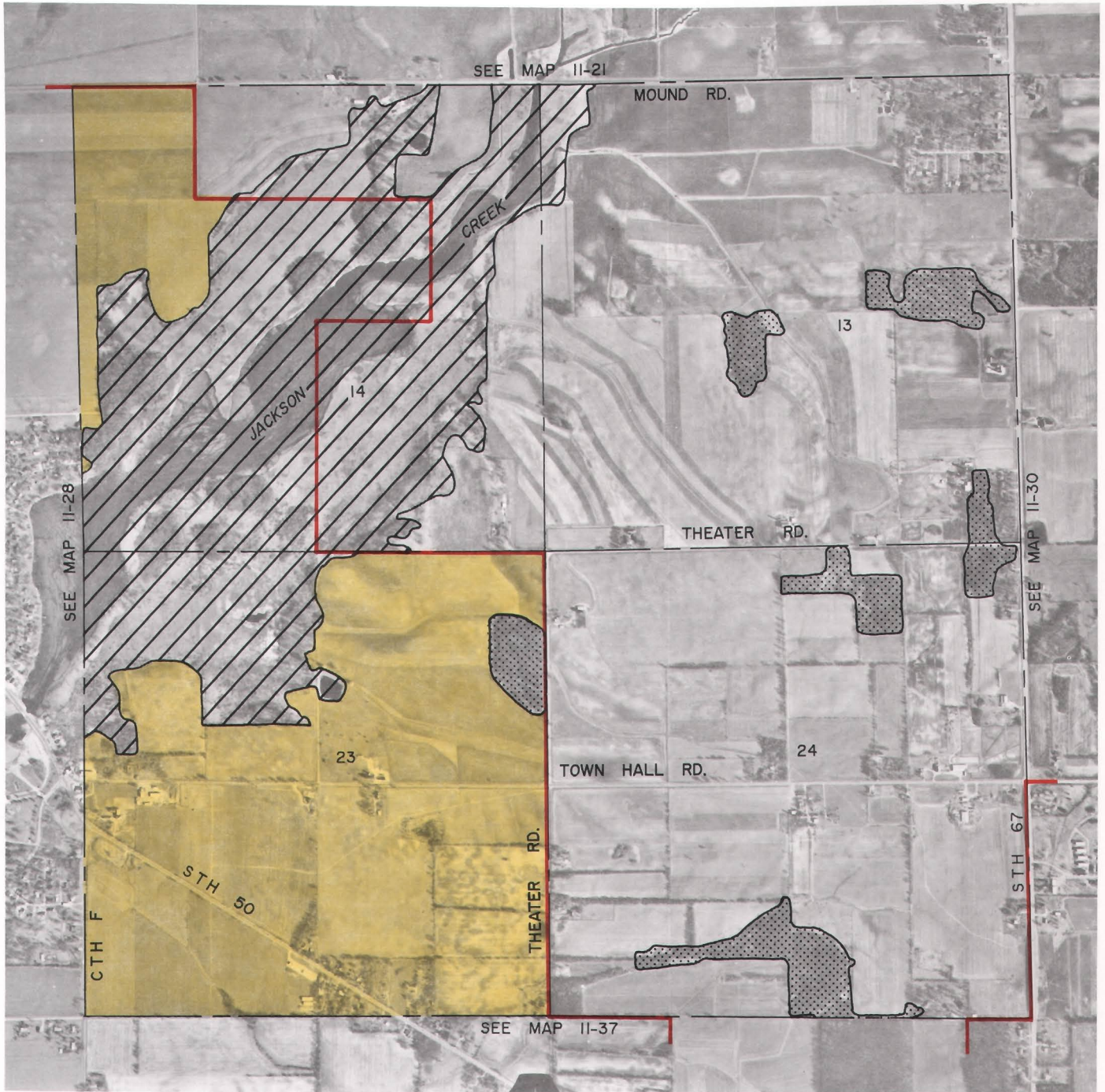
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY









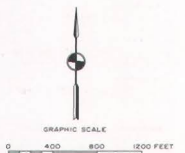
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 13, 14, 23, and 24  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

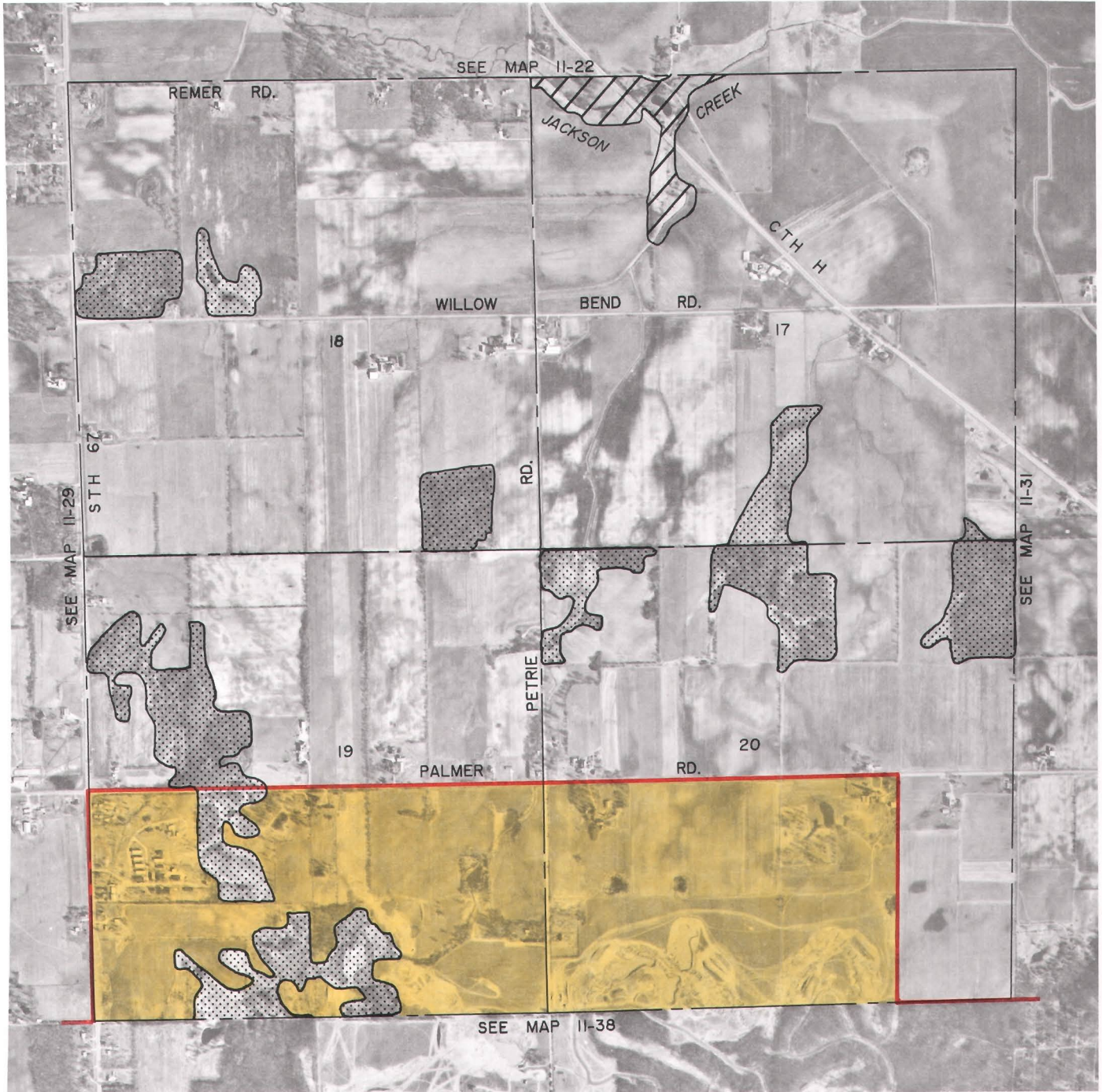


Source: SEWRPC.







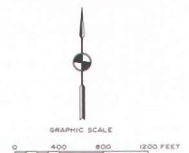
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 17, 18, 19, and 20  
Township 2 North, Range 17 East



LEGEND

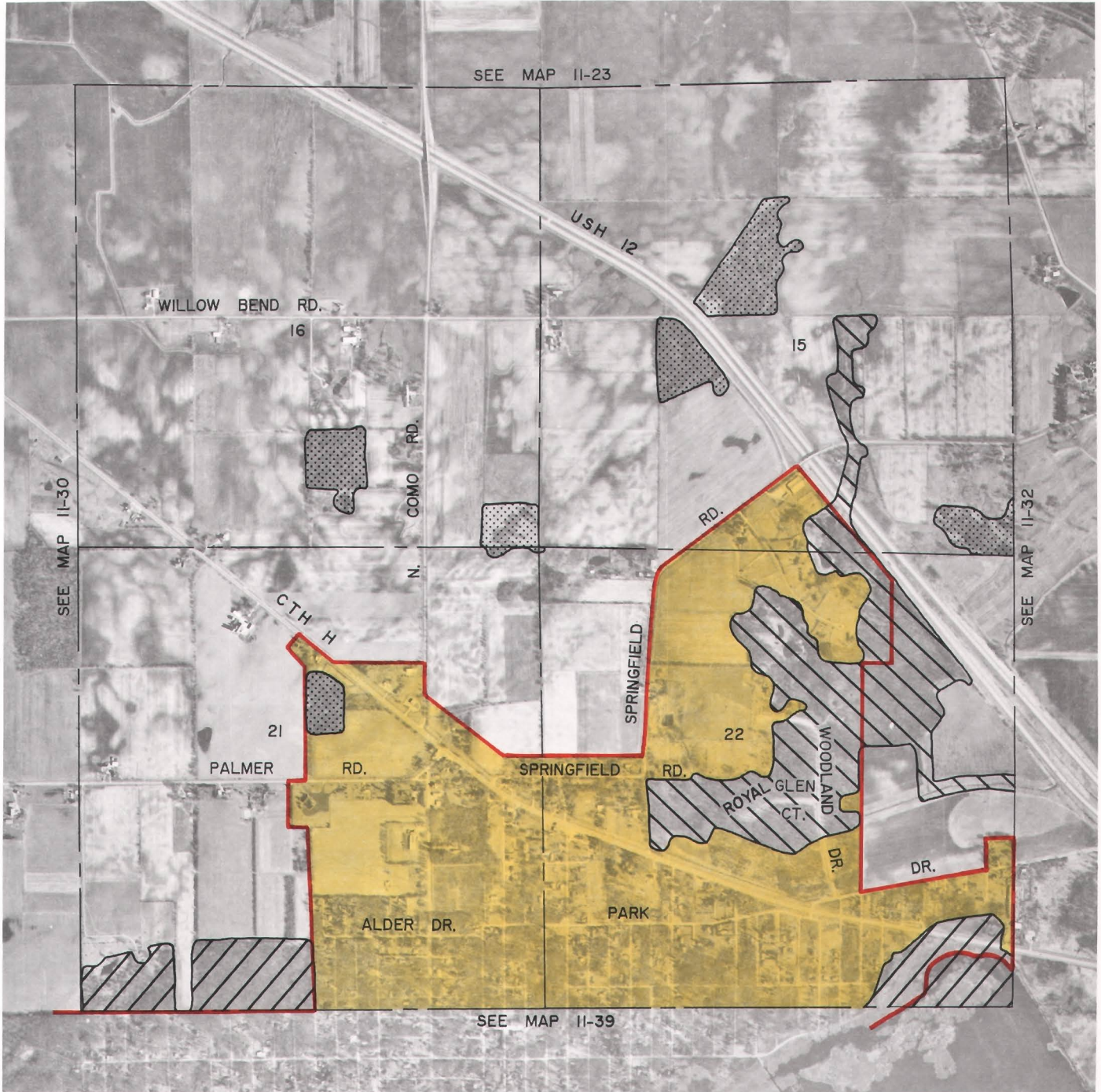
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY










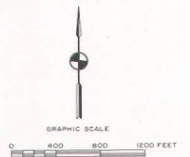
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 15, 16, 21, and 22  
Township 2 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.



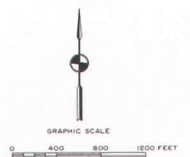
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 14 and 23  
Township 2 North, Range 17 East



LEGEND

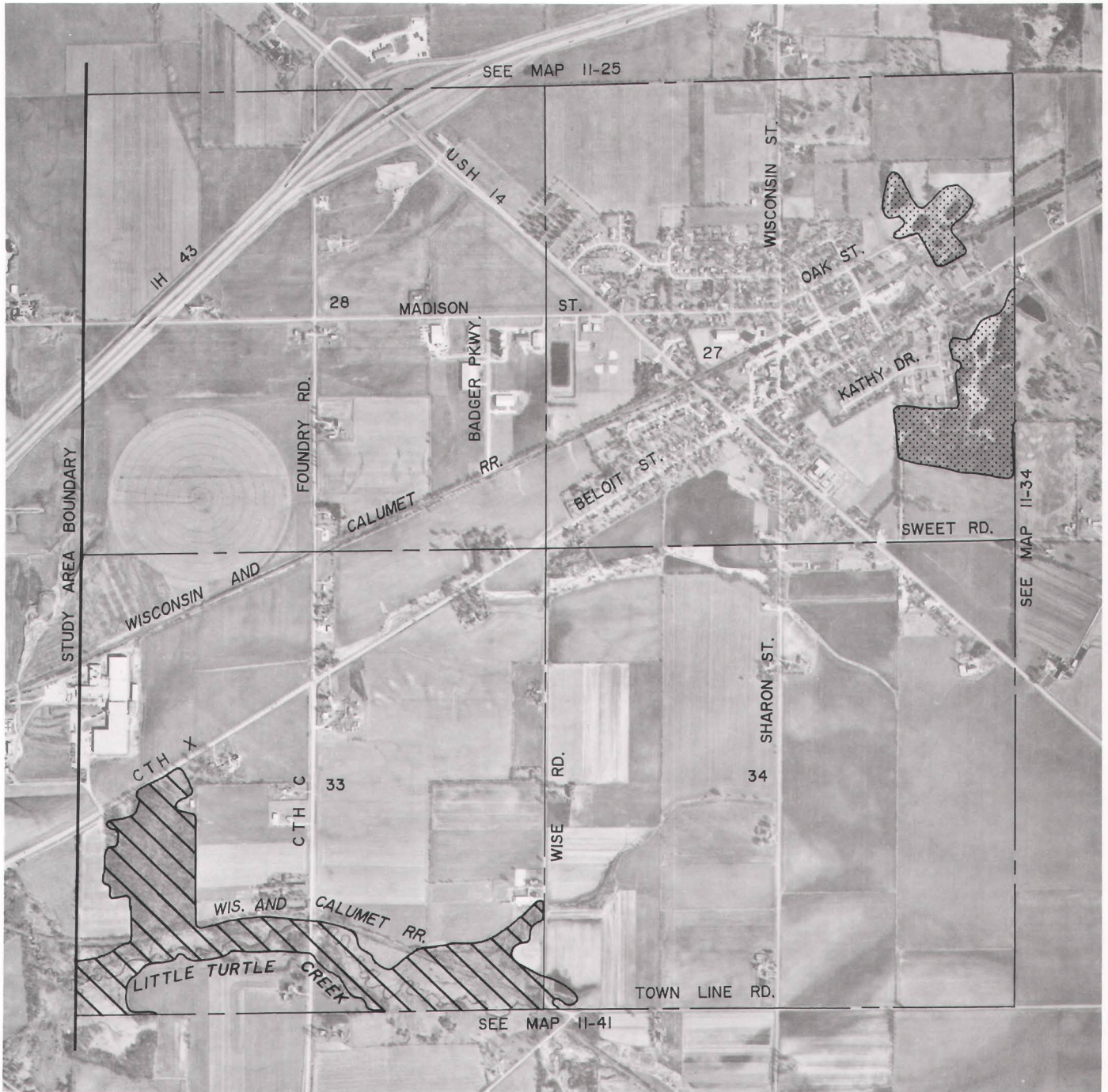
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY





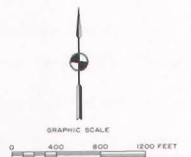
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 2 North, Range 15 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA



Source: SEWRPC.



Map 11-34

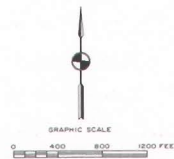
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 25, 26, 35, and 36  
Township 2 North, Range 15 East



LEGEND

-  ISOLATED NATURAL AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



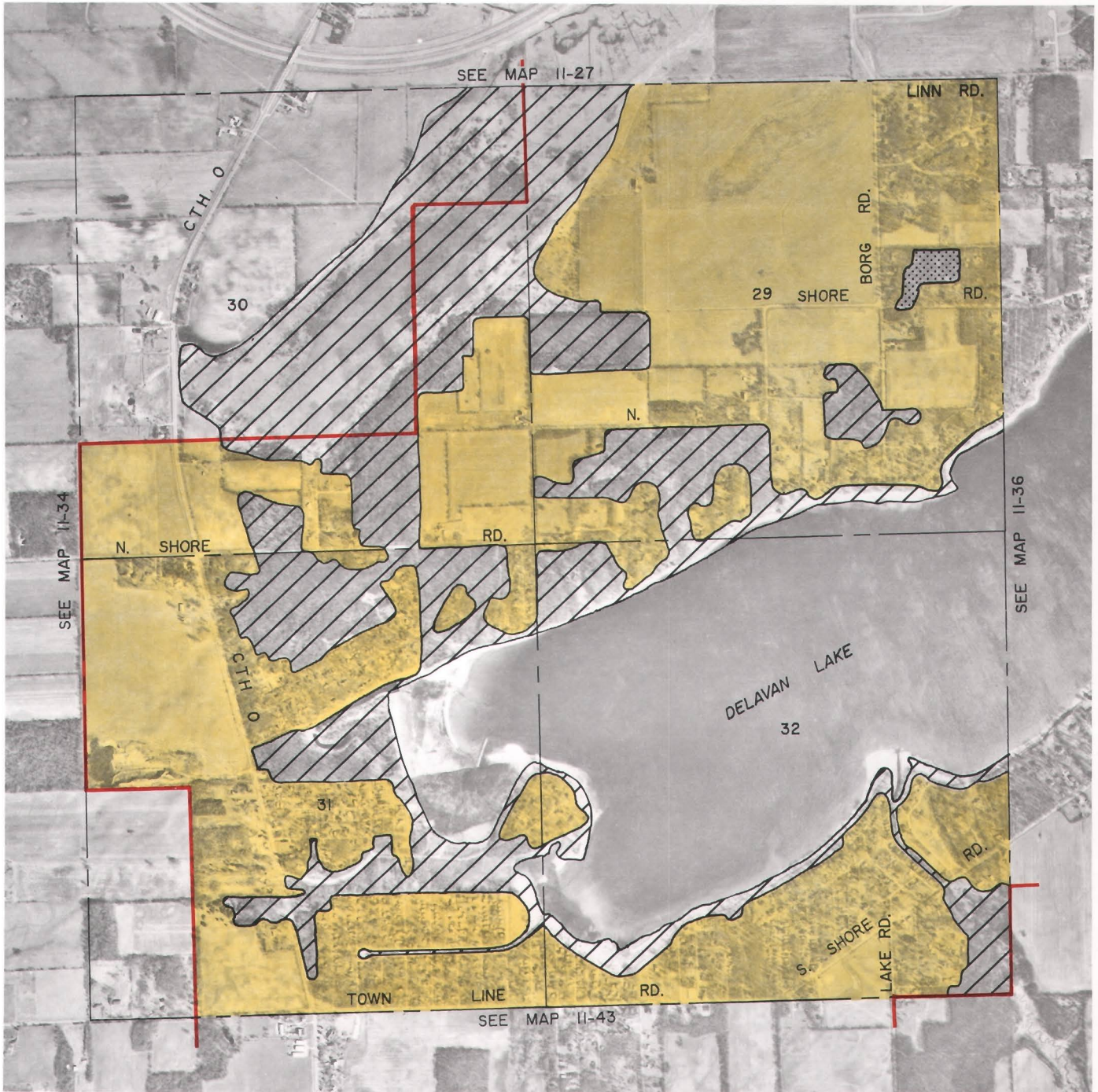
Source: SEWRPC.



Map 11-35

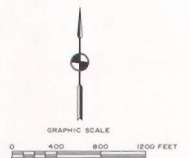
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 29, 30, 31, and 32  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



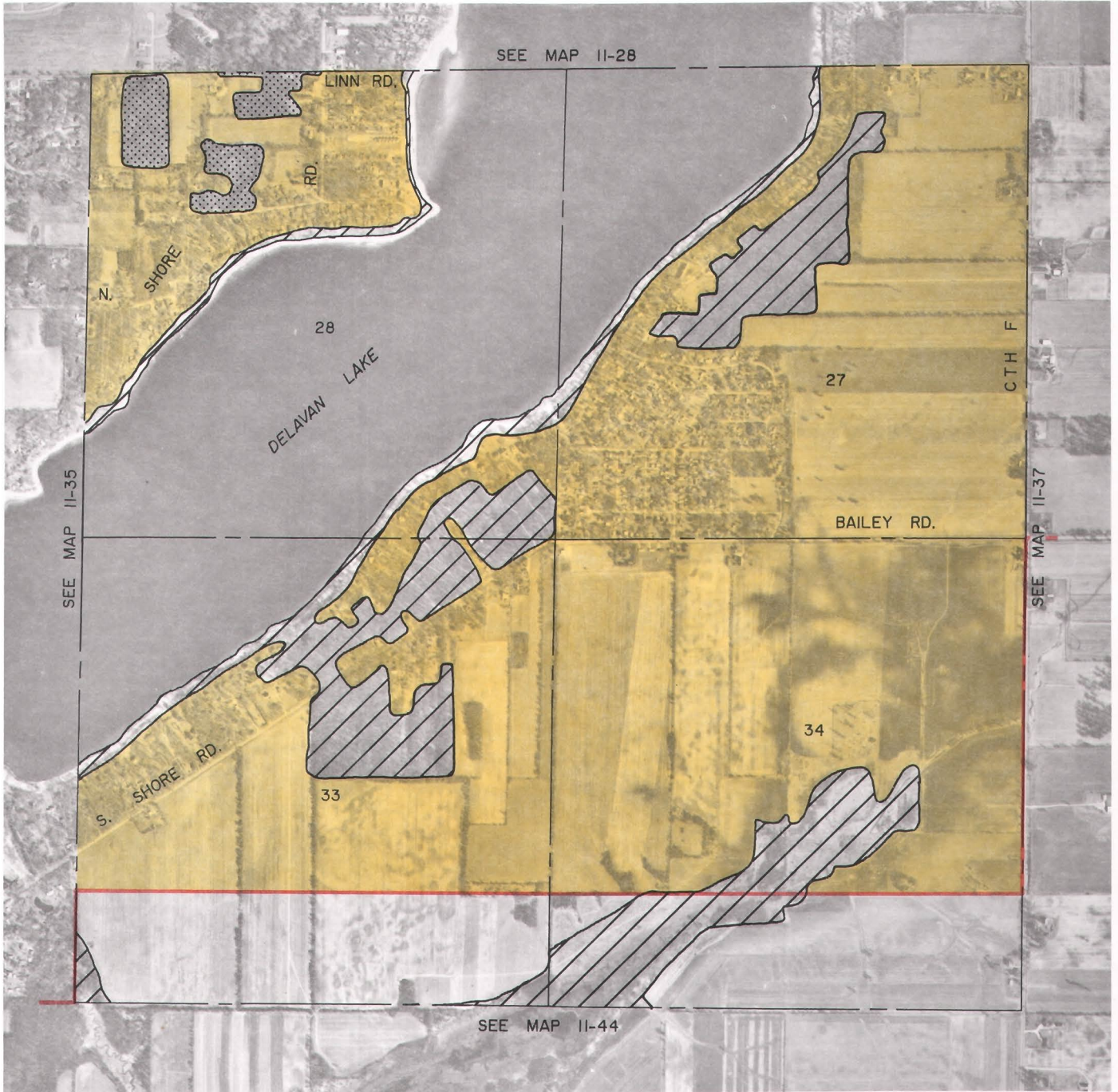
Source: SEWRPC.



Map 11-36

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 2 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.






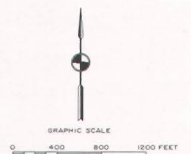
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 25, 26, 35, and 36  
Township 2 North, Range 16 East



LEGEND

-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



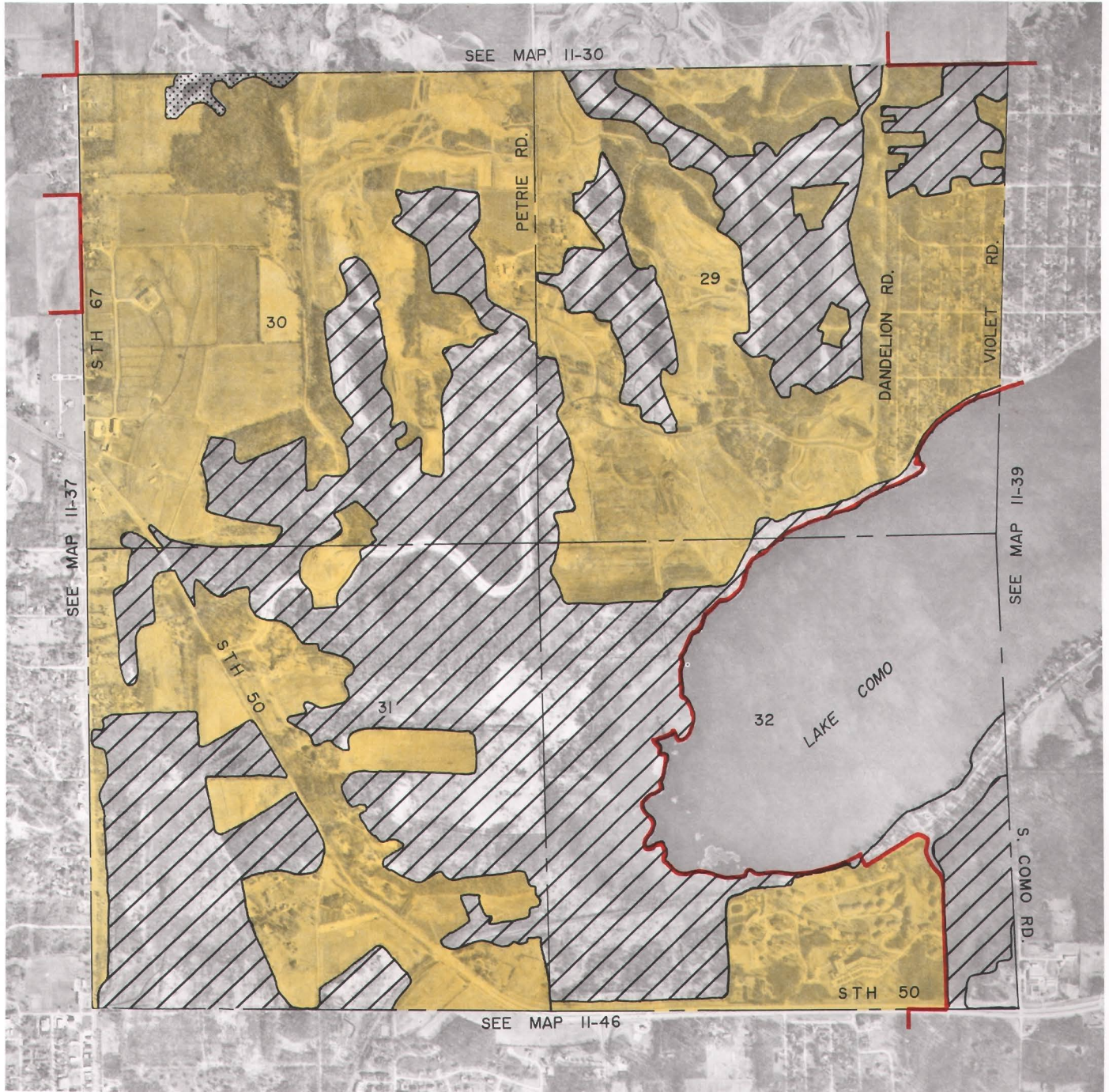
Source: SEWRPC.



Map 11-38

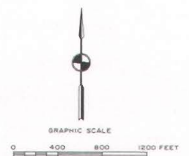
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 29, 30, 31, and 32  
Township 2 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

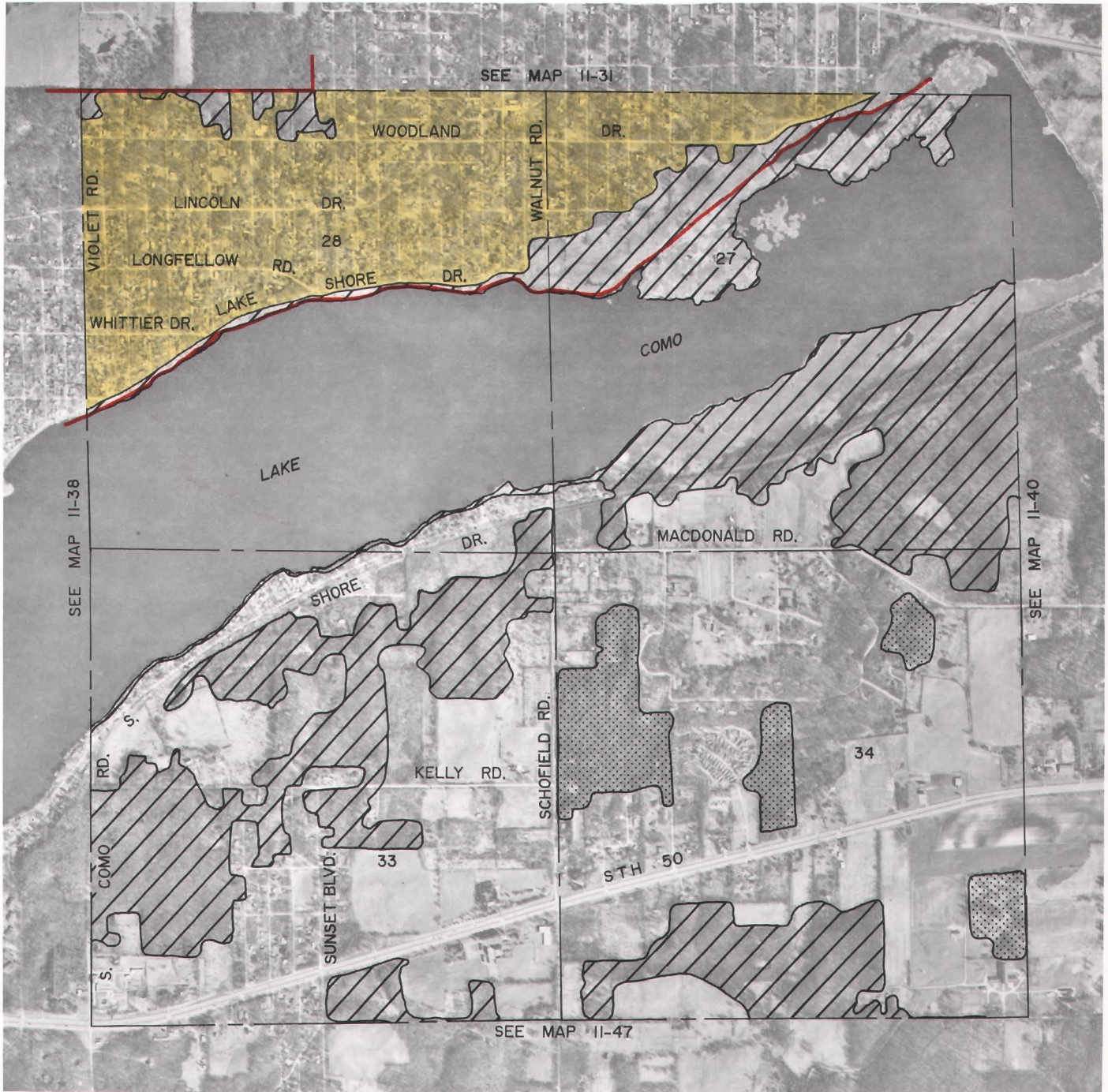


Source: SEWRPC.







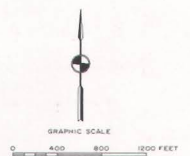
**ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS**

U. S. Public Land Survey Sections 27, 28, 33, and 34  
Township 2 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



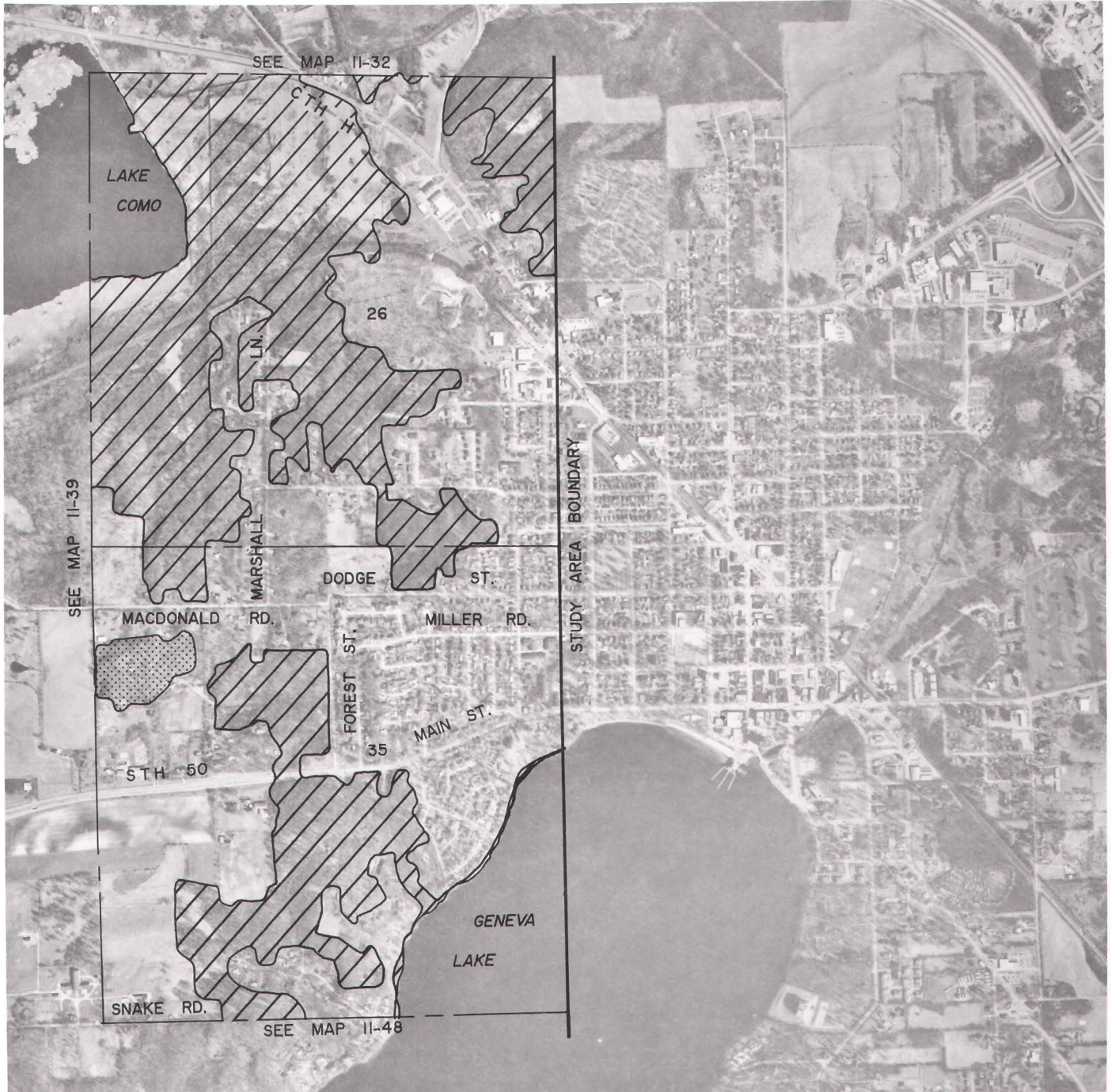
Source: SEWRPC.



Map 11-40

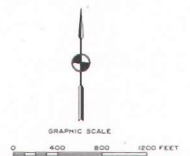
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 26 and 35  
Township 2 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA





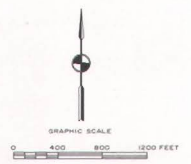
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 1 North, Range 15 East



LEGEND

-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA

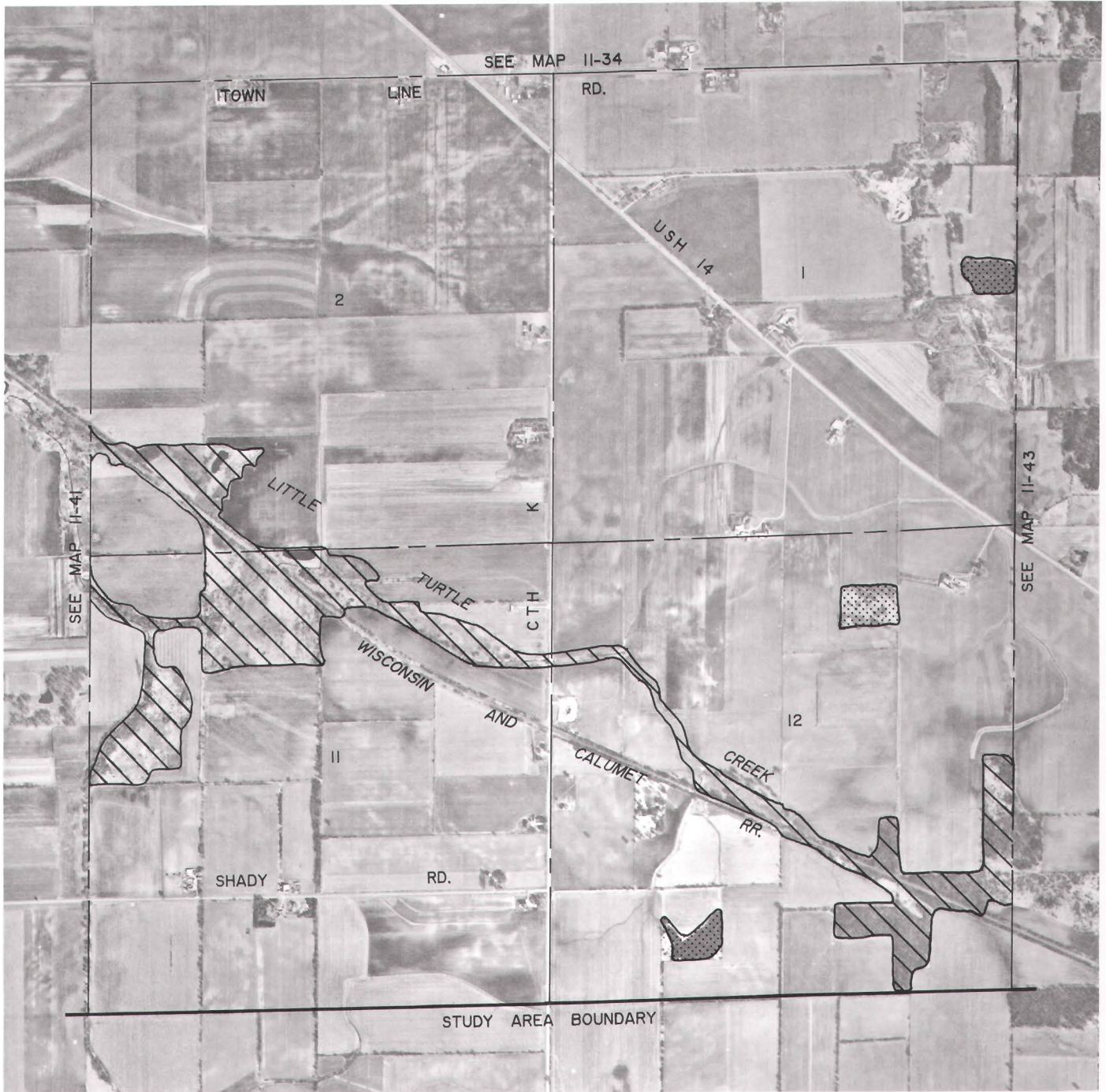


Source: SEWRPC.



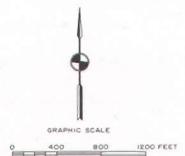
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12  
Township 1 North, Range 15 East



LEGEND

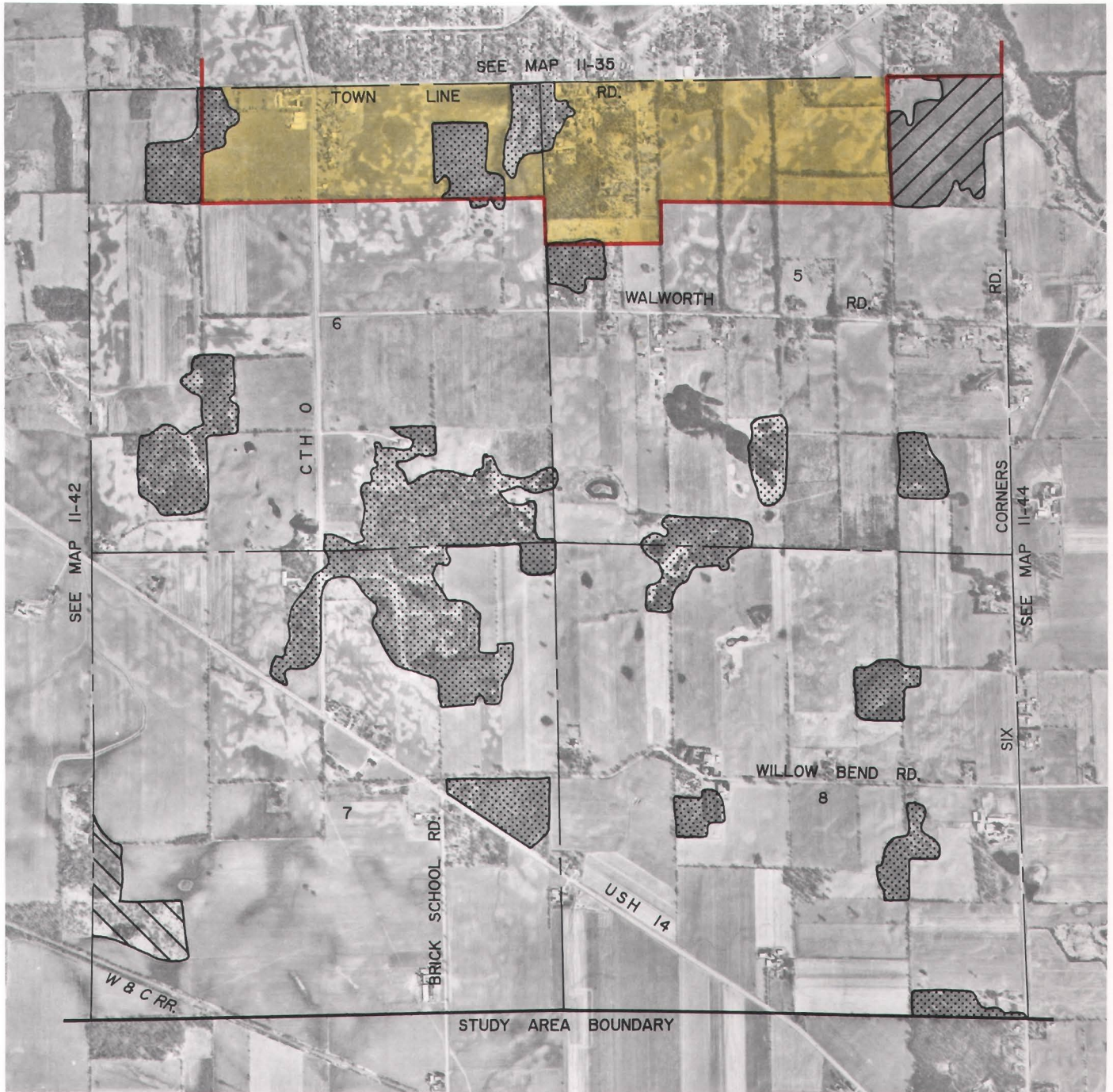
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA










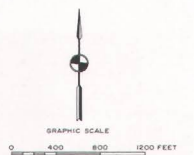
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 5, 6, 7, and 8  
Township 1 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



Source: SEWRPC.



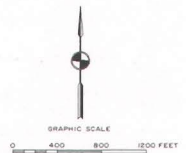
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 1 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

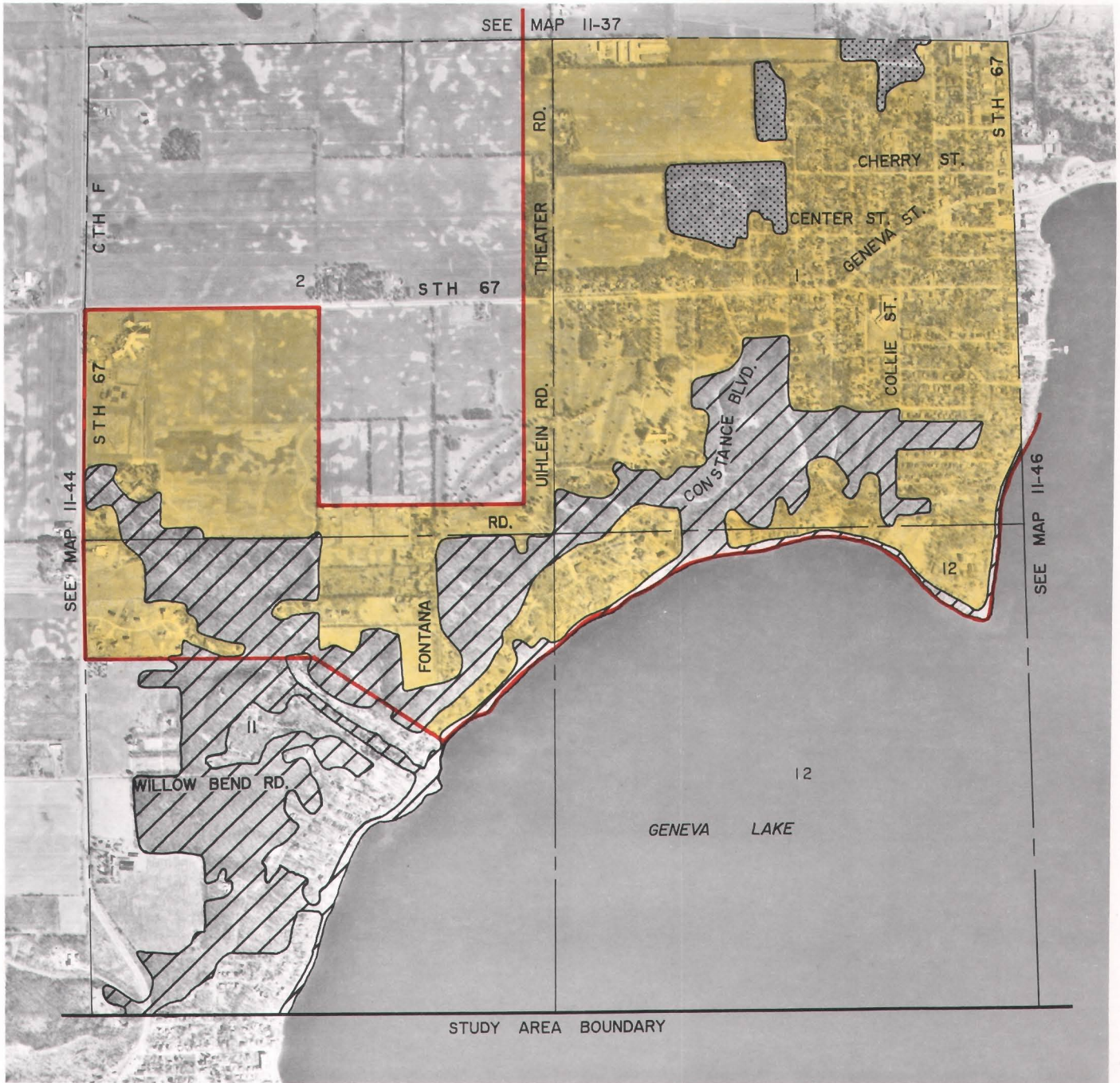








Map 11-45

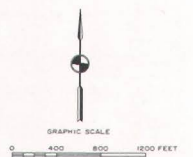
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12  
Township 1 North, Range 16 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY



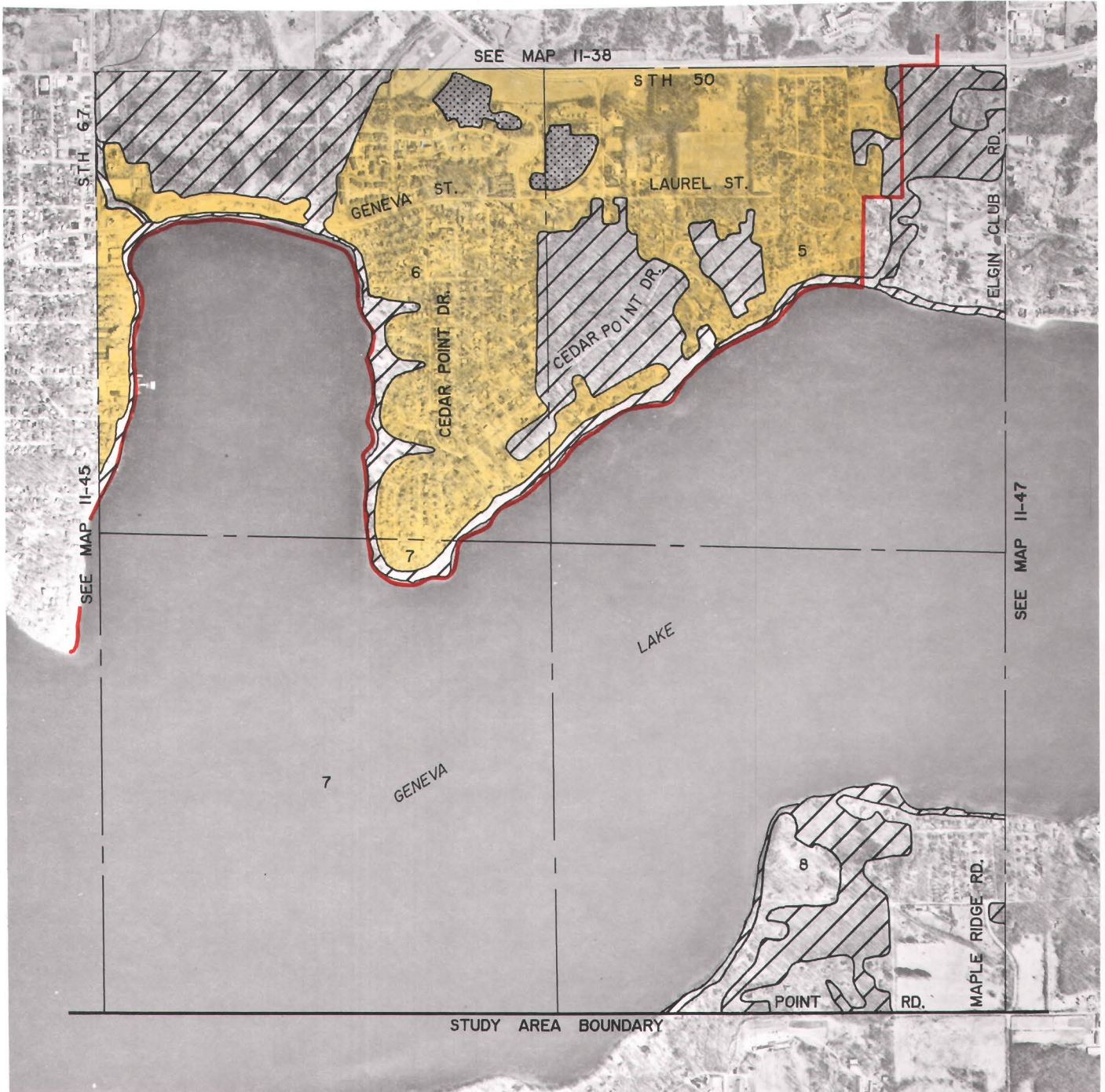
Source: SEWRPC.








Map 11-46

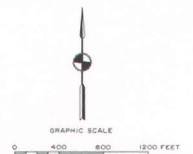
ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREAS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 5, 6, 7, and 8  
Township 1 North, Range 17 East



LEGEND

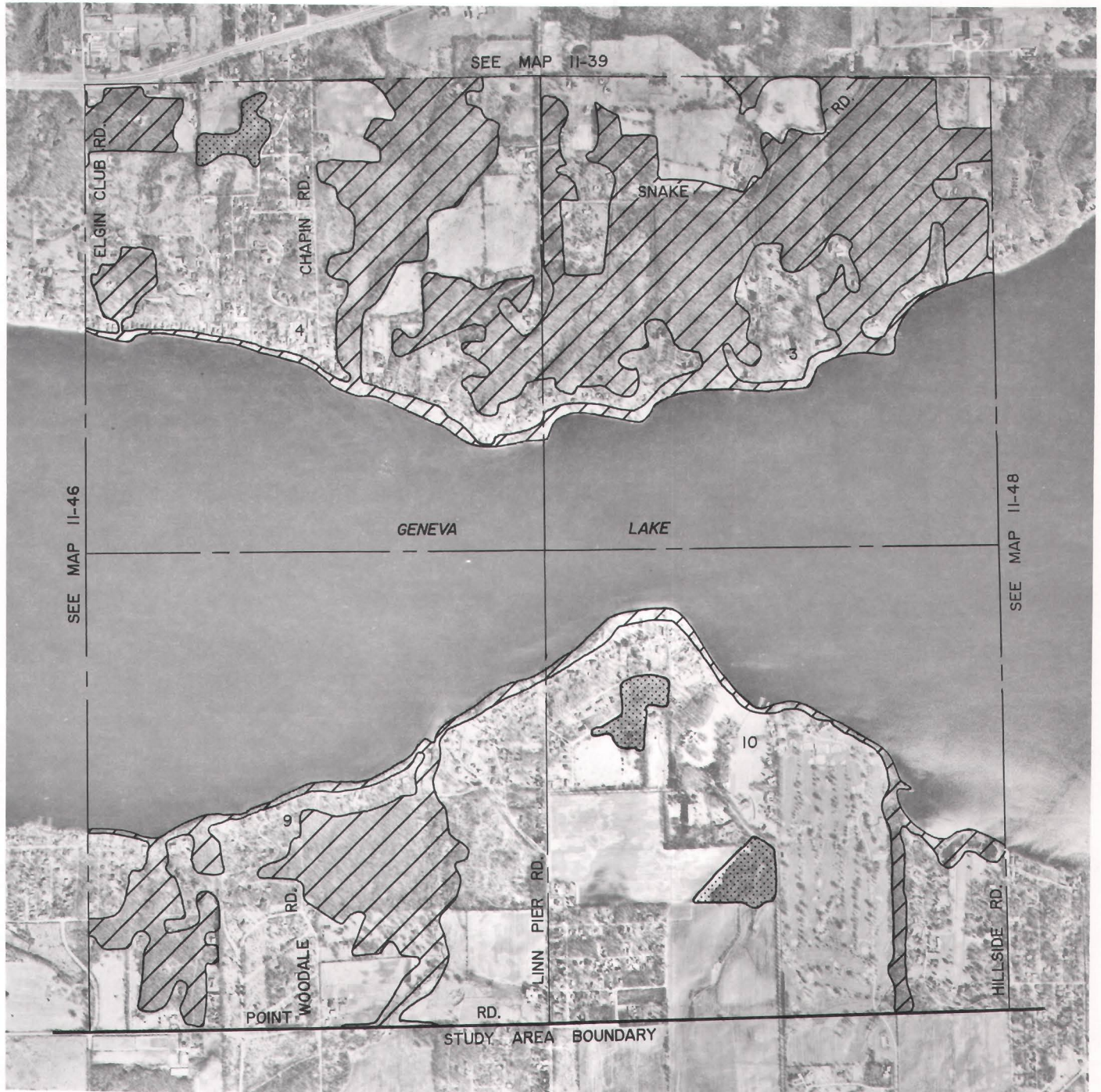
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY





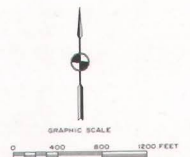
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 3, 4, 9, and 10  
Township 1 North, Range 17 East



LEGEND

-  PRIMARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA

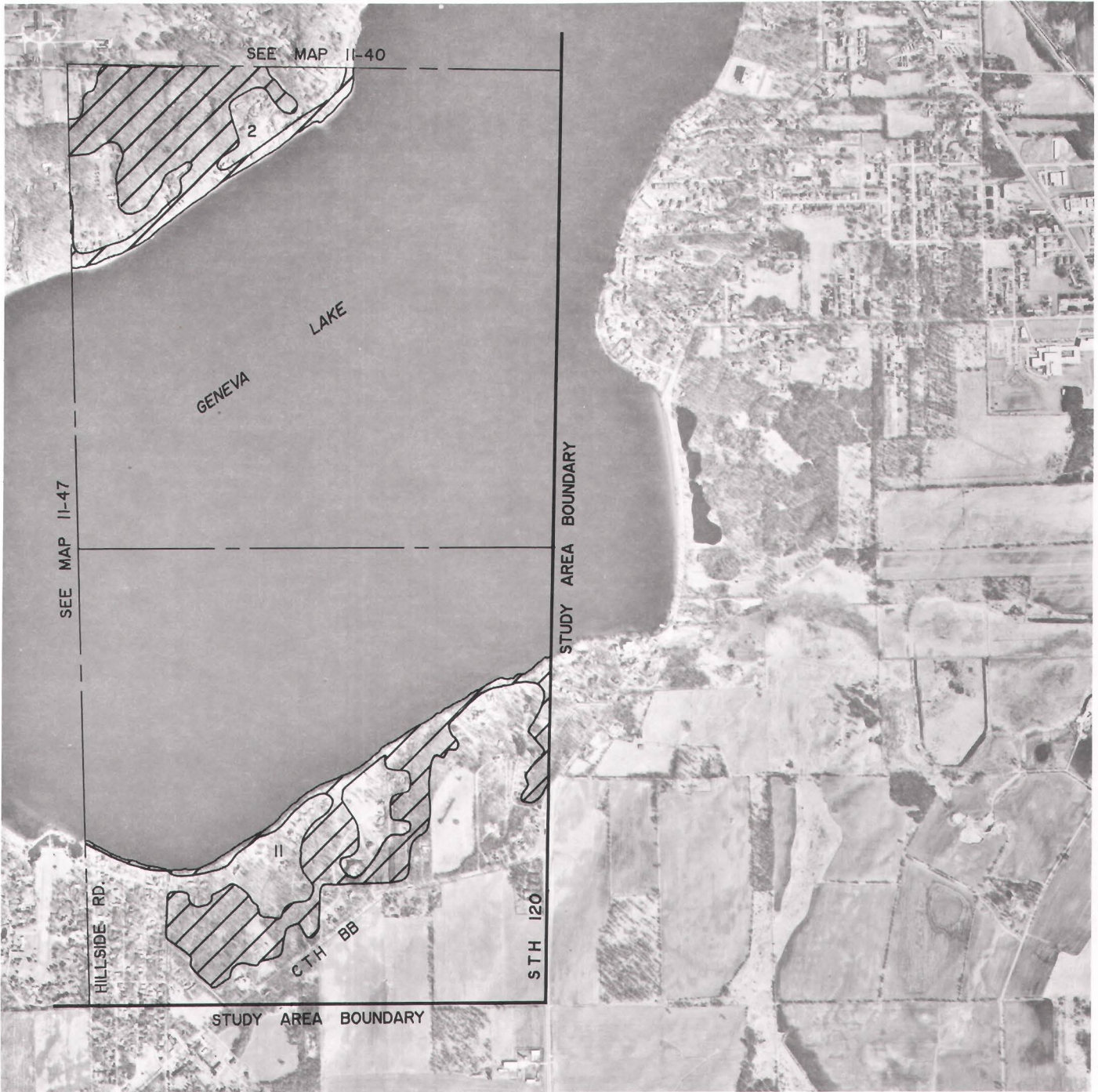


Source: SEWRPC.



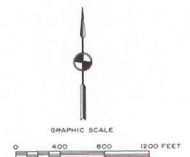
ENVIRONMENTALLY SIGNIFICANT LANDS FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT AND ENVIRONS

U. S. Public Land Survey Sections 2 and 11  
Township 1 North, Range 17 East



LEGEND

 PRIMARY ENVIRONMENTAL CORRIDOR





(This page intentionally left blank)

## **APPENDICES**



(This page intentionally left blank)

Appendix A

MINUTES OF PUBLIC HEARING

Sanitary Sewer Service Area for the Walworth  
County Metropolitan Sewerage District  
May 28, 1991

CALL TO ORDER

The meeting was called to order at 1:00 p.m. by  
President Reader.

ROLL CALL

Present: J. Philip Reader, James Christianson,  
Lloyd Jensen, Donald Scully, Patrick Moore

Others: Joseph S. Cannestra, Administrator  
Timothy D. Fenner, Attorney  
Evelyn L. Seaver, Secretary  
Cindy M. Moehling, Accountant  
Kevin L. MacKinnon, DLSD Administrator  
Lyle Smith, DPW, City of Delavan  
John Jachna, Anvan  
Frank Lamm, HNTB  
Bruce Rubin, SEWRPC  
Joel Dietel, SEWRPC

PURPOSE OF  
MEETING

The purpose of the public hearing was to hear  
comments and/or objections to the long term Master  
Study Plan for the Walworth County Metropolitan  
Sewerage District's sewer service area as drafted by  
HNTB and tentatively approved by SEWRPC.

President Reader turned the meeting over to the  
SEWRPC representatives, who had displayed maps  
showing the original sewer service area of the  
District and subsequent extensions and annexations  
over the past ten years, culminating in the proposed  
extensions for 1991. Mr. Rubin stated that the  
current area covers a little over 26 square miles.  
A preliminary meeting with the entities involved was  
held prior to the public hearing and a plan was  
drafted to include their suggestions. He stated  
that there are 130 acres not yet designated as  
primary environmental corridor, but future plans  
will probably include them as such.

The Lake Como area on the north side of the lake was  
recommended to be added to the WalCoMet sewer  
service area. It was considered more cost effective  
(26% less costly) to go to WalCoMet than to go to  
the City of Lake Geneva service area.



SEWRPC encourages the entities to encourage development within these areas rather than going outside the area. They believe there is sufficient area planned to encourage growth.

Commissioner Jensen wondered if any consideration has been given to servicing the south side of Lake Como. He feels there is more need for servicing that side than there is to service the north side. He felt that if the north side received sewer service, the pipeline could be extended on the east to include the south side.

He also asked if the 160 acres on the west side of Williams Bay would not be developed within a short time. Commissioner Moore responded that this area was basically owned by the George Williams College who have no plans for development at this time. He believes that within the boundaries of the Village of Williams Bay, the area to the north would be more apt to be developed.

Commissioner Jensen stated that the new subdivision (known as the Ralph Sellgren subdivision) on the west side of Delavan north of Creek Road now has septic tanks. He is sure they will have trouble with septic tanks and should be included in the service area. SEWRPC will take a look at this area and find out if this subdivision should be included.

Commissioner Moore questioned what Mr. Rubin meant by an "isolated environmental corridor". SEWRPC identified them on the maps in order to make the District aware that they exist. Commissioner Moore stated that the Village of Williams Bay has chosen to take them out of their Master Plan Study. He asked how SEWRPC determined "isolated natural areas" when there is a wetland in that area. How can a property owner be informed that his property has been designated an "isolated natural area" when the value of his property could be affected by this delineation.

The City of Lake Geneva representative stated that boundaries of the Lake Geneva sewer service area at one time included the Lake Como area until the Geneva National area was developed. The attorney for Lake Geneva felt that Lake Geneva could more cost effectively serve the south and southwest boundaries of Lake Como via gravity pipe than WalCoMet could.

Mr. Rubin informed those present that in southeast Wisconsin only 17% of the area is designated as "primary environmental corridor". This is becoming less and less all the time.

If this plan is adopted, it will mean that the DNR will not prevent service to any areas included in the plan. If a request for service is outside this plan, the DNR will need to look at every single annexation and extension requested and perhaps not allow it. Also it identifies environmental corridors so that the entities will not attempt to develop wetlands, etc.

Commissioner Moore asked that any changes in the original map and report of 1981 that would affect the 1991 map should be shown to the commissioners before he could agree to adopt this sewer service area plan by SEWRPC. What SEWRPC is proposing may affect zoning in the different communities. He felt that SEWRPC should tell the communities what changes they have made that might affect zoning in their areas. He requested that SEWRPC make this report to the entities after the WalCoMet commission meeting.

President Reader asked how critical it was to meet the June 19th SEWRPC quarterly meeting date in order for SEWRPC to act on this plan.

Attorney Fenner stated that there is nothing in the offing that would need immediate action on this plan by SEWRPC. All municipalities should examine this final map very carefully to be aware of the areas designated as environmental corridors.

President Reader recommended tabling this matter for another quarter in order to allow all municipalities to become aware of what has been designated.

Ted Peters asked to go on record as objecting to including the Linn Township area, but prefers to keep the current sewer service area line in that area.

Attorney Fenner reminded those present that just because an area is included in the WalCoMet area, it does not mean the area has to be sewered. It simply means that if sewer service is brought to that area, it has to be WalCoMet to service it and no other District.

It was the consensus to table action until a later date in time to allow SEWRPC to deal with it at their September quarterly meeting.

Commissioner Moore asked if it would be possible for SEWRPC to contact each entity to explain any changes individually to them. Mr. Rubin responded that if they requested it they would do so.



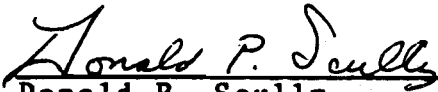
The Lake Geneva representative requested a meeting with SEWRPC to clarify changes in that area. The area he is concerned with is not included in this report.

The Administrator volunteered to meet with individual communities to explain any changes that might affect their zoning.

Commissioner Moore asked Mr. Rubin if the map changes could be ready by July 1, 1991, and was assured that they could be.

President Reader then asked three times for any further comments or questions. There being none, the meeting was closed with the direction that the matter be considered at SEWRPC's September quarterly meeting. The meeting was closed at 3:00 p.m.

Respectfully submitted,

  
\_\_\_\_\_  
Donald P. Scully  
District Secretary

## Appendix B

### DETERMINATION OF NET INCREMENTAL RESIDENTIAL DENSITIES IN THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT

Net incremental residential density in the combined, refined WalCoMet sewer service area is determined by dividing the total number of incremental dwelling units in the combined sewer service area in the design year by the net incremental residential land area anticipated in the combined sewer service area. Prior to determining an overall net residential density for the combined service area, incremental residential densities for each of the individual sewer service areas, Delavan-Delavan Lake, Elkhorn, Lake Como and Williams Bay, were determined. It is important to note that no incremental residential density determination is necessary for the Geneva National Sanitary District because it is envisioned that this area will be developed almost exclusively for seasonal residents as indicated in an amendment to SEWRPC Community Assistance Planning Report No. 56, entitled Amendment to the Regional Water Quality Management Plan—2000, Town of Geneva/Walworth County Metropolitan Sewerage District.

#### Delavan-Delavan Lake Sewer Service Area

In those portions of the Delavan-Delavan Lake sewer service area which are envisioned under the Commission's high-growth, decentralized land use plan to develop at medium residential densities, the total number of incremental dwelling units anticipated, 4,768, was determined by dividing the anticipated year 2010 household population in those portions of the sewer service area, 20,200 persons, by the anticipated average household size, 2.6 persons, subtracting the total number of dwelling units in the envisioned medium density portion of the sewer service area in 1985, 3,140 units, and then adding 3 percent for a vacancy factor. Incremental net residential land anticipated in the medium residential density portion of the sewer service area was determined by first identifying all net developable land within this portion of the service area. Net developable land, 4,385 acres, equals gross developable land, 4,598 acres, that is, all undeveloped land within the proposed sewer service area except environmental corridors, isolated natural areas, floodplains, and areas covered by soils poorly suited for urban development, minus any lands committed to noncommunity, county or regional level, land uses, which, within the Delavan-Delavan Lake sewer service area, encompass about 213 acres. Incremental net residential land for this area, 2,026 acres, equals net developable land, 4,385 acres, minus lands allocated to other urban uses, 40 percent, or 1,754 acres, then minus lands allocated to local streets, 23 percent, or 605 acres. The total number of incremental dwelling units anticipated in the medium residential density portion of the sewer service area in the design year, 4,768, divided by the incremental net residential land area, 2,026 acres, results in an incremental net residential density of 2.3 dwelling units per acre.

In those portions of the Delavan-Delavan Lake sewer service area which are envisioned under the Commission's high-growth, decentralized land use plan to develop at low residential densities, the total number of incremental dwelling units anticipated, 535, was determined by dividing the anticipated year 2010 household population in those portions of the sewer service area, 2,000 persons, by the anticipated average household size, 2.6 persons, subtracting the total number of dwelling units in the envisioned low residential density portion of the sewer service area in 1985, 250 units, and then adding 3 percent for a vacancy factor. Incremental net residential land anticipated in the low residential density portion of the sewer service area was determined by first identifying all net developable land within this portion of the service area. Net developable land, 1,654 acres, that is, all undeveloped land within the proposed sewer service area except environmental corridors, isolated natural areas, floodplains, and areas covered by soils poorly suited for urban development, minus any lands committed to noncommunity, county or regional level, land uses, which, within the envisioned low residential density portion of the Delavan-Delavan Lake sewer service area, were not present. Incremental net residential land, 764 acres, equals net developable land, 1,654 acres, minus lands allocated to other urban uses, 40 percent, or 662 acres, then minus lands allocated to local streets, 23 percent, or 228 acres. The total number of incremental dwelling units anticipated in the low residential density portion of the sewer service area in the design year, 535, divided by the



incremental net residential land area, 764 acres, results in an incremental net residential density of 0.7 dwelling units per acre.

#### Elkhorn Sewer Service Area

In the Elkhorn sewer service area, the total number of incremental dwelling units anticipated, 3,844, was determined by dividing the anticipated year 2010 household population in the sewer service area, 14,330 persons, by the anticipated average household size, 2.5 persons, subtracting the total number of dwelling units in the sewer service area in 1985, 2,000 units, and then adding 3 percent for a vacancy factor. Incremental net residential land anticipated in the sewer service area was determined by first identifying all net developable land within this service area. Net developable land, 3,596 acres, equals gross developable land, 5,001 acres, that is, all undeveloped land within the proposed sewer service area except environmental corridors, isolated natural areas, floodplains, and areas covered by soils poorly suited for urban development, minus any lands committed to noncommunity, county or regional level, land uses, which, within the Elkhorn sewer service area, encompass about 1,405 acres. Incremental net residential land for this area, 1,661 acres, equals net developable land, 3,596 acres, minus lands allocated to other urban uses, 40 percent, or 1,439 acres, then minus lands allocated to local streets, 23 percent, or 496 acres. The total number of incremental dwelling units anticipated in the sewer service area in the design year, 3,844, divided by the incremental net residential land area, 1,661 acres, results in an incremental net residential density of 2.3 dwelling units per acre.

#### Williams Bay Sewer Service Area

In the Williams Bay sewer service area, the total number of incremental dwelling units anticipated, 1,073, was determined by dividing the anticipated year 2010 household population in the sewer service area, 4,800 persons, by the anticipated average household size, 2.3 persons, subtracting the total number of dwelling units in the sewer service area in 1985, 1,045 units, and then adding 3 percent for a vacancy factor. Incremental net residential land anticipated in the sewer service area was determined by first identifying all net developable land within this service area. Net developable land, 1,169 acres, equals gross developable land, 2,439 acres, that is, all undeveloped land within the proposed sewer service area except environmental corridors, isolated natural areas, floodplains, and areas covered by soils poorly suited for urban development, minus any lands committed to noncommunity, county or regional level, land uses, which, within the Lake Como sewer service area, encompassed about 1,270 acres. Incremental net residential land for this area, 540 acres, equals net developable land, 1,169 acres, minus lands allocated to other urban uses, 40 percent, or 468 acres, then minus lands allocated to local streets, 23 percent, or 161 acres. The total number of incremental dwelling units anticipated in the sewer service area in the design year, 1,073, divided by the incremental net residential land area, 540 acres, results in an incremental net residential density of 2.0 dwelling units per acre.

The incremental net residential density for the combined, refined WalCoMet sewer service areas, 2.1, was determined by dividing the total number of incremental dwelling units in the combined sewer service areas in the design year, 10,220, by the incremental net residential land area anticipated in the combined sewer service area in the design year, 4,991 acres.