

ROSENDALE 2035

SEWER SERVICE AREA PLAN

WDNR CERTIFICATION DATE: #####

Prepared by the
East Central Wisconsin Regional Planning Commission
in cooperation with the
State of Wisconsin Department of Natural Resources

The preparation of this document was financed in part through a Water Quality Planning Assistance Grant from the Wisconsin Department of Natural Resources and Section 205(j) of the Clean Water Act.

EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION

Donna Kalata, Chair
Michael Thomas, Vice-Chair
Eric Fowle, Secretary-Treasurer

COMMISSION MEMBERS

CALUMET COUNTY

Alice Connors
(Bill Barribeau, Alt.)
Patrick Laughrin
Merlin Gentz

FOND DU LAC COUNTY

Allen Buechel
Martin Farrell
Brenda Schneider
Lee Ann Lorrigan
(Joseph Moore, Alt.)
Charles Hornung

MENOMINEE COUNTY

Michael Chapman
Muriel Bzdawka
Ruth Winter

OUTAGAMIE COUNTY

Thomas Nelson
Helen Nagler
Daniel Rettler
Timothy Hanna
Jeff Nooyen
Michael Thomas

SHAWANO COUNTY

Jerry Erdmann
Thomas Kautza
Marshal Giese

WAUPACA COUNTY

Dick Koeppen
Gary Barrington
Brian Smith
DuWayne Federwitz

WAUSHARA COUNTY

Donna Kalata, Chair
Larry Timm
Neal Strehlow

WINNEBAGO COUNTY

Mark Harris
David Albrecht
Ernie Bellin
Steve Cummings
Ken Robl
Robert Schmeichel

EX-OFFICIO MEMBERS

Jill Michaelson, WisDOT
Daniel Sandmeier, Valley Transit

COMMUNITY AND STATE OFFICIAL PARTICIPATION

COMMUNITY AND COUNTY OFFICIALS

Duane Ciske, President, Village of Rosendale
Kurt Caramanidis, Rosendale Village Board
John Gruszynske, Rosendale Village Board
Randell Redmann, Rosendale Village Board
Rennae Quast, Rosendale Village Board
Mark Simm, Rosendale Village Board
Dan Holdridge, Rosendale Director of Public Works
Elizabeth Crook, Clerk/Treasurer, Village of Rosendale

STATE OFFICIALS

Lisa Helmuth, Bureau of Water Quality, Wisconsin Department of Natural Resources
David Gerdman, Wastewater Engineer, WDNR Northeast Region
Richard Sachs, Wastewater Specialist/WPDES Permit Drafter, WDNR
Mark Stanek, Basin Engineer, WDNR

EAST CENTRAL STAFF

Joe Huffman, Sewer Service Area Planner, ECWRPC

SUSTAINABLE AND EFFICIENT COMMUNITY SERVICES AND FACILITIES COMMITTEE

Ernie Bellin, Chair
Tim Hanna, Vice-Chair
Muriel Bzdawka
Brian Smith
Tom Kautza
Brenda Schneider

ABSTRACT

TITLE: Rosendale 2035 Sewer Service Area Plan

CONTACT: Joe Huffman – Sewer Service Area Planner

AUTHORS: Joe Huffman – Sewer Service Area Planner

SUBJECT: Sanitary sewer service area delineation for future community growth.

DATE: ##### (WDNR Approval/USEPA Certification Date)

PLANNING AGENCY: East Central Wisconsin Regional Planning Commission

SOURCE OF COPIES: East Central Wisconsin Regional Planning Commission
400 Ahnaip Street, Suite 100
Menasha, WI 54952
(920) 751-4770
www.ecwrpc.org

This plan updates and supersedes the *1999 Rosendale Sewer Service Area Plan* which is an element of the *Water Quality Management Plan*, Upper Fox River/Lake Winnebago Watershed, Wisconsin. This plan was prepared by the East Central Wisconsin Regional Planning Commission and was certified by the Wisconsin Department of Natural Resources on ##### as an amendment to the *State of the Upper Fox Basin Report, 2001*. It provides population and land use projections and delineates future growth areas for the Rosendale Sewer Service Area. Also identified are environmentally sensitive areas which are prohibited from development. This plan contains policy recommendations encouraging cost-effective and environmentally sound development patterns.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	1-1
Report Format.....	1-1
Purpose	1-1
Background.....	1-2
Goals, Objectives and Policies.....	1-3
Growth Management.....	1-4
Urban Service Delivery	1-6
Environmental Resources	1-8
Open Space.....	1-11
Water Quality Management Areas	1-12
CHAPTER 2: ROSENDALE SEWER SERVICE AREA PLAN OVERVIEW	2-1
Plan Assumptions and Reader Notes.....	2-1
2035 SSA Population, Development and Acreage Projections.....	2-1
Future Land Use Designations.....	2-1
CHAPTER 3: ROSENDALE SEWER SERVICE AREA.....	3-1
Planning Area Description.....	3-1
Planning Area Additions/Expansions	3-1
Land Use and Development.....	3-1
Residential Development.....	3-2
Commercial Development	3-2
Industrial Development.....	3-2
Public/Institutional Uses	3-2
Limiting Environmental Conditions	3-7
Watersheds and Water Features.....	3-7
Wetlands	3-7
Floodplains	3-8
Soils	3-8
Groundwater.....	3-9
Designated Management Areas.....	3-13
Sewerage Collection and Treatment System	3-17
Forecast Growth and Development.....	3-21
Growth Allocation Areas and 2030 Sewer Service Area.....	3-22
Priority Development Area Mapping	3-22
Year 2035 Sewer Service Area	3-25
Holding Tank Service Areas	3-28
Water Quality Assessment and Development Impacts.....	3-31
Point Source Water Quality Impacts	3-31
Non-Point Source Water Quality Impacts	3-31
Groundwater Impacts	3-32
Water Quality Protection and Stormwater Management	3-32
Plan Implementation and Recommendations	3-37

CHAPTER 4: SEWER SERVICE AREA DELINEATION AND PLANNING PROCESS.....	4-1
Identification of Planning Area Limits	4-1
Delineation of Environmentally Sensitive Areas.....	4-2
Identification and Quantification of Existing Conditions.....	4-5
Refinement of Goals, Objectives and Policies	4-6
Forecast of Urban Growth.....	4-6
Population Projections	4-6
Residential Development.....	4-7
Non-Residential Development	4-8
Growth Allocation.....	4-8
Public and Community Participation	4-10
Adoption and Publication of Final Plans.....	4-11
CHAPTER 5: SEWER SERVICE AREA AMENDMENT AND UPDATE PROCESS.....	5-1
Policies and Procedures	5-1
East Central Review and Recommendation	5-1
WDNR Review and Approval.....	5-1

FIGURES

Figure 1: Environmentally Sensitive Area Standards	4-3
--	-----

TABLES

Table 1: 2014 Rosendale WWTF Performance Report	3-18
Table 2: Rosendale SSA Population/Housing Projections	3-21
Table 3: Summary of 2020 and Proposed 2030 SSA Conditions	3-27
Table 4: Wastewater Flow Projections.....	3-34
Table 5: Existing 2014 Non-Point Source Pollutant Loading Estimates	3-34
Table 6: Future 2035 Non-Point Source Pollutant Loading Estimates	3-34

MAPS

Map 1: Fox River Water Quality Management Area	1-13
Map 2: Year 2050 Rosendale Planning Area.....	3-3
Map 3: 2014 Existing Land Use, 2035 Rosendale Sewer Service Area.....	3-5
Map 4: ESA and Limiting Conditions, 2035 Rosendale Sewer Service Area	3-11
Map 5: Political Jurisdictions and DMAs, Rosendale 2035 Sewer Service Area.....	3-15
Map 6: WWTP and Infrastructure Locations, 2035 Rosendale Sewer Service Area.....	3-19
Map 7: Priority Development Areas, 2035 Rosendale Sewer Service Area.....	3-25
Map 8: Proposed 2035 Rosendale Sewer Service Area.....	3-29
Map 9: Proposed Land Use 2035 Rosendale Sewer Service Area.....	3-35
Map 10: SSA Amendment Standards and Update Procedures Application Area	5-3

APPENDICES

Appendix A: Plan Development and Approval Documentation	A-1
Appendix B: SSA Demographic and Acreage Projection Tables	B-1
Appendix C: Endangered Resource Protection and 2035 SSA Allocations	C-1
Appendix D: Rosendale Tributary Stream Reclassification, December 2006	D-1

CHAPTER 1: INTRODUCTION

This report represents the second update of the *Rosendale Sewer Service Area Plan*, a formal element of the *State of Wisconsin's Water Quality Management Plan*, which for this area includes the *State of the Upper Fox Basin Report, 2001*. In the thirty years sewer service areas have been in effect, they have had significant impacts on urban development. Both communities and land developers are now more aware of sewer service areas and are using the plans and policies in planning future growth.

REPORT FORMAT

This plan describes and delineates the 2035 Rosendale Sewer Service Area. The plan was developed in accordance with state and federal guidelines and involved public input and review. These measures include:

- one public hearing/informational meeting; and
- working sessions with local officials.

This plan discusses the Sewer Service Area, (SSA), characteristics, projected growth levels and the service area plan map, (Map 8). The beginning and end portions of this document discuss traits common to all SSA plans, such as:

- service area goals, objectives and policies;
- service area delineation and planning process; and
- service area amendment and update process.

PURPOSE

This *Rosendale Sewer Service Area Plan* update amends the *February, 1999 Rosendale Sewer Service Area Plan*. The update is part of a regularly scheduled re-evaluation of sewer service area plans. Water quality plan elements, including sewer service areas, are to be updated every five years as provided by Wisconsin Administrative Code NR-121.07(2)(a)1. However, this schedule is dependent upon available funds and priorities established within the WDNR.

Sewer service area plans serve as a basis for Wisconsin Department of Natural Resources (WDNR) approval of state and federal grants for the planning and construction of wastewater collection and treatment facilities. They also serve as a basis for WDNR approval of locally proposed sanitary sewer extensions and the Wisconsin Department of Safety and Professional Services approval of private sewer laterals. In addition, environmentally sensitive areas (ESAs) identified in the service area plans serve as a guide for environmental permit decisions by federal and state and local agencies.

Sewer service area plans are intended to be an important planning and development guide for local communities. The updated plans:

- Identify wastewater treatment and collection needs for sewer service areas through the year 2035.

- Forecast the amount and location of future urban development areas.
- Identify environmentally sensitive areas where development should be limited to protect water quality.
- Contain land use development forecasts and recommendations for implementing wastewater treatment and collection plans for individual sewer service areas.
- Establish "holding tank" service areas for isolated and rural special uses where appropriate.

BACKGROUND

The passage of the Federal Water Pollution Control Act Amendment (P.L. 92-500) in 1972 marked the beginning of a new approach to the planning, design and construction of municipal wastewater collection and treatment facilities. This law established areawide water quality management planning under Section 208 and also the Facility Planning Grant Program under Section 201. The preparation of sewer service area plans for major urban areas was a significant part of this planning process, (see Map 1 for 'designated' and 'non-designated' areas).

In recent years, the State of Wisconsin has embodied many of the federal areawide and facility planning requirements in the Wisconsin Administrative Code. These administrative rules set forth clear procedures and standards regarding the preparation of these plans and their implementation. Specific sections of the code directly pertaining to these activities are NR-121, concerning areawide waste treatment management planning; and NR-110, concerning facility planning and sanitary sewer extensions.

In June 1977, East Central completed initial sewer service area plans for 23 communities within the Fox Valley area under contract with the Fox Valley Water Quality Planning Agency (FVWQPA). These plans delineated sewer service areas through the year 2000. The service area plans were adopted as part of the Point Source element of the *Fox Valley Water Quality Management Plan* in January 1979. In 1985, the East Central Wisconsin Regional Planning Commission entered into a memorandum of understanding with the Wisconsin Department of Natural Resources to initiate sewer service area planning for the non-designated portions of the East Central ten county region. This memorandum sets out the responsibilities and relationships among the parties relative to the planning, management and implementation of sewer service area plans.

The contractual agreement provides that East Central will periodically review, revise and update the service area plans, and review proposed sewer extensions and sanitary laterals for conformance with the approved areawide water quality plan. As provided by Wisconsin Administrative Code NR-121, the WDNR's role is to review and approve every sewer service area plan and plan amendment taking into account water quality impacts and cost effectiveness.

The WDNR and East Central Planning also reviews and approves plans for wastewater treatment facilities and sewer extensions and laterals based upon conformance with the areawide plan. The contract agreement outlines rather broadly the responsibilities of each of the agencies involved in managing sewer service areas.

In order to address specific development proposals which impact sewer service area plans on a day-to-day basis, East Central has adopted an "Amendment Policy and Procedure for Sewer Service Areas." The amendment policies and procedures, initially adopted in 1978, were revised in 1984, 1990, with additional amendments regarding the urban areas (Fox-Cities/Oshkosh/Fond Du Lac) in late 1996 and early 1997. These policies and procedures established standards and criteria for amending sewer service area boundaries and also describes the procedure for amending sewer service area plans. The amendment policies, (page 75), provide a mechanism whereby communities can alter service area boundaries in response to changes in both the rate and direction of development.

The amendment process provides the flexibility for communities to adjust to short-term changes in development trends and thus provides a means of accommodating changing development trends between the five-year updates.

The *Rosendale Sewer Service Area Plan* was adopted by the Rosendale Village Board on #### and by the Town of Rosendale on #### and the Town of Springvale on ####. East Central's Sustainable and Efficient Community Services and Facilities Committee adopted the plan via Resolution #### on #### and by its full Commission on ####. The plan update was certified by the Wisconsin Department of Natural Resources and became effective on #### (Appendix A).

GOALS, OBJECTIVES AND POLICIES

In the ten-county region of the East Central Wisconsin Regional Planning Commission, sewer service area plans are prepared within the context of the regional comprehensive land use plan, *New Directions for Growth and Development* (ECWRPC, 1978). The process used for the 1978 land use plan established goals, objectives and policies formulated in response to citizens' desires and needs brought forth in East Central's public participation program. Appropriate goals, objectives and policies were referenced as the groundwork for the establishment of 104 urban service area plans and boundaries.

A major review and update of the goals, objectives and policies was completed in 1995 and 1996 and have been incorporated within the Community Facilities Chapter of the Commission's approved *2030 Regional Comprehensive Plan* (visit www.ecwrpc.org for a .pdf copy.) As part of the updating process in 1995 and 1996, the earlier set of goals, objectives and policies have been refined to provide more specific guidance for service area planning. The refinements are a result of additional community and technical advisory committee participation in the service area update planning process. The refinements also reflect various state and federal laws and regulations which impact sewer service area growth and development activities.

Four overall goals have been identified. These goals and related objectives and policies pertain to growth management, urban service delivery, environmental resources and open space. Objectives and policies related to the goals point out the significant interrelationship between urban growth and land use, sanitary sewerage planning and the environment. Together, they provide a sound basis for determining a community's future development.

The intent of the *2035 Rosendale Sewer Service Area Plan* is to encourage efficient, orderly and planned land use development patterns which allow for logical, cost-effective sewered development that incorporates sound environmental management practices. The land use element provides direction and integrates four sub-area functional plans which have direct

impacts on future land use. These functional areas are Growth Management, Urban Service Delivery, Environmental Resources and Open Space.

GROWTH MANAGEMENT

Goal: Encourage an orderly and planned pattern of community growth and development.

Objective: Allocated Growth. Promote balanced allocation of land areas to accommodate current and future urban development needs.

Policies:

1. The supply of land allocated for urban development should approximate the current and future needs as determined from population, employment and land use projections which have been developed in conjunction with adopted comprehensive or urban service area plans. Allowances are also made for local circumstances.
2. New urban development patterns should incorporate planned areas of mixed use and density neighborhoods that are clustered and compatible with adjacent uses.
3. Work places, shopping centers, recreational facilities, and community facilities should be located to provide a mix of land uses for improved accessibility for residents.
4. Urban designs with higher density land use alternatives should be promoted.

Objective: Planned Urban Communities. Promote planned urban communities which contain centralized, compact, contiguous and compatible urban development patterns.

Policies:

1. Vacant developable lands within existing urban areas should first be in-filled, then development staged outward from the existing development limits.
2. New subdivision development should be encouraged within existing urbanized areas or as an expansion of existing urban areas concurrent with the provision of necessary facilities and services.
3. The expansion of major commercial and industrial land use activities should be adjacent to existing areas or in areas designated for such development in adopted comprehensive plans.
4. Natural and man-made features, such as ridge lines, streams and major highways, should be considered in the expansion and staging of urban development.
5. Urban development should only take place in designated urban service areas.
6. Community development plans should be coordinated in multi-jurisdictional urban areas.

7. Urban sprawl in the form of unplanned development which is non-contiguous, low density, scattered and inefficiently served should be discouraged.

Objective: Environmentally Sound Development. Promote urban development which protects environmentally sensitive areas and is compatible with the natural resource base.

Policies:

1. Urban development should be directed to suitable land and discouraged on unsuitable land, such as floodplains, wetlands, prime agricultural soils, areas of high bedrock and groundwater, steep slopes, prime wildlife habitat, unique scientific areas and areas of historical or archeological significance.
2. The development of environmentally sensitive areas should be discouraged.
3. Adverse development impacts to surface water and groundwater should be mitigated.
4. Designs and plans for new development should preserve open spaces for public use, complement the existing landscape, and conserve energy and natural resources.
5. Land reclamation should be required following extractive operations or other uses which significantly alter the land surface.
6. Urban redevelopment activities should weigh environmental, health and safety factors against associated costs and benefits.

Objective: Efficient Development. Promote efficient and cost-effective development in urban growth areas.

Policies:

1. Urban development should be encouraged at densities adequate to sustain reasonable urban service costs.
2. Urban development should occur in areas served by adequate public facilities and services.
3. A variety of types, prices and locations of housing should be provided to promote convenience, choice and affordability.
4. Development patterns and site designs that support multimodal transportation should be encouraged.
5. Major commercial and industrial areas should be provided with readily accessible major transportation systems.
6. Community comprehensive plans should be adopted prior to the extension of urban services.

Objective: Rural Land Development. Preserve rural land uses by requiring planning which considers water and sanitary sewer adequacy.

Policies:

1. Agricultural and open space characteristics of rural areas should be preserved.
2. Rural development should be limited to land with suitable physical characteristics and soils supporting conventional on-site sewage treatment systems.
3. Rural residential housing should be limited to dependent single lot use in agriculture and open space areas.
4. Rural subdivision development should be limited to areas which do not negatively impact agricultural or open space uses and the provision of public services.
5. Rural subdivision development should be restricted in urban planning areas until long-term urban services are provided.

Objective: Compatibility with the Transportation Network. Encourage development in areas that are served by existing transportation infrastructure.

Policies:

1. Infill development and redevelopment projects should be promoted in order to avoid the need for extension of transportation infrastructure and service.
2. Design standards for infill should be given different consideration for transportation/traffic requirements compared to "greenfield" development.

URBAN SERVICE DELIVERY

Goal: Promote urban services in an efficient, environmentally sound, and socially responsible manner.

Objective: Economical Public Facilities. Provide efficient, economical, and equitable public facilities and services to urban development.

Policies:

1. The use of existing public facilities and services should be maximized in the allocation of future urban growth.
2. Designing of new and upgraded transportation and utility facilities with capacities sufficient to respond to existing demand levels and to the additional demand generated by planned development should be encouraged.
3. A full range of essential urban services and facilities should be provided to urban development areas.

4. The costs of providing urban services should be minimized through higher density development.
5. Major infrastructure extensions should be staged to coincide with community growth rates.
6. Utilities serving individual developments should be extended consistent with community water and wastewater system plans.
7. Provision of public facilities and services should be coordinated with the location and timing of new development.

Objective: To promote sanitary sewerage systems which are environmentally sound.

Policies:

1. Disturbances of natural resources should be minimized when constructing sanitary sewerage systems.
2. Constructing sanitary sewers through environmentally sensitive areas should be avoided whenever possible.
3. The design and construction of sanitary sewerage facilities should not promote development in environmentally sensitive areas.
4. Sanitary sewerage systems should meet water quality standards.
5. When feasible, sanitary sewer systems and stormwater drainage systems should be designed and constructed concurrently to achieve pollution abatement, gain drainage benefits and minimize disruption of natural resources.
6. Erosion and sediment control practices should be utilized in constructing sanitary sewer systems where the potential for erosion is high.

Objective: To promote sanitary sewerage systems which will effectively and economically serve urban development.

Policies:

1. The number of waste treatment plants should be minimized to avoid duplication of facilities, institute economies of scale and lessen environmental degradation.
2. Urban development should be provided with sanitary sewer service which is reasonably sized.
3. Existing capacity in sanitary sewerage systems should be used before making substantial expansion or extensions of service.
4. Sanitary sewerage system construction and sizing should be staged to encourage lower capital investment and greater flexibility.

5. Sanitary sewerage systems should be provided for existing development whenever they are the most cost-effective alternative for addressing failing on-site disposal systems.
6. Gravity flow sewer and interceptor systems should be utilized whenever it is cost-effective.

Objective: Cooperative Provision of Services. Provide services where efficiency, equity, and economies of scale can be obtained through cooperation and coordination.

Policies:

1. Overlapping urban service areas, facility and system capacities and service capabilities should be discouraged.
2. The proliferation of major public infrastructure facilities should be discouraged.
3. Inter-municipal agreements should be promoted for the provision of joint services.
4. More uniform facility design and service standards should be encouraged for multiple jurisdiction development areas.

ENVIRONMENTAL RESOURCES

Goal: Protect the environment and manage natural resources in an ecologically sound manner.

Objective: Water Quality Protection. Improve and protect surface and groundwater quality.

Policies:

1. The quality and supply of groundwater should be protected as the principal source of water supply and encourage water conservation programs.
2. The use of natural drainage patterns and measures should be promoted to enhance water quality.
3. Wetlands should be preserved as an essential component of the hydrologic system.
4. The risk of groundwater contamination should be reduced in aquifer recharge areas.
5. Lakeshore and streambank erosion should be minimized.
6. Construction site erosion should be controlled and urban stormwater runoff reduced.
7. Non-point source pollution abatement programs should be supported.
8. The adverse water quality impacts of agricultural runoff should be minimized.

Objective: Air Quality Maintenance. Improve or maintain high air quality throughout east central Wisconsin.

Policies:

1. Air pollution abatement programs and air quality regulations should be supported.
2. Geographically coordinated abatement strategies should be encouraged.
3. The public should be provided with information on air quality programs and specific air quality problems.
4. The increased use of transportation modes that are more efficient and environmentally sound than the private automobile should be encouraged.
5. Noise pollution should be reduced and noise sources isolated.

Objective: Environmentally Sensitive Area Protection. Preserve and protect environmentally sensitive areas and promote the linkage of these areas into environmental corridors.

Policies:

1. The natural environment should be recognized as an integrated system of interacting and finite land, water and air resources to protect the health and stability of this system.
2. Shoreland, floodplain and wetland areas should be protected as essential components of the hydrologic system and their scenic and recreational value preserved.
3. The disturbance of environmentally sensitive areas by utilities and transportation facilities construction should be minimized.
4. Critical natural areas should be preserved and protected from development and other adverse impacts.
5. Adjacent land uses which adversely impact sensitive areas should be restricted or mitigated.
6. The interrelationship of adjacent landscape types should be recognized to avoid dividing the natural units or breaking important linkages.

Objective: Wildlife Habitat Management. Manage wildlife and wildlife habitat in a manner that maintains ecological stability and diversity, and considers social and economic impacts.

Policies:

1. The diversity and population of plant and wildlife species should be maintained and increased.
2. Critical habitat areas for endangered and rare species should be preserved and enhanced.

3. Wildlife habitat such as fencerows, woodlots and natural areas should be protected and expanded.
4. Adequate public access to hunting and fishing areas should be provided.
5. Responsible public use of private land should be encouraged.
6. Wildlife and plant populations should be managed in ways that do not impose undue financial loss to individual property owners.
7. Plant and animal preserves used specifically for educational and observational purposes should be maintained and expanded.

Objective: Food and Fiber Production. Preserve land suitable for the production of food and fiber to meet present and future needs.

Policies:

1. Land best suited for agriculture or forestry should be preserved for these uses or in other uses which enable the land to be readily converted to agricultural or forestry production.
2. Ecologically sound and economically feasible farm and forestry management practices which preserve soil productivity and minimize soil loss should be encouraged.
3. Soil should be recognized as one of the basic and most important resources and programs to preserve and improve productivity and wise use consistent with soil capability should be developed and promoted.

Objective: Solid Waste Management. Employ a comprehensive management approach for solid and organic wastes.

1. Unique areas should be protected by minimizing the impact of individual development proposals.
2. Significant natural areas should be preserved as public open space.
3. Public access and use within environmental corridors and drainage ways should be promoted.

OPEN SPACE

Objective: Urban Recreation Needs. Plan for the future open space and recreational needs of the urban area.

Policies:

1. All municipalities should be encouraged to participate in the development of a comprehensive park and open space plans.
2. Opportunities should be identified for developing a network of recreational trails along highly attractive environmental corridors, natural waterways, and transportation rights-of-way to link major recreational facilities and residential areas.
3. Coordination between neighboring jurisdictions should be facilitated for development of parks and recreation facilities and linkages.
4. Future parks and open space areas should be preserved so that suitable and adequate land will be available to provide active and passive recreational opportunities as growth occurs.

Objective: Cost-Effective Recreation. Provide recreational opportunities in a cost-effective manner.

Policies:

1. Facilities should be developed which can provide multi-seasonal recreational opportunities.
2. The use of existing recreational facilities should be optimized.
3. Duplicative recreational facilities and programs should be avoided.
4. Grants and funding assistance should be maximized in the acquisition and development of recreational facilities.
5. Municipalities and school districts should be encouraged to cooperate in the development of community recreational and playground facilities.
6. The development of the county park system should be encouraged to complement recreational opportunities available in local parks.
7. Municipalities should be encouraged to establish capital funding and other parkland dedication methods to provide for future recreational needs.

Objective: Attractive Communities. Make individual communities, and the region as a whole, a more attractive place to live, work, and play.

Policies:

1. Scenic areas should be preserved and landscaping and other site development requirements strengthened to promote community beautification.

2. Additional billboard proliferation should be prevented, their placement controlled and a phase-out program promoted.
3. Community tree planting programs on street terraces and public areas should be promoted.
4. Waterfront areas should be preserved and redeveloped to promote greater public recreational use.
5. Scenic easements to protect important viewsheds should be considered.

WATER QUALITY MANAGEMENT AREAS

The *Statewide Water Quality Management Plan* identifies three designated, (complex), water quality management planning areas within the State of Wisconsin with the remainder of the state identified as a "non-designated" area. Within the East Central region, the Fox Valley Designated Water Quality Management Area comprises major portions of the four urban counties surrounding Lake Winnebago, (Calumet, Outagamie, Fond du Lac and Winnebago). The 1,580 square mile area has been specifically designated for water quality planning because of the concentration of industries and urbanization along the Fox River and Lake Winnebago. Within this overall area there are 17 different sewer service areas that have been delineated and individual plans prepared, (Map 1).

The remainder of the region is identified as a non-designated water quality management area. To date, within the East Central region, there are seven sewer service area plans in effect within the non-designated 208 area. The "non-designated" portion of the East Central region, as well as the remainder of the state, are further divided into major river basins. For each river basin the WDNR has prepared a water quality plan. The Rosendale Sewer Service Area is located within a "designated" area and wholly within the Fond du Lac River watershed, (UF03), being part of the Upper Fox River Basin Watershed Management Unit ultimately draining to the Lake Michigan Basin.

**Map 1
Fox River Water Quality Management Area**

Page intentionally left blank.

CHAPTER 2: ROSENDALE SEWER SERVICE AREA PLAN OVERVIEW

PLAN ASSUMPTIONS AND READER NOTES

The beginning year for this update was 2014-2015, and hence; data was finalized mid-2015 to coincide with this starting timeframe. The plan itself looks out 20 years into the future (2035). The reader should further note that all references to SSA boundaries and acreages are associated with the 'updated' (2014) land use conditions, not with the 'current' (2000) plan features. Basically, the plan is written as if it has already obtained WDNR approval.

2035 SSA POPULATION, DEVELOPMENT AND ACREAGE PROJECTIONS

In order to ease the reading of this document, all of the detailed demographic and development projection data for each Designated Management Areas (DMA) are contained in a separate appendix (Appendix B). Figures for the aggregate SSA are referenced in the text for descriptive purposes. An attempt was made to have all data reflect conditions as of early, 2015. The planning horizon also encompasses a slightly longer time span, rather than the traditional 20 year span. This will allow staff to provide (in 5-year increments) a 20-year population and development projection when reviewing sewer projects and sizing through the Water Quality Management (WQM or 208) review process.

FUTURE LAND USE DESIGNATIONS

The SSA plan has tables and maps which illustrate 2035 SSA's vacant acreage by proposed land use type. Each community's land use classification scheme was assessed and simplified so that common land use categories could be compared.

Page intentionally left blank.

CHAPTER 3: ROSENDALE SEWER SERVICE AREA

PLANNING AREA DESCRIPTION

The planning area is defined partially by what is felt to be an approximation of the "ultimate service" area of the treatment plant based on capacity, the extent of service areas for individual lift stations or interceptor sewers, as well as delineating and including nearby clusters of development currently utilizing on-site systems which may have long-term needs for sanitary sewer (usually more than 20 years). Regionalization with a major wastewater treatment facility, (City of Fond du Lac), has been deemed premature and infeasible at this time. This circumstance is addressed through this plan's "Goals, Objectives and Policies" section of this report, (Urban Service Delivery, page 1- 6). It should also be noted East Central administers a sewer service area plan for the City of Fond du Lac with these same goals, objectives and policies. Future updates to this plan will continue to explore the concept of regionalization where and if practical.

The Rosendale planning area and sewer service area are located in the northwest part of Fond du Lac County. State Highway 23 and State Highway 26 create a major crossroad in the heart of downtown Rosendale. State Highway 23 also serves as the township boundary for the Town of Rosendale north of STH 23 and the Town of Springvale south of STH 23. The Rosendale planning area measures 2, 620.8 acres or 4.1 square miles, (Map 2). The Rosendale planning area includes the W ½ of Section 1, Section 2 and the E ½ of Section 3, T15N, R15E; the E ½ of Section 34, Section 25 and the W ½ of Section 36, T16N, R15E.

Planning Area Additions/Expansions

There were no portions deleted or added to the current planning area, (Map 2). The function of the planning area, among others, is to identify potential areas with private on-site systems that may require or request sewer service due to those systems failing. One such area located south of the Village of Rosendale east of STH 26 and north of Triple Kay Road. There are eight existing single family residential homes within a CSM-created subdivision along Marchant Drive whose development can be traced to the 1980's. While the condition of those private on-site systems is undetermined it is, however, reasonable to assume there may be requests from these property owners for service.

LAND USE AND DEVELOPMENT

Map 3 illustrates the 2014 existing land use for the Rosendale SSA confined within the current planning area boundary for reference purposes. This information is based on the Commission's detailed land use inventory with corrections made by the community during the update process. This data corresponds with a timeframe (or 'snapshot') of mid-year 2014 with minor updates based on newer 2015 aerial photography.

In this update, the 2035 SSA contains 570.4 acres, an increase of approximately 18% over the last plan period or 102 acres, (The 2035 SSA has not allocated additional acreage for development and therefore the discrepancy of 102 acres is due to inaccurate acreage tabulation in the 1999 plan update. Today's GIS technology allows for a more precise accounting of actual land use conditions). There being no additional acreage added to this plan update the developed lands

within the 2035 SSA can be described as follows, (Appendix B, Table B-1): 369.09 acres are considered to be the total developed areas within the SSA and comprise the following land uses; 175.08 acres of single family and multi-family residential land use (30.7% of total SSA); 6.34 acres of commercial land use (1.11% of total SSA); 7.0 acres of industrial land use (1.23% of total SSA); 98.1 acres of transportation/road use (17.2% of total SSA); 82.09 acres of public/institutional/use (14.39% of total SSA) and .48 acres of utility use, (.08% of total SSA). This update also contains 39.23 acres of environmentally sensitive areas which can be broken down by the following categories; 19.17 acres of stream/wetland buffers, 17.59 acres of wetlands and 2.47 acres of open water.

Residential Development

As can be expected, residential development within the 2035 Rosendale Sewer Service Area is the dominate land use category. There are considered to be 3.16 acres of multi-family residential found south of West Midway Street and east of North STH 26. The bulk of single family residential development can be found concentrated in neighborhoods north of East STH 23, south of Rose-Eld Road and east of North STH 26. A somewhat newer subdivision, (Spring Rose Estates), of residential development is found south of East STH 23 along Donovan Circle. This particular subdivision is nearly 90% developed. The total developable acreage within the Rosendale SSA is 162.08 acres. The Village of Rosendale anticipates to develop approximately 96.9 acres, (single/multi-family), or 60% of the developable acreage. This type of development is planned for and area north of East STH 23 and east of Wilson Street and a larger area planned west of Spring Rose Estates. Additionally, scattered residential in-fill throughout the village will occur for this planning period.

Commercial Development

Existing commercial development accounts for 1.11% of the total developed areas within the 2035 Rosendale Sewer Service Area. Commercial areas are concentrated at the STH 23 and STH 26 intersection in downtown Rosendale. Scattered commercial development is also found south of Rose-Eld Road within the northern limits of the village. Future commercial development is anticipated west of North Grant Street along with highway commercial along the STH 23 corridor. Future commercial development may manifest themselves as a matter of enhancements of existing businesses, re-development of vacant storefronts or new start-ups.

Industrial Development

The 2035 Rosendale Sewer Service Area Plan will have approximately 14.33 acres for the purposes of industrial expansion in addition to their existing 7 acre industrial base. A major Industrial employer located on Clark Street, Power Packaging, is the bulk of existing industrial development. Smaller industries are few and are scattered throughout the village.

Public/Institutional Uses

Public and institutional land uses comprise 82.09 acres or 14.39% of the land covers within the 2035 Rosendale Sewer Service Area. Three particular developments, (Rosendale Intermediate School, Laconia High School, Rosendale Primary School and the Rosendale Cemetery), account for 48.7 acres or 59% of all public or institutional uses. Future public/institutional uses include an area south of a wetland complex near the wastewater treatment facility and the possibility of expanding of the cemetery.

Map 2 - 2050 Planning Area Boundary

BACK OF MAP 2

Map 3 - Year 2014 Existing Land Use

BACK OF MAP 3

LIMITING ENVIRONMENTAL CONDITIONS

Limiting environmental conditions for development are found within the Rosendale planning area as indicated on Map 4. Steep slopes are, for the most part, confined outside of the village corporate limits and are more prominent in the southern one-quarter of the 2035 planning area. Bedrock features are virtually non-existent within the planning area boundary accounting for a 1.26 acre area just northeast of Triple Kay Road. Groundwater within two feet of the surface is prevalent throughout the area dominating the eastern half of the 2050 planning area.

Watersheds and Water Features

The 2050 Rosendale planning area is located within the Upper Fox River Sub-Basin being part of the Lake Michigan Drainage system. The Upper Fox River Basin drains an area of approximately 2,090 square miles. The sole watershed within the 2050 Rosendale planning area is the Fond du Lac River watershed, (UF03).

The West Branch of the Fond du lac River is situated just northeast of the 2050 Rosendale planning area. Two main perennial unnamed streams are present within the 2050 Rosendale planning area. The first of these flows from the southwest portion of the planning area and flows generally in a diagonal fashion skirting the east side of the wastewater treatment facility serving as the receiving waters for treated effluent. The second perennial stream flows from the western 2035 Rosendale planning area from STH 23 northeasterly exiting the planning area east of STH 26. Other unnamed intermittent stream corridors are found within the 2050 planning area. These features are all considered to be environmentally sensitive, and as such, are buffered 75 feet from their centerlines.

Additional information on basins and watersheds in this region can be found in a 2001 Wisconsin Department of Natural Resources publication, *State of the Upper Fox Basin Report, (2001)*. Further, with respect to impaired waters, a report titled *Rosendale Tributary Stream Reclassification, December 2006*, (WDNR), can be found in Appendix D in this report.

Wetlands

Wetlands, (Map 4), are essential environmental features for providing wildlife habitat, scenic open spaces, flood water retention and groundwater discharge areas. Wetlands act as a natural filtering system for nutrients such as phosphorus and nitrates. They provide a buffer zone protecting shorelines and stream banks. Wetlands within the 2050 Rosendale planning area are primarily classified as forested, emergent wet meadow and scrub/shrub types.

The 2050 Rosendale planning area contains a total of 192.61 acres of designated, mapped wetlands and a total of 82.92 acres of associated fifty foot buffers. The most significant wetland complex is located in the northern portion of the planning area. Including the wetland buffers this complex accounts for 49.6% or 136.72 acres of the total wetland/buffers within the 2050 Rosendale planning area. This particular designated wetland is associated with a larger wetland complex found in and around the West Branch of the Fond du Lac River. The Village of Rosendale has within its corporate limits approximately 28.14 acres of designated wetlands and buffer areas. The most significant complex, (with buffer areas), within the approved 2035 Rosendale sewer service area totals approximately 21.9 acres stretching from the wastewater treatment to STH 23 in a southwesterly fashion. Wetlands are considered to have development limitations and development within these areas is discouraged. The Village of Rosendale, Town

of Rosendale and Town of Springvale are committed to the preservation and protection of designated wetlands via their various comprehensive land use planning and adopted zoning ordinances. Absent local regulations or ordinances these communities would necessarily adhere to Fond du Lac County Zoning and Shoreland codes or Wisconsin Department of Natural Resources and U.S. Army Corp of Engineers regulations. The jurisdictions within the 2050 Rosendale planning area are encouraged to implement the goals, objectives and policies found in Chapter 1 of this report and more particularly the Growth Management element pertaining to Environmentally Sound Development.

Wisconsin Administrative Code NR 115 and NR 117 mandate that wetlands be protected in both the rural and urban areas of the state. In the unincorporated areas, NR 115 protects wetlands or portions of wetlands within the shoreland zone that are designated on Wisconsin Wetland Inventory maps prepared by the Wisconsin Department of Natural Resources. To protect wetlands in incorporated areas, NR 117 was enacted in 1983 and requires that all wetlands or portion of 5 acres or more in size located in the shoreland zone be protected and outlines minimum shoreland zoning standards for Wisconsin cities and villages. In addition to NR 115 and NR 117, NR 103 outlines water quality standards for wetlands and requires that all practicable alternatives be considered to avoid and minimize wetland disturbance and to ensure preservation, protection, restoration and management of wetlands. Any alterations that are to be made to any wetland, regardless of size, need to be reviewed and approved by the U.S. Corps of Engineers and the WDNR before any action can be taken.

Floodplains

Mapped FEMA Floodways and flood prone areas are illustrated on Map 4. A floodway determination is found within the heart of the Village of Rosendale involving a segment of an unnamed stream. This segment begins just south of Willow Creek Road and meanders in a southwesterly direction crossing STH 23 and 26 and exits the 2035 sewer service area in the village's southwest quadrant. The Village of Rosendale enforces and maintains a floodplain ordinance within its corporate limits while the Towns of Rosendale and Springvale operate under the Fond du Lac County Floodplain Ordinance. Generally speaking, areas susceptible to flooding are considered unsuitable for any type of development due to the potential health risks and property damage.

Soils

Soils support the physical base for development within the 2050 Rosendale planning area. Knowledge of the limitations and potential difficulties of soil types is important in evaluating land use proposals such as residential development, utility installation and other various projects. Some soils exhibit characteristics such as slumping, compaction, erosion, and high water tables which place limits on development. Severe soil limitations do not necessarily indicate areas cannot be developed, but rather indicate more extensive construction measures must be taken to prevent environmental and property damage. These construction techniques generally increase the costs of development and the utilities needed to service that development.

According to the *Soil Survey of Fond du Lac County*, prepared by the USDA in 1973, two major soil associations are present within the 2050 Rosendale planning area:

- **Lomira-Virgil Association:** This association is part of a ground moraine underlain by a calcareous loam glacial till. Soils comprising the Lomira-Virgil association are well-

drained to poorly drained, silty and moderately permeable. This association includes the Lomira, Virgil and Pella soil series characterized by nearly level to moderately sloped and are somewhat poorly drained with the exception of the Lomira series which tend to be deep and well drained. Found predominately in the western portion of Fond du Lac County the Lomira-Virgil association is most abundant between the villages of Rosendale and Brandon. Prior to wide-spread cultivation this soil association supported forests of oak, sugar maple and basswood.

- **Plano-Mendota Association:** As a well-drained, silty and moderately permeable soil the Plano-Mendota association rests on a ground moraine underlain by a calcareous loamy glacial till. This association only makes up between 8-9 per cent of the county's total area. Soil types include Plano, Mendota, Elburn and Pella which are all nearly level to gently sloping and are well-drained with the exception of the Elburn and Pella soil types which are poorly drained. The Elburn and Pella types tend to have a high water table. Generally, prairie grass originally covered the landscape and, to a lesser extent, supported marsh grasses and water tolerant shrubs. This association is predominately in agricultural use.

Additionally, based on this soils information, steep slopes, (6%-12% and greater), have been identified within the planning area, (Map 4). Identifiable steep slopes are scattered throughout the 2050 Rosendale planning area and accounts for 170.3 acres or 6.5% of the total 2050 planning area. Groundwater within two feet of the surface totals 39.4% or 1, 033.1 acres of the total 2050 planning area and just 1.3 acres of identified bedrock has been mapped.

Groundwater

The Upper Fox River Basin's groundwater aquifers were formed during the Cambrian-Ordovician Period, (commonly referred as the Cambrian-Ordovician aquifer system), that includes a crystalline aquifer from the Precambrian period, a Silurian or Niagara dolomite aquifer and a sand and gravel aquifer. The bedrock geology is comprised of the sandstone and dolomite aquifer and overlain by the shallow, mostly unconsolidated, sand and gravel aquifer.

The majority of groundwater uses for residential, Industrial/commercial and agriculture are taken from the sand and gravel aquifer. The unconsolidated surface aquifer is the most environmentally at risk given the shallow depth to groundwater and the high permeability of most of the subsurface material. This may increase the possibility that contaminants at the surface will percolate through the ground to contaminate groundwater. While there are sandy soils there are also large areas of high groundwater particularly in the eastern and southern portions of the 2035 Rosendale planning area. These conditions limit development via the use of conventional, individual septic systems.

Failing on-site waste disposal systems, abandoned or active landfills, agriculture practices and certain other land uses can have a direct contribution of contaminants to the groundwater resources. Currently, the Village of Rosendale relies on private wells for their source of potable drinking water. As a somewhat longer term objective, the Village of Rosendale may embark on a feasibility study to determine the cost of developing a municipal water distribution system. As the village continues to develop in the future careful land use planning could help in minimizing groundwater contamination potential. Planned subdivisions and industrial parks, for example, would benefit by locating them within areas where sewer service could be easily extended.

Page intentionally left blank.

Map 4 - ESA's and Limiting Environmental Conditions

BACK OF MAP 4

DESIGNATED MANAGEMENT AREAS

Map 5 illustrates the existing Designated Management Areas (DMAs) within the 2035 Rosendale Sewer Service Area. DMAs are the legal entities (communities, sanitary districts, or utility districts), responsible for the collection and/or treatment of wastewater. Within the 2050 Rosendale planning area there are four governmental entities that exist, one of which is the Designated Management Agency.

- Village of Rosendale*
- Town of Rosendale
- Town of Springvale
- Fond du Lac County

Short descriptions of each DMA, including basic information on their involvement in land use planning and intergovernmental cooperation activities is contained below:

Village of Rosendale – The Village of Rosendale incorporated in 1915 and to date its' corporate limits encompass 785.5 acres or 1.22 square miles and is considered to be rural in nature. The City of Fond du Lac is less than 15 miles east of the village along STH 23. The major crossroads within the heart of the village are STH 23, (east-west), and STH 26, (north-south). While the actual corporate limit area totals 1.22 square miles only 546.1 acres or .85 square miles are considered to be within the approved sewer service area. The Village of Rosendale, for the most part, has compact and orderly development patterns which benefits the existing sewer infrastructure. The Village of Rosendale's residents and businesses utilize individual wells for their water supply needs. The efficient transportation routes provided, (STH's 23&26), and the close proximity to the City of Fond du Lac to the east, City of Ripon to the northwest and, to a certain extent, the City of Oshkosh to the north provide ample opportunity for employment and development. The *Village of Rosendale Comprehensive Plan 2010-2030*, adopted in April, 2010, was used in this report from a base data standpoint. This base data included the village's insights to future growth area scenarios and future land use patterns among others. In addition, environmental, geological and general village characteristics described within the comprehensive plan were used to accurately describe the Village of Rosendale.

Town of Rosendale – A very small portion of the Town of Rosendale is within the 2035 *Rosendale Sewer Service Area Plan*. These areas existed prior to this plan update and were not altered as a consequence. The town lands within the sewer service area are located along Rose-Eld Road in the northern most portion of the service area. In total there are 13.4 acres of the Town of Rosendale within the 2035 Rosendale Sewer Service Area. Included in this total are 5.7 acres of existing development making up 84% of the total in the form of roadways. Based on the Town of Rosendale Comprehensive Plan there were no traditional future land use designations and therefore no additional sewer service area allocations were appointed. The Town of Rosendale oversees zoning issues via the towns' adopted zoning ordinance. Shoreland, subdivision ordinances, among others, are administered by Fond du Lac County.

Town of Springvale – The Town of Springvale has a small area of existing development within the 2035 Rosendale Sewer Service Area. Four existing residential structures are located along

* Indicates DMA designation

Hill Boulevard that has access south of STH 23 adjacent on the village's eastern corporate limits. The total service area involved is approximately 10.9 acres including the road right of way. There currently is no public sewer serving this area and to do so would require an annexation by the Village of Rosendale. An additional area of existing development is located directly south of the village corporate limits east of STH 26. Eight single family residential structures along Marchant Drive and Triple Kay Road have existed for nearly two decades and the potential for sewer service may arise. It is for this reason this area will remain within the 2050 planning area boundary. It is unclear the status of The Town of Springvale Comprehensive Land Use plan, however, the Village and Town of Rosendale are committed to striving towards consistency among the communities regarding long-term strategic planning. Absent any of its own adopted ordinances, the Town of Springvale would rely on guidelines set forth through Fond du Lac County established ordinances.

Fond du Lac County – Fond du Lac County has certain jurisdictional authority within the townships in the county, particularly with those that have no ordinances of their own. County ordinances, among others, include land subdivisions, on-site sanitary systems and various ordinances pertaining to shoreland, wetlands and floodplains. In addition, Fond du Lac County oversees the maintenance of county roadways.

Map 5 - Political Jurisdictions and DMA's

BACK OF MAP 5

SEWERAGE COLLECTION AND TREATMENT SYSTEM

There is no public sewerage system present within the Towns of Rosendale and Springvale. Developments within these townships rely on private, individual on-site septic systems that may include conventional types, mound systems or approved holding tanks. Existing developments adjacent to the Village of Rosendale may have the opportunity for public sewer by meeting certain criteria set forth by the Village of Rosendale. These systems may fail due to poor soil conditions related to slow permeability and/or the presence of high groundwater. This report identifies areas of groundwater within two feet of the surface which could help to determine areas susceptible to failing on-site systems.

The Village of Rosendale wastewater treatment facility is located in the village's northeast corner along the southern right of way on Rose-Eld Road. Originally constructed as a Walker Process activated sludge package plant in 1963 an upgrade with a Sanitaire package was constructed in 1982 to augment the existing Walker tank. In 1990, the Village of Rosendale installed a new aeration tank and the Walker tank was converted into an aerobic digester/sludge holding tank. According to the 2014 Compliance Maintenance Annual Report, (CMAR), routine maintenance to the plant ranks very high. Additional wastewater facilities' planning was conducted in 2009 to address issues facing the existing plant. Chief among those factors that support the construction of a new plant include; the existing facility is over 30 years old and much of the equipment has exceeded its useful life; inadequate hydraulic treatment capacity for heavy precipitation events or future wastewater flows; an anticipated growth of population and housing units and; the possibility of stringent effluent quality limits based on the development of the Total Maximum Daily Loads, (TMDL), criteria. A new wastewater facility would necessarily have a design capacity of 300,000 gallons per day, (.30 mgd). Future planning for a new facility is also documented in the 2014 CMAR. At the time of this writing the Village of Rosendale is actively engaged with the Wisconsin Department of Natural Resources to reissue the village's Wisconsin Pollutant Discharge Elimination System, (WPDES), with modifications.

Treated wastewater is currently discharged to a tributary of the West Branch of the Fond du Lac River. This receiving tributary was studied in a report titled, *Rosendale Tributary Stream Reclassification, December 2006*, (WDNR). Recommendations from this document were further supported by the *2010 Water Quality Management Plan Update*, regarding the Fond du Lac River Watershed that including among other things that; 1) the Rosendale wastewater treatment facility discharge point remain downstream of the high quality area near the Mascoutin Valley State Trail and 2) elevated temperatures and degraded habitat be monitored and those conditions be compared to state standards to determine if the tributary be included on Wisconsin's impaired waters list. At the time of this writing it is unclear whether the tributary, (Rosendale Creek), has been reclassified.

The Village of Rosendale provides sanitary sewer service to residents and businesses throughout the village. The entire infrastructure system consists of 8-inch, 10-inch, 12-inch and fifteen inch gravity sewer mains. The total sewer system totals approximately 38,811 linear feet or 7.4 miles. A combination of 10, 12 and fifteen inch sewer mains collect all wastewater and directs it to the treatment plant. There are no lift stations within the existing collection system and none are anticipated in the immediate future. Annually, the Village of Rosendale performs maintenance activities for their sewer infrastructure including cleanings, sewer line televising, manhole inspections and remedies for inflow/infiltration removal. The Rosendale treatment facility grades out excellently in its operation and maintenance performance.

There are no serious issues with respect to inflow/infiltration, (I/I) of clearwater into the plant or sewer infrastructure system. While all treatment facilities and sewer systems experience this phenomenon during heavy wet weather conditions the Rosendale sewer network is currently subjected to a regular maintenance schedule effectively lowering the I/I rate. There is no requirement in the current WPDES permit for a Capacity, Management, Operation and Maintenance Plan, however, an Operating and Maintenance program is in effect.

In summary, the permit and design information for the Rosendale treatment plant is as follows:

- **WPDES Permit Number:** WI 0028428, Expiration Date December 31, 2011
- **Receiving Water:** Tributary, (Rosendale Creek), West Branch Fond du Lac River Watershed, (UF03)
- **Design Flow:** .216 mgd
- **Average Flow (Jan.- Dec., 2014):** .126 mgd
- **Design BOD (lb./day):** 1,056
- **Average BOD Influent (lb./day, Jan.-Dec., 2014):** 305
- **Average BOD Effluent (lb./day, Jan.-Dec., 2014):** 15
- **Treatment Type:** Aerobic Digestion
- **Sludge Treatment:** Hauled to another permitted facility for processing and disposal

Table 1 - ROSENDALE 2014 WWTF PERFORMANCE REPORT

Month	INFLUENT			EFFLUENT		BOD Removal Efficiency
	Avg. Monthly Flow (mgd)	Average Mo. (C)BOD Concentration (mg/l)	Avg. Monthly (C)BOD Loading (lbs/day)	Avg. Monthly (C)BOD (mg/l)	Avg. Monthly TSS (mg/l)	
JAN	0.0977	397	324	15	7	96.22%
FEB	0.1050	356	312	15	11	95.79%
MAR	0.1421	249	295	15	18	93.98%
APR	0.1735	243	352	15	10	93.83%
MAY	0.1440	274	329	15	7	94.53%
JUN	0.1778	253	374	15	10	94.07%
JUL	0.1309	300	327	15	13	95.00%
AUG	0.1084	320	290	15	13	95.31%
SEP	0.1002	335	280	15	9	95.52%
OCT	0.1045	302	264	15	12	95.03%
NOV	0.1131	265	250	15	11	94.34%
DEC	0.1120	287	268	15	13	94.77%
Total	1.51	3,581	3,665	180	134	
Average	0.126	298.4	305	15.0	11.2	94.87%

Map 6 - WWTF and Infrastructure Locations

Back of Map 6

FORECAST GROWTH AND DEVELOPMENT

The 2035 Rosendale Sewer Service Area is expected to have only a slight increase rate of growth as compared to the previous 1999 Rosendale Sewer Service Area Plan, (Table 2). The total sewer service area is projected to increase by 147 people, thus bringing the population of 1,063 in 2010 to 1,210 persons in the year 2035, (the Towns of Rosendale and Springvale population projections actually show a decrease in the rate of growth for the same period. For the purposes of this report only the Village of Rosendale population forecasts are used as the towns' involvement in actual sewer service is negligible). Department of Administration population projections are stated in this plan update for the Village of Rosendale. Given the minimal impact of the Towns of Rosendale and Springvale in this planning period it is anticipated that any growth or development would be directed within the village and associated sewer service area. Based on the 2010 Census the Village of Rosendale population share of Fond du Lac County using a total county population of 101,633 is 1.05%. The sewer service area is projected to increase by 147 bringing the estimated figure 1,210 therefore elevating their share by .04% to 1.09% by the year 2035. This plan update uses 2.44 units/per/acre for single family residential densities equating a need for 22 acres, (30 acres if infrastructure or market factors are calculated), for future residential acreage needs and less than 1 acre for multi-family residential needs are projected for this plan period. This plan identifies 91.33 vacant acres for future single family and multi-family development. Given this excess of acreage there were no additional lands allocated for these land use types.

Projections for industrial and commercial development within the service area show a need of an additional two acres for future development. This update identifies 42.38 acres being available for future commercial and industrial development which may be a more realistic figure. It is therefore determined no additional commercial/industrial land allocations are necessary. The year 2035 Rosendale Sewer Service Area Plan, as revised and updated, (Map 8), now has a total of 570.4 acres of land, a zero increase of in acres from the 1999 plan.

Table 2: ROSENDALE SSA, PROJECTED POPULATION BY DMA, 2010 -2035

MCD	DOA Projections							Difference 2010 - 2035	Difference '10-'35 w/10% Increase
	2010*	2015**	2015	2020	2025	2030	2035		
V. Rosendale	1,063	1,048	1,070	1,115	1,155	1,195	1,210	147	162
T. Rosendale	695	703	690	685	675	665	645	(50)	-50
T. Springvale	707	715	710	715	715	715	705	(2)	-2
Total	2,465	2,466	2,470	2,515	2,545	2,575	1,855	97	110

Source: *2010 Census Bureau; **DOA 2015 Final Estimate; (Town population not prorated to SSA)

ESTIMATED ROSENDALE SSA HOUSEHOLDS, 2010-2035

(Based on DOA Projections)

MCD	2010*		2015**		2015		2020		2025		2030		2035		Difference 2010 - 2035
	No. HH	Persons per HH	No. HH	Persons per HH	No. HH	Persons per HH	No. HH	Persons per HH	No. HH	Persons per HH	No. HH	Persons per HH	No. HH	Persons per HH	
V. Rosendale	417	2.55	411	2.55	420	2.55	437	2.55	453	2.55	469	2.55	475	2.55	58

Source: *2010 Census data; ** DOA2015 Estimate;

Source: 2010 Census data; * DOA 2015 Estimate**; DOA 2015 - 2040 Pop Projections (2013)
Based on total housing units not occupied housing units
Persons per household held constant through the planning period

GROWTH ALLOCATION AREAS AND 2035 SSA

The policy basis for allocating acreage for future development is outlined in the Sewer Service Area Delineation and Planning Process found in Chapter 4. These policies take into account a broad range of land use and environmental concerns directed toward encouraging orderly, cost-effective and environmentally sound development. Working within the broad policy base, the sewer service area plan also considers sewer system capacities, land development market trends, development plans and preferences of the individual communities. Current vacant lands available for development within the updated SSA boundary total 162.1 acres.

Priority Development Area Mapping

During the SSA plan update an assessment regarding the phasing, or 'priority' areas of development was determined by the Village of Rosendale. During the working meetings and email exchanges with the Village of Rosendale the desire of the village was to maintain its current sewer service area boundary. Subsequently, a map was developed which indicates their general thoughts of development based on their local comprehensive plan and planned capital improvements. The Village of Rosendale, will instead, prioritize development within their residential neighborhoods and zoned commercial/industrial areas through in-filling. Therefore, no allocations for additional sewer service area are in this plan update.

Map 7 illustrates the 'priority areas' for development and their location, (numbered as 'areas' for clarity). There are four significant areas within the village whereby single/multi-family residential, commercial/industrial and public institutional are proposed to occur. There was no need to administratively alter the sewer service area boundary due to situations where sewer mains were inconsistent with the approved sewer service area boundary. Additionally, no areas of the existing sewer service area were removed; in essence, the sewer service area boundary will remain as it was in 1999. These areas are more generally described below:

- **Area #1** - This area totals approximately 21.4 acres of vacant developable lands. This development area is located west of North Grant Street and north of West STH 23 and is designated for commercial development. A smaller area of approximately 2.5 acres located at the intersection of Rose-Eld Road and N. Grant Street is expected to develop as multi-family residential.
- **Area #2** - The southern portion of this proposed development, (north of W. Midway Street and east of N. Grant Street), totaling 11.2 acres is a proposed multi-family designated area. The northern portion, (south of Clark Street and east of N. Grant Street), is slated for light industrial development. Existing industrial development can be found along Clark Street and south of Rose-Eld Road.
- **Area #3** - Exclusively designated for single family residential development Area #3 totals approximately 32.2 acres. Located north of East STH 23 and east of Wilson Street this area provides the village with ample opportunities to develop single family residential homes.
- **Area #4** - This area has been set aside for public or institutional uses and is located south of the existing wastewater treatment facility and north of the Mascoutin Valley Trail. This area is also bounded by a wetland complex on its northern border and its eastern border consists of a stream buffer both considered to be environmentally sensitive. A total of approximately 11 acres are identified for potential developments

to include, among others, governmental uses, expansion or new construction of the wastewater treatment facility or various recreational community facilities.

All of the areas described above have the same development premise which is to in-fill these areas as defined by the village's comprehensive plan. Additionally, the areas described are anticipated to be served via gravity sewer mains thus eliminating the need for additional infrastructure. This prudent approach is the basis for not expanding the existing sewer service area boundary during this update. There are approximately 243 acres of village lands that are not part of the current 2035 sewer service area and represents 31% of the village. The vast majority of this acreage is undeveloped or considered to be environmentally sensitive areas. The Village of Rosendale will have the array of amendment policies should these non-sewered areas experience shifting development pressures

Page intentionally left blank.

Map 7 - Priority Development Areas

Back of Map 7

TABLE 3: - SUMMARY OF 2020 & PROPOSED 2035 SSA CONDITIONS

SSA Characteristic	2020 SSA***	2035 SSA	2020-2035 Difference
Developed Land Uses	297.00	368.47	71.47
Vacant Lands (see below for breakdown by proposed land use)	171.46	159.03	-12.43
Vacant/Undevelopable Lands	0.00	0.00	0.00
Environmentally Sensitive Areas*	25.10	36.76	11.66
Water Areas	0.00	2.47	2.47
Total SSA	468.46	566.73	98.27

Vacant Land By Proposed Land Use Type	2020 SSA ***	2035 SSA	2020-2035 Difference
Single Family Residential (incl. duplex)	68.36	82.53	14.17
Multi-Family Residential		14.33	14.33
Commercial/Industrial	15.30	39.70	24.40
Public Institutional**	56.10	15.42	-40.68
Agriculture/Woodlands/Undevelopable/Unplanned	6.60	7.42	0.82
Total Vacant Acreage	146.36	159.40	13.04

Source: ECWRPC, 2014-15 Land Use

* Includes wetland, stream & wetland buffers

** Includes Open Space, Utilities, Roadways, Other Public uses

*** ESA acreage not part of total calculations

Year 2035 Sewer Service Area

The year 2035 Sewer Service Area for the Rosendale WWTF is illustrated in Map 8 and contains a total of 570.4 acres. Of this total, 39.2 acres, including open water areas, have been designated as environmentally sensitive areas (ESAs) and 162.08 acres are considered to be vacant/developable areas. Public or institutional uses based on the village's comprehensive planning have been identified in this plan update in the amount of 15.42 acres thus leaving 146.66 acres to accommodate traditional residential, commercial, and industrial development, (non-designated land uses such as resource protection areas, unplanned areas, conservation areas and rural preservation areas totaling approximately 16.1 acres further reducing developable lands to approximately 139.24 acres). Table B-1, Appendix B details the 2035 existing land use figures for this update.

East Central has long maintained that extensive development between the current sewer service area and planning area boundaries be discouraged. By limiting planned subdivisions in these areas will greatly reduce the cost of retro-fitting utilities as the community expands outward. These recommendations and policies may be found on page 5-6 referencing Addendum Policy 1.4.

Development decisions within these areas are further enhanced through the village's use of its' extraterritorial plat and zoning review powers. This policy targets primarily urbanized developments, however, the Village of Rosendale could well benefit from its stated purpose.

Holding Tank Service Areas

According to the *2014 Compliance Maintenance Annual Report* the Rosendale wastewater treatment facility received no outside sewage from holding tanks, septic tanks or grease trap material. At the time of this writing it is unclear on the number of registered holding tanks within the Towns of Springvale or Rosendale. Additionally, there are no policies being formulated or agreements being considered to accept holding tank waste.

Map 8 - Year 2030 Sewer Service Area

Back of Map 8

WATER QUALITY ASSESSMENT AND DEVELOPMENT IMPACTS

As urbanization continues of the Rosendale planning area impacts to surface and groundwater resources would be imminent. Short term impacts include the increase in surface water runoff and pollutant loadings as well as a reduction in groundwater recharge areas. Long term, cumulative development impacts include the loss of baseflow in streams and enhanced stream flashiness in areas prone to flooding. The scope of these impacts cannot be precisely determined because specific development characteristics (location, type, density) are unknown. However, it is possible to generally estimate water quality impacts by applying assumptions concerning the nature of future development.

The identification of impaired waters is crucial when determining future development scenarios. Within the 2035 Rosendale Sewer Service Area the West Branch of the Fond du Lac River has been assessed for many years and more recently in 2016. Although temperature and phosphorous samples exceeded the 2016 WisCALM thresholds the lack of biological data do not indicate an impaired situation. While not considered to be an impaired waterway the West Branch of the Fond du Lac River has been determined to be of poor quality. Wastewater effluent to a tributary to the West Branch of the Fond du Lac River has been previously mentioned in this report in a study titled, *Rosendale Tributary Stream Reclassification, December 2006*, (WDNR) and through another publication, *Rosendale Tributary to the West Branch of the Fond du Lac River*. Recommendations found in these reports are supported by East Central and continued monitoring of this waterway is essential.

The Plan Implementation and Recommendations section of this plan addresses and promotes sound development practices for future development, (see page 3-37). Additional information and detail regarding impaired waters can be researched by visiting the WDNR's Water Condition Viewer by following this link: <http://dnrmaps.wi.gov/sl/?Viewer=water>.

Point Source Water Quality Impacts

Population growth and commercial / industrial development will slightly increase loadings to the wastewater treatment plant and ultimately to surface waters of West Branch of the Fond du Lac River. Without a wastewater engineering assessment it is not possible to analyze specific flows for the different existing land uses and estimate future flows for comparison to treatment plant design capacity. A rough estimate comparing existing average daily flows of current development can be made, (see Table 4). Based upon this analysis, the average flows are expected to increase by .074 mgd.

Non-Point Source Water Quality Impacts

The 2050 Rosendale planning area is located within the Upper Fox River Sub-Basin being part of the Lake Michigan Drainage system. The Upper Fox River Basin drains an area of approximately 2, 090 square miles. The sole watershed within the 2050 Rosendale planning area is the Fond du Lac River watershed, (UF03).

It is anticipated that surface runoff and pollutant loadings will increase with the forecast growth for the 2035 Rosendale SSA. The placement of roads, buildings, parking lots and other large impervious areas increase the amount of water run-off thus carrying organic and inorganic pollutants associated with these land use types. The Department of Natural Resources has general guidelines for estimating unit area loadings of pollutants by land use categories. Within

the 2035 Rosendale SSA, four pollutants, (sediment, phosphorus, zinc and lead), have been analyzed for seven generalized land use categories. The estimated loadings address both existing and future land uses. The estimates only relate to land uses within the service area with resultant impacts on the local rivers, streams and open water. Specific subwatershed analysis was not performed.

The estimated annual pollutant loadings for the existing development area, (based on 2014 land use), within the 2035 Rosendale SSA are listed in Table 5. The land uses within this area consist primarily of older development with significant infrastructure therefore stormwater mitigation is more difficult and costly in these areas.

Table 6 illustrates the future annual pollutant loadings expected based on the total amounts of development which could occur by 2035 within the Rosendale SSA if all the available vacant lands were developed. The pollutant loadings are estimates for the proposed land uses with no significant stormwater mitigation measures or practices adopted. Proposed land uses are shown in Map 9, Year 2035 SSA and Proposed Land Use. Utilization of stormwater detention facilities, site development controls, preservation of green space and other measures can help mitigate urban non-point source impacts on water quality. These loadings can serve as a baseline for proposed areawide stormwater reduction efforts.

Groundwater Impacts

Increased development of the recharge areas could have long-term impacts on the groundwater recharge. Conversion of rural/agricultural lands to urban uses may impact both the quality and quantity of groundwater as development continues. Groundwater recharge will decrease as areas are paved over or built upon. At the same time, withdrawal of groundwater on a regional basis is likely to increase for domestic, commercial and industrial use.

Water Quality Protection and Stormwater Management

Cumulative impacts, including loss of base flow in streams from increased development of impervious surfaces and enhanced stream flashiness and the resulting stream bank erosion from alterations to headwaters and tributaries, will occur with full build-out of the sewer service area. Stormwater management actions other than large-scale detention ponds are available for older urban areas such as enhanced street sweeping, comprehensive stormwater management and other nonstructural best management practices.

The majority of the village utilizes an underground storm sewer system to handle stormwater during run-off events. Beyond the corporate limits in the adjacent townships, a series of roadway ditches reliably transport stormwater runoff. In addition, the Rosendale Drainage District 1 is situated west of the corporate limit area of Rosendale. Approximately one fourth of this district lies within the Rosendale 2050 planning area. East Central has designated environmentally sensitive areas, (75 foot stream buffers), throughout the 2050 Rosendale planning area and strongly urges maintaining the integrity of these buffered areas. The Village of Rosendale is encouraged to pursue specific actions to minimize water quality degradation chief among them are watershed planning, land conservation techniques, aquatic buffers, site design techniques, stormwater best management practices, erosion and sediment control and more broadly coordination with Fond du Lac County on land management policies.

East Central recommends receipt of preliminary subdivision plats for review for a conformance check with the sewer service area and water quality plan. Recommendations would be made for final plat approval based on water quality, stormwater management, environmental and cultural resource concerns.

East Central also provides mandatory sewer extension review comments. Where sanitary sewer extensions are proposed in mapped environmentally sensitive areas or on other lands whose physical characteristics indicate susceptibility to erosion or flooding, or where development of such lands is likely to impair surface or groundwater quality or uses, East Central may identify mitigating conditions to be incorporated into the development proposal. East Central may also request the WDNR to attach such conditions to any sewer extension approval for the proposed development. Where the impacts of development pose significant water quality impacts or negatively impact environmentally sensitive areas, the Commission may recommend denial of the proposed extension.

Voluntary preliminary plat review and mandatory sewer extension review are the primary mechanism for service area plan implementation and the attainment of water quality plan objectives.

Table 4: Wastewater Flow Projections

Table 4.1 : Rosendale SSA - Projected 2035 Residential Wastewater Flows

SSA	2010 Population	2035 Population	2010-2035 Increase	2010-2035 SSA Population Increase *	Additional Flows (@ 80 gallons per day per person)		Peak Flows (@4.0 factor)	
					gallons per day (gpd)	millions of gallons (mgd)	gallons per day (gpd)	millions of gallons (mgd)
Rosendale	1,063	1,210	147	162	12,960	0.013	51,840	0.052

Source: Eden 2013 CMAR; ECWRPC

Table 4.2: Rosendale SSA - Projected 2035 Commercial/Industrial Flows

SSA	2010-2035 Employee Increase	2035 Acres Needed for C/I Uses	Acres + 20% Market Factor*	Projected Flows (@ 1100 gal./ac./day)	
				Gallons per day (gpd)	Millions of Gallons per Day (mgd)
Rosendale	159	2	2	2,640	0.0026

Source: Eden 2013 CMAR; ECWRPC

Table 4.3: Rosendale SSA - Summary OF PROJECTED FLOWS & WWTF CAPACITIES

SSA	Additional Residential Flows (mgd)	Additional Comm./Ind. Flows (mgd)	Total Additional Flows (mgd)	Existing WWTF Flows (Avg. of 2014 mo. Avg. flows - mgd)*	Existing / Planned** WWTF Design Capacity (mgd)	Difference (Ex. / Planned Capacity - Existing & Projected Flow s)
Rosendale	0.013	0.003	0.016	0.13	0.216	0.074

Notes:

Source: Eden 2013 CMAR; ECWRPC

* 10% increase not calculated - Town pop not prorated to SSA

** WWTF design flow based on 2014 CMAR

Table 5: Rosendale SSA - Existing (1999) Non-Point Source Pollution Loading Estimate

2014 Acres	Development Type	Unit Area Loads by Land Use (lbs/acre/yr)				Calculated Loadings				
		Sediment	Phosphorus	Zinc	Lead	Sediment	Phosphorus	Zinc	Lead	
68.4	Medium Dens Res. (2-6 units/ac, no alleys)	190.0	0.5	0.2	0.2	12,988.4	34.2	13.7	13.7	
0.0	Multi-Family Res. (3+ units / 1-3 stories)	420.0	1.0	0.7	0.8	0.0	0.0	0.0	0.0	
15.3	Commercial (strip/downtown)	1,400.0	1.5	2.1	2.7	21,420.0	23.0	32.1	41.3	
0.0	Industrial	900.0	1.5	2.1	2.4	0.0	0.0	0.0	0.0	
0.0	Transportation	600.0	0.9	1.9	2.5	0.0	0.0	0.0	0.0	
146.4	Undeveloped / Vacant	25.0	0.0	0.0	0.0	3,659.0	0.0	0.0	0.0	
0.0	Institutional / Governmental / Utilities	700.0	0.5	0.6	1.1	0.0	0.0	0.0	0.0	
230.0	TOTALS					38,067.4	57.1	45.8	55.0	
						Tons	19.03	0.03	0.02	0.03

Table 6: Rosendale SSA - Future (2035) Non-Point Source Pollution Loading Estimate*

2035 Acres	Development Type	Unit Area Loads by Land Use (lbs/acre/yr)				Calculated Loadings				
		Sediment	Phosphorus	Zinc	Lead	Sediment	Phosphorus	Zinc	Lead	
52.5	Medium Dens Res. (2-6 units/ac, no alleys)	190.0	0.5	0.2	0.2	9,980.7	26.3	10.5	10.5	
14.3	Multi-Family Res. (3+ units / 1-3 stories)	420.0	1.0	0.7	0.8	6,018.6	14.3	10.0	11.5	
0.0	Mobile Home/Trailer Park	190.0	0.5	0.2	0.2					
28.1	Commercial (strip/downtown)	1,400.0	1.5	2.1	2.7	39,270.0	42.1	58.9	75.7	
14.3	Industrial	900.0	1.5	2.1	2.4	12,897.0	21.5	30.1	34.4	
0.0	Transportation	600.0	0.9	1.9	2.5	0.0	0.0	0.0	0.0	
162.1	Undeveloped / Vacant	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.8	
15.4	Institutional / Governmental	700.0	0.5	0.6	1.1	10,794.0	7.7	9.3	17.0	
286.7	TOTALS					78,960.3	113.5	118.8	149.9	
						Tons	39.48	0.06	0.06	0.07

Source: ECWRPC, 2014-15 Existing Land Use, 1998 SSA Plan data

*Note: Total SSA acres is less than previously noted due to water features and ESA land uses not being included in these calculations.

Map 9 Year 2030 SSA and Proposed Land Use

Back of Map 9

PLAN IMPLEMENTATION AND RECOMMENDATIONS

1. Continue to implement existing plans and programs to control infiltration and inflow to the wastewater treatment plant so as to increase capacity for new developments.
2. Monitor new development and loadings to the WWTF in order to determine the appropriate time for the village to initiate facility planning efforts to address potential capacity deficiencies.
3. Close coordination for the planning of any sewered development in the transitional areas should be undertaken by the Village of Rosendale and the Towns of Rosendale and Springvale.
4. Efforts should be made to direct development to areas where sewers are already in place before extending new sewers into undeveloped areas. Efforts should also be made to maximize use of gravity sewers as well as capacity of existing wastewater pumping stations to avoid the capital, operating and maintenance costs associated with constructing new pumping facilities.
5. Environmental conditions in the planning area warrants concern with regard to construction site erosion, destruction of wetlands and impacts on ground and surface water quality. Development should either be directed away from wetlands and areas of steep slopes or appropriate erosion control measures should be applied to minimize the erosion hazard.

Although sewer service area planning was initiated at the state and federal levels, successful implementation of each plan rests primarily at the local level with some guidance provided by East Central Planning. In the state-approved *Areawide Water Quality Management Plan*, certain local units of government were assigned water quality-related management functions. Entities with adequate authority to plan, construct, operate and maintain wastewater collection and treatment facilities were designated as management agencies for portions of the planning area within their jurisdictions.

The Village of Rosendale has been designated as a Class III Designated Management Agency (DMA) to provide wastewater collection and treatment within its planning area. As a Designated Management Agency for wastewater treatment and collection the village should do the following:

1. Adopt the *2035 Rosendale Sewer Service Area Plan*;
2. Review and update development policies and regulations in light of the sewer service plan and recommendations;
3. Submit preliminary land subdivision plats which are proposed to be sewered to the East Central Wisconsin Regional Planning Commission for review for consistency with sewer service area plans for the area;
4. Submit sanitary sewer extension requests to the East Central Wisconsin Regional Planning Commission for review for consistency with sewer service area plans prior to being submitted to the WDNR for approval;

5. Submit wastewater facilities plan elements and amended plan elements to the East Central Wisconsin Regional Planning Commission for review for consistency with sewer service area plans prior to submittal to the WDNR for approval; and
6. Carry out their management responsibilities for treatment facilities and collection systems as specified by state and federal requirements.

Implementation of the SSA plan relies mainly on local government actions which use the plan recommendations as a guide for the extensions of new sewers to service development. However, ECWRPC plays an advisory role in these decisions in two distinct ways:

1. ECWRPC requests that communities within the region require developers to submit "preliminary" subdivision plats for staff review and comment (advisory only). Staff not only checks the proposed plat, (whether sewer or using on-site treatment), for conformance with the municipality's SSA plan, but also reviews the subdivision's overall design and, more specifically, check the following items: potential water quality impacts to environmental corridors; groundwater aquifer / private well concerns; impacts to other natural and cultural features; construction site erosion control methods; storm-water management methods and concerns; internal vehicle/bicycle/pedestrian transportation system design; and other social / service provision impacts.
2. Sewer extension requests are required to be submitted to ECWRPC for review and comment. Hopefully, staff has reviewed the preliminary plat prior to the extension request which can reduce conflicts at this point. However, staff normally requests that a copy of the final plat be submitted with the extension request. ECWRPC then issues a "208 Water Quality" letter if the extension request is in conformance with the municipality's current SSA plan. In general, if the extension request is within the designated SSA and does not have negative impacts to defined environmental corridors, a letter will be issued. Sometimes a request falls outside of the SSA Boundary and moreover initiates an SSA Amendment Request for consideration. If negative water quality impacts will occur to designated environmental corridors, a denial of the extension will occur, or recommended mitigation measures (i.e., stormwater management / erosion control devices, etc.) will be attached to the approval.

Utilizing these two methods, a majority of the water quality concerns relating to construction and development can be effectively monitored by ECWRPC for individual projects; thereby, assisting to attain the water quality objectives outlined within the plan's goals. In addition to ECWRPC's role in implementing sewer service area plans, local units of government may exercise other authority conferred upon them by state statute to preserve and protect water quality.

Local units may use this authority to plan and manage land use and development through subdivision, zoning and other development ordinances. Criteria can be written into existing ordinances or new ordinances can be adopted which promote orderly development and address water quality concerns. Additional actions by local units of government which are recommended for water quality protection include the adoption of construction site erosion and stormwater management ordinances and the preservation of greenways along existing drainage corridors.

CHAPTER 4: SEWER SERVICE AREA DELINEATION AND PLANNING PROCESS

A sewer service area is a geographic area which is currently served or anticipated to be served with sanitary sewers within a 20-year planning period. Sewer service areas, sometimes called "urban service areas," were first delineated for the East Central region in 1978 in the plan *New Directions for Growth and Development*. In the initial plan, a generalized methodology was used for the estimation and allocation of growth which led to the identification of service area boundaries. Various state and federal guidelines, as well as regional policies, were utilized in the planning process. Since the initial delineation of service areas, the planning and management process has become much more complex and multi-faceted, thus greater detail in the explanation of the updating process is required.

The process of updating and refining sewer service area plans consists of the following major steps:

1. Identification of planning area limits;
2. Delineation of environmentally sensitive areas;
3. Identification and quantification of existing conditions;
4. Refinement of goals, objectives and policies;
5. Forecast of urban growth and re-delineation of service area limits;
6. Public and community input; and
7. Adoption and publication of final plans.

IDENTIFICATION OF PLANNING AREA LIMITS

The first step in delineating sewer service areas is the outlining of broad planning areas which include all feasible options for where urban growth might occur within a 40 to 50 year planning period (in this instance through the year 2050). Planning area boundaries generally include all areas within existing city, village or sanitary district limits. These areas may also include clusters of development and adjacent areas where there is potential for the installation of a sanitary sewerage system in the foreseeable future. Areas which could be serviced by the existing infrastructure (lift station service areas or gravity sewers) are generally included within this boundary. Planning areas generally extend beyond the existing or potential development areas to the nearest quarter section line. Planning areas serve as the study areas for wastewater facilities planning efforts.

DELINEATION OF ENVIRONMENTALLY SENSITIVE AREAS

Environmentally sensitive areas are geographic areas consisting of all lakes and streams shown on the USGS quadrangle maps and adjacent shoreland buffer areas as defined in Map 4. All wetlands shown on the State of Wisconsin Wetland Inventory Maps and floodways as delineated on the official Federal Emergency Management Administration Flood Boundary and Floodway Maps are also designated environmentally sensitive. The environmentally sensitive areas are mapped on the Commission's GIS system and are also shown on the maps contained in this plan.

The purpose of designating environmentally sensitive areas is to preserve significant environmental features from encroachment by sewered development. Environmentally sensitive areas perform a variety of important environmental functions including stormwater drainage, flood water storage, pollutant entrapment, and the provision of wildlife habitat. They can also provide desirable green space to enhance urban aesthetics.

In the 1978 sewer service area plans only major wetlands as shown on the USGS quadrangle maps were considered environmentally sensitive. Since that time, the Department of Natural Resources through Wisconsin Administrative Code NR-121.05(g)(2)(c), has developed guidelines which serve as minimum criteria for the identification and delineation of environmentally sensitive areas. Department of Natural Resource guidance states, "Environmentally sensitive areas will be used for all environmental features that should be excluded from sanitary sewer service areas."

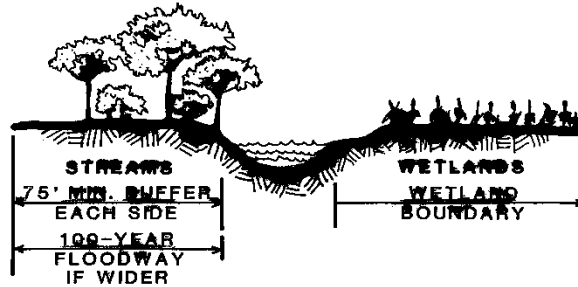
East Central, after deliberations with technical and policy advisory committees, defined environmentally sensitive areas in a manner that complements existing local, state and federal regulations which protect various environmental amenities. While NR-121 authorizes sewer service area plans to identify a broad array of natural features as environmentally sensitive areas, only those features which were believed vital in the East Central Wisconsin Region to preserve environmental quality were so designated.

Although the delineation of environmentally sensitive areas is intended to provide adequate long term and uniform environmental protection for all sewer service areas within the East Central Wisconsin Region, the environmentally sensitive area classification may be changed in two ways in response to specific local development proposals.

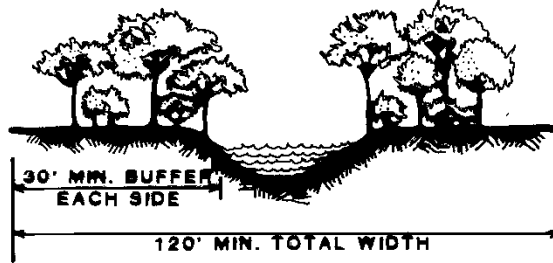
Figure 1: Environmentally Sensitive Area Standards

ENVIRONMENTALLY SENSITIVE AREA STANDARDS

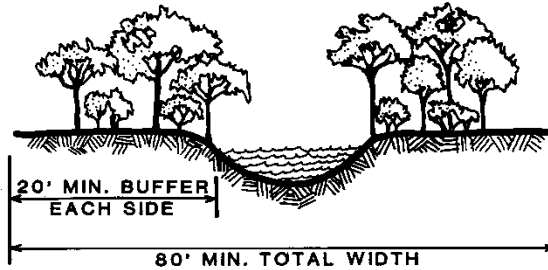
NAVIGABLE STREAMS & WETLANDS



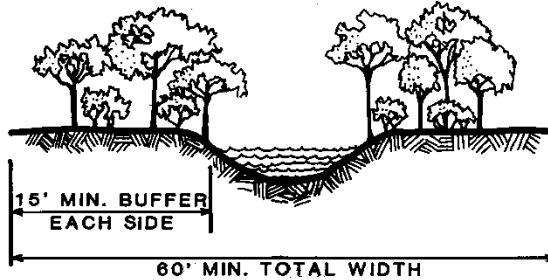
**NON-NAVIGABLE STREAMS & DRAINAGEWAYS
DRAINAGE AREA GREATER THAN APPROXIMATELY 2000 ACRES**



**NON-NAVIGABLE STREAMS & DRAINAGEWAYS
DRAINAGE AREA APPROXIMATELY 300-2000 ACRES**



**NON-NAVIGABLE STREAMS & DRAINAGEWAYS
DRAINAGE AREA LESS THAN APPROXIMATELY 300 ACRES**



First, the classification can be removed provided that the conditions outlined in Section (E) of the Sewer Service Area Amendment Process are met. This re-designation is considered a major change. Major changes have the potential for significant impacts on water quality and would require the concurrence of the East Central Wisconsin Regional Planning Commission and the Department of Natural Resources before these changes would become effective for the purpose of reviewing sanitary sewer extensions. Examples include:

- Removal of any mapped wetland area for sewered development, unless resulting from an activity exempted by state administrative rules governing wetland protection [NR-117.05(2)] or state approved rezoning of wetlands.
- Reduction of a delineated floodway of any navigable stream or river, or removal of any area below the ordinary high water mark of a navigable stream, pond, or lake.
- Total removal or change in the continuity of any corridor segment including floodways, wetlands, shoreland buffer strips, or steep slopes adjacent to water bodies. The water quality benefit that was associated with the portion of the corridor removed must be provided in the development proposal.

In the second instance, the environmentally sensitive areas may be modified by a minor change. Refinements and minor changes would not require prior approval of the East Central Wisconsin Regional Planning Commission or the Department of Natural Resources. However, East Central would have to be informed of the change before it would be effective for the purposes of reviewing sanitary sewer extensions. East Central would then be responsible for informing the Department of Natural Resources of the change.

Refinements and minor changes are generally of two types. The first type involves changes resulting from revised, improved or more detailed background resource information to include:

- Improved or revised WDNR certified floodway delineations resulting from revised flood studies.
- Revised wetland boundaries on the Wisconsin Wetland Inventory Maps resulting from field inspections by WDNR personnel or resulting from an approved rezoning.

The second type involves changes which would not seriously affect water quality and are the result of specific development proposals to include:

- Relocation of a non-navigable stream or drainageway as long as the environmental integrity of the stream or drainageway is preserved.
- Shortening of a non-navigable stream or drainageway based upon field determination of its point of origin.
- Adjustments to the widths of shoreland buffer strips along non-navigable streams and drainageways within the guidelines established in Map 4.
- Changes which would reduce the width of shoreland buffer strips below the minimum guidelines provided there are locally adopted stormwater drainage criteria that establish

corridor widths for drainageway preservation. Locally adopted criteria must be based upon sound engineering and environmental protection criteria.

- Changes which result from utility or roadway maintenance or construction which meet the criteria set forth in NR-115 or NR-117. It is not the intent of the environmental corridors to prevent or obstruct maintenance, expansion or construction of transportation or utility facilities intended to serve areas outside of the corridors, needed to maintain or improve continuity of those systems, or designed to serve compatible uses in the corridors, such as park shelters or facilities. Facilities intended to serve new sewered residential, commercial or industrial development in the corridors would not be permitted.

It should be noted, that as of the date of this plan, ECWRPC and WDNR staff are considering a revision of the regional definition of environmentally sensitive areas which may include additional features based on water quality concerns. Communities with existing SSAs will be notified and offered an opportunity to give input during this process.

IDENTIFICATION AND QUANTIFICATION OF EXISTING CONDITIONS

The ability to inventory existing conditions both quantitatively and qualitatively is paramount to evaluating land use and development trends and impacts. Aerial photos are the basis for conducting land use inventories for the individual SSAs. Comparing aerial photos (land use inventories) at different time intervals can establish trends in types and magnitude of land uses. East Central's 1980 land use inventory has been updated utilizing more recent photos (where available) or spot field surveys for this purpose. Acreages for major land use categories have been computer digitized and aggregated by section and township-range. Totals were also calculated for each unit of government within the planning area. In conjunction with the land use mapping program, all city and village municipal boundaries, as well as sanitary district limits, were identified and transferred to the sewer service area maps.

Sanitary sewerage systems for all communities have been identified on the sewer service area file aerial photos. The location and size of all sewer collectors, mains, interceptors and forcemains are mapped in detail. In addition, the locations of all lift stations, pump stations and wastewater treatment facilities are shown. These maps are continually updated as new sewer extensions are reviewed by East Central.

Important for analyzing the planning areas, existing urban development areas were delineated as part of the original land use inventory. Urban development areas consist of all concentrations of development within the planning area, together with undeveloped lands which are either sewered or otherwise committed for development. These urban development areas are, in most instances, the minimal land areas which should be designated as sewer service areas.

The urban development areas have been further broken down into areas which are (1) both developed and sewered, (2) developed and unsewered, (3) undeveloped and sewered and (4) undeveloped and unsewered. In order to be classified as sewered, areas must be adjacent to public sewer lines, with the ability to connect either through private laterals or, in certain instances, private sewers. In general, lands within 200 feet of a public sewer are assumed to connect via a private sewer lateral.

In addition to the development information, the existing sewer service area boundaries were identified to determine the location and amount of land currently available for development outside of the urban development areas.

In addition to the designations of environmental sensitive areas (shorelands, wetlands and floodways), other areas with natural characteristics that could impact environmental quality or development potential have been identified. These areas have been termed areas with "limiting environmental conditions" and include areas with seasonal high groundwater (within one foot of the surface), floodplain areas, lands with shallow bedrock (within five feet of the surface) and areas with steep slopes (12 percent or greater). Unlike the environmentally sensitive areas, development is not excluded from land with limiting environmental conditions. The primary purpose of identifying these areas is to alert communities and potential developers of environmental conditions which should be considered prior to the development of such an area.

Complementing this information, additional data was collected on existing population, numbers of dwelling units, mixes and densities of residential development, existing employment by type and amount, and densities of industrial and commercial development.

Much of this information was available from the 1990 and later census materials; other information was gathered from state and local sources. This data is contained in East Central's information files for each sewer service area.

REFINEMENT OF GOALS, OBJECTIVES AND POLICIES

The conceptual and philosophical bases for sewer service area planning are the goals, objectives and policies. As stated earlier, the service area planning process has become much more complex since it was first initiated. In response to changing conditions, minor refinements have been made over time to the 1985 goals, objectives and policies (Appendix B). This effort was done in order to give direction to decisions involving the amount of growth in a given service area, especially the allocation and location of future growth.

FORECAST OF URBAN GROWTH

The forecasting of urban growth and development within the East Central region involves two primary analytical processes. These are 1) population projections and related dwelling unit and employment estimates, and 2) allocation of land use acreage. This process answers the question of the quantity and location of new growth. The process utilizes the sewer service area policies and various planning and development standards as a technical basis.

Population Projections

Population projections are important in forecasting urban growth. The projections used are the 2010-2040 Department of Administration (DOA) population projections by five year increments for individual counties and municipalities. DOA utilizes the cohort component method of population projection. These are the official state projections, consistent with U.S. Bureau of Census State of Wisconsin projections. The DOA county projections are required to be used as control totals in accordance with Wis. Admin. Code NR-121 for the development of sewer

service area plans. A detailed description of the population projection process is included in the East Central report *Population Characteristics of the East Central Region*, April 1994, (at the time of this writing, East Central, based on 2010 Census data and DOA's most current forecasts, is preparing in-house population projections for 2010-2040). The official DOA projections, first received in 1992, have been updated annually using the DOA annual population estimates for the counties and individual MCD's.

East Central has developed a process for breaking down the county population projections to the minor civil division (MCD) level. This estimating process uses the "share-of-the-county trending methodology." This methodology was used for all communities within the East Central region, with the exception of the Fox Cities, Sherwood and Fond du Lac. In these areas, a special procedure was used which established "urban area" control totals.

For the purposes of this plan update, East Central used population projections from the Department of Administration by municipality. These population projections are in five year increments from 2010 to 2040. This report has also been approved by the Wisconsin Department of Natural Resources on ####, 2017.

Residential Development

In addition to population projections, household size and housing densities are required to determine residential land needs. Household formation rates were estimated and translated into household size. The household size thus represents a typical dwelling unit which can be compared to population projections for estimating future dwelling units. The household size for the East Central region has been steadily declining and is anticipated to continue to decline. Thus, an anomaly occurs in which a community may not be increasing in population, but still is forming new households which require new housing construction.

Once household size was established, residential development densities and the mixture of single-family/multifamily uses was determined. The number of dwelling units per acre were determined from existing residential development densities for the three major urban areas. These densities were also used for larger outlying urban communities. Several smaller communities in the outlying areas were found to have less dense development and therefore a somewhat lower density was used.

The mix of residential development was determined from development and construction records from various communities as well as census materials for the urbanized area. The residential mix was found to vary greatly from community to community. Community specific mixes were used for freestanding communities; however, standardized splits for the Fox Cities, Oshkosh and Fond du Lac areas were developed and applied within the growth forecast method.

Population projections divided by household size established the number of dwelling units. The number of dwelling units by type (single or multifamily) divided by the density per acre resulted in the number of acres of residential land required. The resultant acreage was allocated as residential growth for land areas within each planning area.

Non-Residential Development

Forecasts of nonresidential development were also based upon population projections for sewer service area planning. There is, however, a significant difference between the methodology used for the three urban areas and the outlying planning areas. Within the urban areas the population projections served as a basis for estimating future employment. These employment estimates were used in conjunction with documented employment densities (number of employees per acre) for various land use types and employment categories to determine acreage needs for future nonresidential employment. Similar to the household participation rates for calculating dwelling units, labor force participation rates were used to calculate employment for various employment categories. These employment categories were broken down into two types of nonresidential development consisting of commercial and industrial land uses. After future employment was estimated for commercial and industrial uses, densities were applied (employees per acre) and total acres of the land needs were calculated. This acreage was then allocated within particular planning areas.

In the outlying areas, a much simpler process for forecasting nonresidential growth was required because of deficiencies in labor force and employment data available for small communities. Furthermore, because of the small commercial and industrial base of these communities, a refined process for estimating future employment could be subject to extreme error.

Local initiative for promoting development is a greater factor in future growth than statistical trends. A simple forecast method was used which calculated the existing amount of nonresidential development per capita within the area then multiplying this amount by the population growth for the planning period resulting in the amount of non-residential acreage required.

Growth Allocation

After the amount of growth is calculated for residential and non-residential uses within each planning area, the process of allocating this growth acreage is undertaken. The allocation process, (where growth should occur), is complex, and must integrate service area growth policies, planning standards and criteria as well as historical and market growth trends for a particular planning area. The allocation process establishes the future growth areas within each sewer service area.

A major product of the allocation process is the mapping of growth areas. Again, the Commission's GIS system was used to designate these growth areas. The following criteria and standards were utilized in the designation of growth areas:

- All areas within a planning area which are currently served with public sanitary sewers shall be designated sewer service areas. Areas along existing and proposed (WDNR approved) sewer collector or interceptor lines (forcemains excluded) shall be designated sewer service areas. The depth of the sewer service area boundary line shall be to the average lot depth (maximum 400 feet) bordering the sewer or where average lot depths cannot be distinguished. Development within this area is generally considered to be serviceable by a private sewer lateral.

- Unsewered areas of development within close proximity to existing sanitary sewer lines where the cost-effectiveness of the extension of sewers is not questionable shall be included in the service area. These areas have generally been designated as an urban development area.
- Areas of existing development with approved wastewater facility plans shall be designated sewer service areas. (Note: Various areas of existing development previously designated may have been dropped because of lack of approved wastewater facilities plans.)
- The acreage allocations of future development areas should approximate residential, commercial and industrial growth projections.
- Environmentally sensitive areas shall be excluded from the sewer service area.
- Holding tank service areas shall be designated for existing large holding tanks defined in NR-113 and for areas of existing development where no cost-effective alternative to the installation of a large holding tank is available. The cost-effective analysis is to be prepared by the owner. All large and individual holding tank wastes are to be disposed of in accordance with NR-113.

The standards and criteria for allocating future growth areas are policy based. These considerations are:

- Urban development patterns should incorporate planned areas of mixed use and density that are clustered and compatible with adjacent uses.
- The allocation of future urban development should maximize the use of existing urban facilities and services.
- Future urban development should be encouraged to infill vacant developable lands within communities and then staged outward adjacent to existing development limits.
- Future commercial and industrial development should expand upon existing areas and be readily accessible to major transportation systems.
- The boundaries of urban development should consider natural and man-made features such as ridge lines, streams and major highways.
- Residential land use patterns should maximize their accessibility to public and private supporting facilities.
- Urban development should be directed to land suitable for development and discouraged on unsuitable land, such as floodplains, areas of high bedrock, and areas of high groundwater.
- Environmentally sensitive areas shall be excluded from the sewer service area to protect water quality.

- Future urban development should pose no significant adverse impacts to surface or groundwater.
- Urban development should be located in areas which can be conveniently and economically served by public facilities.
- The waiver of acreage allocations based on density standards for large lot developments will be considered if the installation of sewers is cost-effective, the community adopts a development plan and subdivision plat for the area specifying no smaller subdivision of parcels will be allowed.

Combined with the policy-based criteria for allocating future development areas were various considerations involving the direction of growth trends and short term "market" factors. These considerations primarily involved experienced judgments by planning staff and consultations with local planning officials.

Early in the planning process, a policy decision was made that the total allocated growth acreage for individual sewer service areas delineated in the 1985 adopted plans and subsequent amendments would not be reduced in quantity. This policy was applied to all sewer service areas which have a sewerage system or which have WDNR approved wastewater facilities plans for a sewerage system. The impact of this policy is that the areas available for future growth in various sewer service areas sometimes were greater than the updated forecast growth which was to be allocated. The result of this policy is that there were fewer service areas where the existing service area boundaries needed to be expanded.

PUBLIC AND COMMUNITY PARTICIPATION

Citizen participation during the update of the service area plans has been and encouraged throughout the planning process. In this service area planning update goals, objectives and policies were refined in conjunction with the transportation/land use plan update process. Ad hoc Technical Advisory Committees, (TAC's), were formed and refined the policies 2004 and 2005.

General public participation is sought from communities and counties during the plan update process through individual meetings with affected entities. Public information meetings were held for each sewer service area once draft maps were completed. The purpose of sewer service area planning, the overall planning process, existing conditions of the service area and growth forecasts are explained. As a follow-up to these meetings, (in smaller communities these meetings may be combined), additional meetings are held for communities within each service area to address specific issues. The designated service area boundaries are reviewed as part of these meetings. Public information meetings are listed in Appendix A of the service area plan. A final public hearing is noticed and held as part of the Sustainable and Efficient Community Services and Facilities Committee meeting and approval.

ADOPTION AND PUBLICATION OF FINAL PLANS

Each individual sewer service area is adopted by the East Central Wisconsin Regional Planning Commission as an element of the Commission's regional land use plan. After adoption, the plans are submitted to the Wisconsin Department of Natural Resources for certification as an element of the *Water Quality Management Plan*. After WDNR certification the plan becomes effective and copies of the final plans are distributed to the affected communities.

Page intentionally left blank.

CHAPTER 5: SEWER SERVICE AREA AMENDMENT AND UPDATE PROCESS

POLICIES AND PROCEDURES

The East Central Wisconsin Regional Planning Commission has adopted "An Amendment Policy and Procedure for Sewer Service Areas" to enable sewer service area plans to be amended in response to changing conditions and community plans. This procedure provides a flexible, yet equitable and uniform basis for revising sewer service area boundaries. This chapter was updated with, input from the Land Use Advisory Committee, during 1999-2000 as part of addressing policy issues related to the "Long-Range Fox Cities, Oshkosh and Fond du Lac Transportation/Land Use Plan Addendum" and certain provisions may apply to the communities illustrated in Map 10.

East Central recommends that a representative from the government entity with Designated Management Agency (DMA) status meet with East Central staff to discuss the proposal. Most documentation and questions needed for the evaluation of the amendment can be addressed at that time.

EAST CENTRAL REVIEW AND RECOMMENDATION

East Central's Sustainable and Efficient Community Services and Facilities Committee will review the proposed amendment within approximately 30 days of receipt of the request. The review will include a staff evaluation of the consistency of the proposal with East Central's amendment policies and criteria. The review will also include an evaluation of comments and recommendations received from local units of government and agencies notified of the proposal by East Central. The applicant may be requested to appear at the Sustainable and Efficient Community Services and Facilities Committee meeting if there are significant issues involved. The Sustainable and Efficient Community Services and Facilities Committee shall recommend approval or disapproval of the amendment. Upon approval, the amendment request shall be submitted to the Wisconsin Department of Natural Resources to request revision of the *Water Quality Management Plan*.

WDNR REVIEW AND APPROVAL

The Wisconsin Department of Natural Resources will review the East Central recommendations for the service area amendment. This review is an equivalent analysis action under s. NR 150.20 (2) (a) 3, Wis. Adm. Code. Once a WDNR decision is made, and if approved, East Central can review sewer extensions and submit comments to the WDNR for sewer extension plan conformance.

Page intentionally left blank.

Map 10 - SSA Amendment Standards and Update Procedures Application Area

Page intentionally left blank.

The formal amendment process includes the following elements:

Section I: Amendment Policies

- A. Sewer service area boundaries may be modified (acreage swap) provided there is no increase in the total acreage of the specific sewer service area.
- B. Sewer service area boundaries may be expanded provided there is a documented need for a sanitary sewer collection system for areas of existing urban development.
- C. Sewer service area boundaries may be expanded provided there is a documented need for sanitary sewers to serve a proposed unique facility or development.
- D. Sewer service areas may be expanded to provide communities with the flexibility to accommodate unanticipated short-term development. The community shall certify through plan commission action that the proposed amendment area is required for reasonable community growth and is consistent with adopted development plans.
- E. Sewer service area boundaries may be modified by the re-designation of previously identified environmentally sensitive areas consistent with all the following standards:
 - 1. The environmentally sensitive area is immediately adjacent to an existing sewer service area.
 - 2. Appropriate local, state and federal environmental permits are granted for the proposed development.
 - 3. Major re-designations shall pose no significant adverse water quality impacts. Major re-designations include:
 - a. Removal of any mapped wetland area for sewered development unless resulting from an activity exempted by state administrative rules governing wetland protection [NR 117.05(2)] or state approved rezoning of wetlands.
 - b. Any change which would reduce a delineated floodway of any navigable stream or river, or which would remove any area below the ordinary high water mark of a navigable stream, pond or lake.
 - c. Any change resulting in the total removal or in the continuity of any corridor segment including floodways, wetlands, shoreland buffer strips or steep slopes adjacent to water bodies. The water quality benefit that was associated with the portion of the corridor removed must be provided for in the development.
 - 4. The re-designated acreage will be added to the service area total acreage.
- F. Sewer service area boundaries may be modified or expanded to correct an error in the maps, data, transporting sewer designations, projections or allocations of the adopted sewer service area plan.

Section II: Amendment Criteria

Any proposed amendment shall be reviewed according to the following criteria:

- A. The cost-effectiveness of the proposed amendment compared to other alternatives. East Central may require this determination from the applicant.
- B. The environmental impacts of the proposed amendment shall be assessed in accordance with the criteria established in the Wisconsin Department of Natural Resources environmental assessment checklist. The Commission will evaluate the ability of the existing sewerage facilities to transport and treat the projected flows and will provide a water quality evaluation statement. East Central may also prescribe safeguards or impose additional conditions deemed necessary to protect the water quality in the area.
- C. Amendments within the Urbanized Area Sewer Service Areas, (see Map 10), should be consistent with East Central's "Long-Range Transportation/Land Use Plan Addendum" goals, objectives and policies particularly for density standards as follows:

Policy 1.4 Conformance:

- 1. The average net residential density of the buildable plat area is more than or equal to 1 unit per acre; or
 - 2. The community has illustrated that development proposals meet the density requirements by being part of an overall "mixed density" concept documented in its local land use plan which meets the policy intent. (Note: Should amendments occur over time primarily low density development which does not meet the one acre requirement and no higher density development occurs, Section V, Urbanized Area Standard (1)(d) will apply at the next scheduled plan update).
 - 3. If an amendment takes place which includes lands planned for residential development, without being platted prior to the amendment, ECWRPC will require an assurance from the community in the form of a resolution stating that the development will meet these requirements. At the time of platting, ECWRPC will require that a copy of the preliminary plat be submitted for review.
- D. Amendment areas under Section I Policy A and D shall have a common boundary with the current sewer service area and shall not create a void within the service area.
 - E. Policy B, (existing development), amendments must be contained within an approved SSA planning area. This boundary can be reviewed and considered for modification as a separate process, if necessary.
 - F. Amendment areas under Section I, Policy A and B involving the "swap" of land acreage shall, to the extent possible, utilize consistent land use areas on an acre for acre basis, based on the community's locally adopted and Commission certified comprehensive land use plan, (for Urbanized Area communities). Should the community not have enough of a particular type of land designated in its locally adopted comprehensive land use plan to allow for a swap, the community should consider utilizing the "regional swap" policy prior to

submitting the amendment under Policy D. Any community affected by a “regional swap” shall be notified and given an opportunity to comment prior to Commission approval of the amendment.

- G. Amendments submitted under Policy C, (Unique Facilities), must not only fit the definition contained in this plan, but the applicant must also submit additional information which illustrates that all impacts, including secondary land use impacts and their effects on water quality, transportation and public service provision be addressed prior to the Commission recommending approval of the amendment. Such amendment requests must also be consistent with locally adopted comprehensive land use plans. Amendments under this policy may be approved conditionally by the Commission so that other necessary approvals can occur concurrently.

Section III: Amendment Procedures

Proposed sewer service area amendments shall be reviewed according to the following procedure:

- A. Requests for sewer service area amendments should be made by the governmental entity that will be expected to serve the area. Units of government seeking an amendment to the sewer service area boundary should transmit a letter requesting the amendment to East Central along with the following documentation:
1. A map of the proposed expansion area and, if required, reference area or any area to be deleted (swapped) which affects the boundary modification;
 2. Estimates of existing and anticipated population, wastewater generation and means of collection from the area;
 3. A description of the type of existing development and/or the type of future development expected to occur;
 4. Ability of the treatment facility to treat the anticipated wastewater;
 5. Methods of stormwater management and regulation for the added service area and surrounding areas which may be impacted; and
 6. Documentation that all property owners in areas proposed to be deleted (swapped) was notified of this request by the unit of government seeking the amendment. Landowners potentially affected by the removal of property from the SSA shall be notified by the requesting entity at least 14 days prior to the scheduled Sustainable and Efficient Community Services and Facilities Committee meeting at which the amendment will be addressed. Failure to do so could result in the tabling of the amendment request until the next regularly scheduled CFC meeting, (policy amendment approved by WDNR on 08/26/04).
 7. Plan Commission or Board action as required under Section I, Policy D.

8. Amendments submitted under Section I, Policy B, for Urbanized Area communities, (see Map 10), will require that additional information be submitted and criteria be met as follows:
 - a. Documentation that the community's locally adopted comprehensive land use plan illustrates the area as a future urban growth area which will provide a full range of services as spelled out in the "Long-Range Transportation/Land Use Plan Addendum's" density standards;
 - b. A determination of the cost-effectiveness of providing public sanitary sewer versus on-site system replacement. This determination should be consistent with NR-110 requirements;
 - c. Documentation that 30% of the existing on-site systems within the proposed amendment area be considered failing, (direct need); and
 - d. Documentation that approximately 30% or more of the balance of existing on-site systems within the proposed amendment area are subject to failure based on the physical condition of the on-site system itself and/or the physical characteristics of the subject site, (indirect need).

Documentation for c) and d) above can be in the form of: copies of county or state orders for on-site system replacement; copies of existing on-site system inspection reports; letters from the County Sanitarian indicating that the systems are failing or have the potential to fail; or documentation of recent private well tests which show bacterial contamination likely resulting from on-site system failure.

- B. Based on this information the Sustainable and Efficient Community Services and Facilities Committee, designated as the review committee by the East Central's bylaws, will review the proposed amendment to determine whether it meets the standards set forth in the Sewer Service Area Amendment Process. If no significant adverse water quality impacts are involved, East Central shall recommend approval of the plan amendment and submit it to the Wisconsin Department of Natural Resources for state plan certification.
- C. Requests for amendments under Section I, Policy F, pertaining to the addition of 'transporting sewers', (interceptors and forcemains which do not directly service new development), may be initiated by East Central staff upon written request of the DMA and would be submitted directly to the Wisconsin Department of Natural Resources for review and certification without the need for Sustainable and Efficient Community Services and Facilities Committee approval. The WDNR would review and certify such amendments within 5 to 10 business days from receipt of East Central staff's submittal. Please note that the information needs, as noted above, as well as the conformance with existing review criteria are still required for East Central and the WDNR to process such amendments, (policy amendment approved by WDNR on 08/26/04).

Section IV: Appeal

If an applicant feels that a hardship exists in the strict interpretation and application of the amendment standards and criteria, consideration may be given to providing relief through a variance subject to the following requirements:

- A. The hardship is significant and widespread owing to substantial pre-existing financial or legal commitments for sanitary sewer service.
- B. The major objectives of the sewer service area plans can be met. The appeal shall be submitted to the Chairman of East Central for action at a regularly scheduled meeting of the Commission. Further appeals may be submitted to Wisconsin Department of Natural Resources.

Section V: SSA Plan Update Procedures and Standards

Even though local, regional and state levels of government engage in planning activities to direct their future, individual or multiple conditions can change over time. Some can be predicted and handled proactively, (COMM 82, demographics, etc.), while some occur rapidly and generally without much warning, (economic conditions, regional growth patterns and rates, market demands, etc.). Sewer service area plans are meant to be proactive type of plan which identifies future sewer growth areas based on cost-effectiveness service provision, water quality and regional cooperation/coordination. When conditions change these plans need to be updated to reflect those changes. This section describes the conditions under which sewer service area plans are updated and how previously developed and approved regional goals, objectives and policies, (i.e. "Long-Range Transportation/Land Use Plan Addendum"), will apply prior to, during or after the Update process.

Minimum Update Procedures and Standards (for all Sewer Service Areas)

SSA plans will be updated on an approximate 5 year rotation. Funding, staff availability, urban growth demands and regional/state policy changes/proposals may alter this time interval. When updated the following items will be addressed:

1. A review and update of population, housing and employment trends and projections;
2. A review and update of land use demands based on socio-economic conditions and projections;
3. A review and update of existing physical conditions including:
 - a. Existing land uses;
 - b. Proposed land uses, (based on local, county, regional and state plans); and
 - c. Water quality and natural resource, (ESA), characteristics, changes and issues.
4. A description of relevant events since the last plan update pertaining to sanitary sewer or having an impact on future sewer service including:

- a. Major WWTF improvements or changes;
 - b. Major collection system improvements or changes;
 - c. Local governmental changes, (i.e. sanitary district formations, intergovernmental boundary/service agreements, comprehensive land use plan updates, regulations and requirements); and
 - d. SSA plan amendments and acreage consumption since the last plan update.
5. A review and modification of mapping elements, if necessary, to accommodate future sewer growth and development including:
 - a. Proposed major sewer system improvements and/or regional connections;
 - b. A revised twenty year sewer service area boundary;
 - c. A revised forty to fifty year planning area boundary; and
 - d. Environmentally Sensitive Area (ESA).
 6. A review of local governmental actions and regulations which have implemented the sewer service area plan;
 7. An update of citizen information/education and participation efforts;
 8. A review of the institutional structure for plan update and amendment review/approval and for plan implementation;
 9. A review/revision of goals, objectives and policies, if necessary; and
 10. The development of recommendations and strategies for plan implementation.

Urbanized Area Procedures and Standards

The Urbanized Area Procedures and Standards will apply to the following communities: the Cities of Appleton, Kaukauna, Menasha, Fond du Lac, Neenah and Oshkosh; the Villages of Combined Locks, Harrison, Kimberly, Little Chute, Sherwood, North Fond du Lac; the Towns of Buchanan, Grand Chute, Greenville, Kaukauna, Vandebroek, Harrison, Calumet, Empire, Fond du Lac, Friendship, Taycheedah, Algoma, Black Wolf, Menasha, Neenah, Nekimi, Oshkosh and Vinland. While this policy targets primarily urbanized developments the Town of Brillion and the Rosendale Utility District could well benefit from its stated purpose.

The Urbanized Area Standards and Procedures include the above listed “minimum” items in addition to the following reviews of local conformance with policies and requirements as spelled out in the “Long-Range Transportation/Land Use Plan Addendum” including:

1. Addendum Policy 1.3 Conformance – A review of local development densities within the SSA occurring between plan updates and their conformance with the minimum residential density requirement will need to be met as follows:

- a. Areas within the SSA prior to the WDNR certification date of 1997, (or subsequently), are not required to meet this policy, however; East Central staff will consider new residential developments which have occurred after this date as part of the overall density calculation, (therefore this will not penalize communities for recent development meeting the criteria and being 'banked' for lower densities elsewhere within the SSA);
 - b. Areas allocated and approved as part of the 1997, (or subsequent), plan update are required to meet policy;
 - c. Areas amended to the SSA after a 1997 update are required to meet policy, (see SSA Plan Amendment Policies and Procedures section for additional information); and
 - d. If an individual community does not meet the density requirements spelled out in the "Long-Range Transportation/Land Use Plan Addendum" it will not be eligible for additional Sewer Service Area acreage allocations in subsequent plan updates.
2. Addendum Policy 1.4 – A review of local unsewered development patterns and locations and advisory recommendations pertaining to such information; and
 3. Comprehensive Plan Guidelines – A review of local land use planning for conformance with the Guidelines and the communities' plan certification status.

Section VI: Definitions

Sewer Service Area: A geographic area currently or anticipated to be served with sanitary sewers within the planning period as specified in the sewer service area plan element of the *Water Quality Management Plan*. This boundary delineates areas which can be provided public sanitary sewer more cost-effectively than on-site treatment methods over a 20 year period. ECWRPC determines this boundary based on the following information, (all of which are not necessarily listed in NR-121):

- A. Definition and mapping of environmentally sensitive areas, (ESA's);
- B. Justified acreage allocations based on projected 20 year growth and development using ECWRPC accepted methodologies;
- C. Projected available 20 year capacity of the wastewater treatment facility from publicly sewered development and established holding tank receiving areas;
- D. Facilities plan listed projects and improvements;
- E. Projected available 20 year capacity of interceptor sewers, force mains and lift stations;
- F. Location of existing sewer lines;

- G. Existing and projected 20 year development patterns, (based on local comprehensive land use planning and zoning maps);
- H. Proximity to development with known failing privately owned treatment works, (POTW's), or other on-site wastewater treatment systems;
- I. Ability to provide recommended levels of urban service per the addendum matrices;
- J. Intergovernmental growth/service agreements, (advisory only); and
- K. The boundary itself is located, for administrative purposes, on the location of:
 - 1. Environmentally Sensitive Area (ESA's);
 - 2. Watershed, sub-watershed and drainage basin boundaries;
 - 3. One lot depth, (300 feet), buffer from existing sewer line locations;
 - 4. Quarter-section lines based on the Public Land Survey System, (PLSS);
 - 5. Municipal and Sanitary District Boundaries;
 - 6. Road centerlines;
 - 7. Lift station service areas, (topography and depth); and
 - 8. Gravity and interceptor sewer service areas, (topography and depth).

Sewer Service Planning Area: An area defined and approved by the Department of Natural resources under Wisconsin Administrative Code, NR-121 with the assistance and recommendation from the East Central Wisconsin Regional Planning Commission and input from involved communities. This is an area where urban growth is anticipated to occur over a longer period of time, (40 to 50 years), where short-term conflicting land use development should be discouraged. This boundary serves the purpose of delineating long-term, (40-50 year time horizon), cost-effective, urban growth areas. ECWRPC determines this boundary based on the following information, (all of which are not necessarily listed in NR-21):

- A. Definition and mapping of environmentally sensitive areas, (ESA's);
- B. Justified acreage allocations based on projected 50 year growth and development using ECWRPC accepted methodologies;
- C. Projected available 50 year capacity of interceptor sewers, force mains and lift stations;
- D. Projected available 50 year capacity of the wastewater treatment facility from publicly sewer development and establish holding tank receiving areas;
- E. Existing and projected 50 year development pattern, (based on local/county comprehensive land use plans and zoning maps);
- F. Location of existing development with known private septic problems or potential risk for on-site system failures;
- G. Intergovernmental growth/service agreements; and
- H. The boundary itself is located for, administrative purposes, on the location of:

1. Environmentally sensitive areas, (ESA's);
2. Watershed, sub-watershed and drainage area boundaries;
3. Nearest quarter-section lines of the Public Land Survey System, (PLSS);
4. Municipal and Sanitary District boundaries;
5. Wastewater treatment plant service areas, (when multiple plants available);
6. Road centerlines;
7. Lift station service areas, (topography and depth);
8. Proposed and existing interceptor sewer service areas, (topography and depth);
and
9. Extraterritorial review jurisdiction of involved incorporated communities, (this would be utilized only at the discretion of all affected communities).

Existing Urban Development: A geographic area with densities of development suitable for the efficient and economic provision of urban services such as sanitary sewer, water, transportation and storm drainage. (E.g. single family residential development greater than two units per gross acre)

Reference Area: A geographic area currently within the existing sewer service area which is at least 50 percent developed.

Unique Facility or Development: A proposed facility that, regardless of location, is considered to be "unanticipated"; and is of "regional importance". "Unanticipated" is defined as not being illustrated in a local community's or county's comprehensive plan and was not anticipated or projected in the sewer service area plan during the previous update. "Regional importance" is defined as a facility which, if constructed, would provide a widespread benefit to multiple local governmental jurisdictions within the Sewer Service Area. Examples of facilities fitting this criteria include state prisons, county landfills, regional public specialty facilities such as EAA, public museums or performing arts centers, churches, private, (commercial), specialty facilities such as the Kaukauna dog track, opportunistic park/recreation/open space acquisitions, public golf courses, other state and federal facilities as deemed appropriate. Not eligible are any type of school facility, local government administrative office or facility, residential golf course developments, local parks, private campgrounds, local airports or related facilities. These types and locations of future facilities should be addressed and, their needs quantified, in the community's local land use plans and the sewer service area plan update process. These listings may be added to from time to time based on individual SSA plan amendment proposals. Those specific facilities not listed above would be reviewed based on their merits and conformance with the intent of this definition.

Expansion Area: The geographic area proposed to be added to the existing sewer service area through the amendment process.

Cost-effectiveness: Analysis of sanitary sewerage system alternatives. The analysis shall include monetary costs and environmental as well as other non-monetary costs.

Environmentally Sensitive Area: Geographic areas consisting of all lakes and streams shown on USGS quadrangle maps and their adjacent shoreland buffer areas. Also all wetlands shown on the State of Wisconsin Wetland Inventory Maps and floodways as delineated on the official Federal Emergency Management Administration Flood Boundary and Floodway Maps.

Page intentionally left blank.

Rosendale Sewer Service Area Plan Update Meeting Record

Date

Description

In addition to the meetings written correspondence was also used to communicate with the Village of Rosendale and adjacent townships. There were also numerous emails to the stakeholders in this process to clarify certain issues and to provide explanations throughout the process

Page intentionally left blank.

SUMMARY OF PROCEEDINGS

CFC_##-##-##_SOP

Page intentionally left blank

(Village of Rosendale Approval)

(Town of Rosendale Approval)

(Town of Springvale Approval)

(WDNR Certification Letter)

(WDNR Certification Letter back)

Proposed Resolution ##-##
(Rosendale SSA Approval _signed)

Proposed Resolution back

Appendix B

Back of Appendix B

APPENDIX C: ENDANGERED RESOURCE PROTECTION AND 2035 SSA ALLOCATIONS

The Rosendale 2035 SSA acreage allocations are contained in four areas within the proposed sewer service area. Environmental issues are elements to this planning process are described below. If known, aquatic invasive species, elevated nitrate levels in groundwater, loss of natural shorelines, etc., are identified.

Rosendale 2035 SSA – Development Area 1	
Location	Village of Rosendale, T16N R15E, SW ¼, Section 35. This area totals 21.4 acres.
General Physical Features	This area is currently in agricultural/open space use.
Current Development	No existing development is present.
Planned or Proposed Development	The southern allocation area, (W STH 23 and Grant Street), has the potential for some highway commercial and light industrial. The northern allocation is slated for commercial and light industrial.
Limiting Environmental Conditions*	No known or mapped environmentally sensitive areas are located within this area.
Water Features	None present.
WDNR Natural Heritage Inventory	According to the WDNR Natural Heritage Inventory data two areas of concern are recognized within the township which include a migratory bird concentration site and the Southern Dry Forest designation. It is unclear any of these conditions exist within the village limits. A more detailed analysis may be required to determine the extent of these conditions prior to development. (The ER Preliminary Assessment can be found at the end of this appendix).

<u>Rosendale 2035 SSA – Development Area 2</u>	
Location	Village of Rosendale, T16N, R15E, NE ¼, Section 35. This area totals 11.2 acres.
General Physical Features	Generally level to gently sloped this allocation has minimal limitations for development.
Current Development	This area may have some agricultural use, however, is considered open space
Planned or Proposed Development	This particular area is planned for light industrial/commercial in the northern portion and multi-family residential in its southern quadrant.
Limiting Environmental Conditions*	No known or mapped environmentally sensitive areas are located within this area
Water Features	None present.
WDNR Natural Heritage	According to the WDNR Natural Heritage Inventory data two areas of concern are recognized within the township which include a migratory bird concentration site and the Southern Dry Forest designation. It is unclear any of these conditions exist within the village limits. A more detailed analysis may be required to determine the extent of these conditions prior to development. (The ER Preliminary Assessment can be found at the end of this appendix).

<u>Rosendale 2035 SSA – Development Area 3</u>	
Location	Village of Rosendale, T16N, R15E, SW ¼, Section 36. This area totals 32.2 acres.
General Physical Features	This area is generally level or gently sloping and may currently be in agricultural use.
Current Development	Generally categorized as an open meadow there is no significant development that exists.
Planned or Proposed Development	Single family residential will dominate the future development in this area. This area is the logical extension of the established subdivision west of Wilson Street.
Limiting Environmental Conditions*	A small wetland complex is present on the eastern boundary of this area. Adverse impacts to this wetland is minimal as it is not within the current sewer service area.
Water Features	None present.
WDNR Natural Heritage	According to the WDNR Natural Heritage Inventory data two areas of concern are recognized within the township which include a migratory bird concentration site and the Southern Dry Forest designation. It is unclear any of these conditions exist within the village limits. A more detailed analysis may be required to determine the extent of these conditions prior to development. (The ER Preliminary Assessment can be found at the end of this appendix).

<u>Rosendale 2035 SSA – Development Area 4</u>	
Location	Village of Rosendale, T16N, R15E, NW ¼, Section 36. This area totals 11 acres.
General Physical Features	This area is generally level or gently sloping and the surrounding lands are currently in agricultural use.
Current Development	There is no development present.
Planned or Proposed Development	This area is slated for public/institutional uses that may include recreational, government facilities or other related developments.
Limiting Environmental Conditions*	The northern portion of this area is bordered by a wetland complex and its associated wetland buffers. It is also bounded on the east by an unnamed stream and buffer area.
Water Features	No open water features are evident in this allocation.
WDNR Natural Heritage	According to the WDNR Natural Heritage Inventory data two areas of concern are recognized within the township which include a migratory bird concentration site and the Southern Dry Forest designation. It is unclear any of these conditions exist within the village limits. A more detailed analysis may be required to determine the extent of these conditions prior to development. (The ER Preliminary Assessment can be found at the end of this appendix).

*Natural occurring environmental conditions where development may not be suitable such as: groundwater within 1 foot of the surface, slopes greater than 12%, and bedrock occurring within 5 feet of the surface. Sources: ECWRPC, WDNR's Ecological Landscapes of Wisconsin, Ecosystem Management Planning Hand Book, WDNR's 2006 Impaired Waters List (303d list), and WDNR's Natural Heritage Inventory Working List.

ENDANGERED RESOURCE PROTECTIONS

Species listed as Threatened or Endangered under Wisconsin's Endangered Species Law (**s. 29.604 Wis. Stats**):

- **State-listed animals** - Vertebrates and invertebrates are protected on all lands and waters of the state.
- **State-listed plants** – Protected on public lands and on lands that the person does not own or lease, except in the course of forestry, agriculture, bulk sampling associated with mining or utility actions.

Species protected by the Federal Endangered Species Act of 1973, as amended includes those federally-listed as endangered or threatened and their designated critical habitats:

- **Federally-protected animals** – Protected on all lands.
- **Federally-protected plants** – Protected on federal lands and in the course of projects that include federal funding. They are also protected on other lands if they are removed, cut, dug up or damaged in knowing violation of any law or regulation of any state or in violation of a criminal trespass law.

Special Concern Species, High-Quality Examples of Natural Communities

High Conservation Value areas and unique natural features such as caves or animal aggregation sites are not legally protected by state or federal endangered species laws. However, other laws and policies related to Forest Certification or master planning or granting and permitting processes may require or strongly encourage protection of these resources. The main purpose of the Special Concern classification is to focus attention on species about which some problem of abundance or distribution is suspected before they become endangered or threatened.

State Natural Areas

SNA's protect outstanding examples of Wisconsin's native landscape of natural communities and significant geological formations. Endangered species are often found within SNA's. SNA's are protected by law from any use that is inconsistent or injurious to their natural values, (**s. 23.28 Wis Stats**).

Appendix C includes data on the township range areas included in the sewer service area plan. Prior to development or land disturbance these lists should be consulted to determine if there might be endangered resources in the area. If endangered resources are indicated the developer or municipality should take the project area through the **Natural Heritage Inventory Public Portal** prior to requesting an Endangered Resources Review to ensure a review is necessary. If the Endangered Resources Preliminary Assessment you receive from the NHI Public Portal indicates that no further actions are necessary, you can submit the Endangered Resources Preliminary Assessment report with other WDNR permit applications to indicate the Endangered Resources issues have been addressed. If, on the other hand, the Endangered Resources Preliminary Assessment indicates further actions are recommended or required, the next step would be to complete the Endangered Resources Review Request Form. By including

the Endangered Resources Preliminary Assessment report with the Endangered Resources Review Request the Endangered Resources reviewer will have the ability to call up the project area from the NHI Public Portal ensuring the project area is accurately accessed thus reducing the time needed to complete the review. To learn more about the Natural Heritage Inventory please use this link: <http://dnr.wi.gov/topic/nhi/>.

ENDANGERED RESOURCE PRELIMINARY ASSESSMENT

(NHI_Prelim Report)

NATURAL HERITAGE INVENTORY PROTECTED LIST

(NHI_Protected List)