Fox Cities
2030 Sewer Service Area
Plan Update

Prepared by the
East Central Wisconsin Regional Planning Commission

in cooperation with the
State of Wisconsin
Department of Natural Resources

WDNR Approval
February 13th, 2006

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.
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This plan updates and supersedes the 1990 and 1997 Fox Cities Sewer Service Area Plan documents and maps, which is an element of the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001) and the State of the Upper Fox River Basin Plan (WDNR publ. WT-665-2001). The plan was prepared by the East Central Wisconsin Regional Planning Commission and was certified by the Wisconsin Department of Natural Resources in February 13th, 2006 as part of the Statewide Water Quality Plan. It provides population and land use projections and delineates future growth areas for the Fox Cities Sewer Service Area. Also identified are environmentally sensitive areas which should not be developed. Policy recommendations encourage cost-effective and environmentally sound development patterns.

This report, including maps and other related information on Sewer Service Areas and the East Central Wisconsin Regional Planning Commission, is available on our website at www.eastcentralrpc.org.
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INTRODUCTION

This is the fourth update of the Fox Cities Sewer Service Area Plan (1985, 1991, 1997, and 2005) which is an element of the State of Wisconsin Water Quality Management Plan, specifically, the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001) and the State of the Upper Fox River Basin Plan (WDNR publ. WT-665-2001). In the 20 years since sewer service areas have been in effect, they have provided a guide for sewered development and have had a significant impact in the protection of water quality. Both communities and land developers are now more aware of the purpose of sewer service areas, using the plans and policies in community and development planning.

Report Format

This plan describes and delineates the Fox Cities Sewer Service Area. The plan was developed in accordance with state and federal guidelines and involved various community and public input measures including:

- Two public informational meetings;
- 43 separate ‘working’ meetings with local units of government and organizations;
- One technical policy committee meeting, and;
- One public hearing;

The Fox Cities SSA Plan is broken down into four separate plans corresponding with each wastewater treatment facility. For each treatment facility, the plan discusses the individual SSA characteristics, projected growth levels and the service area plan map. The beginning and end portions of this document discuss traits common to all four SSAs, such as:

1. Service area goals, objectives and policies, and;
2. Service area delineation and planning process;
3. Service area amendment and update process.

Additional information regarding the sewer service area planning process is required, however; not of it is included in this document. Copies of support documents such as population and growth projection methodologies and GIS mapping can be requested for review by contacting East Central staff.

Purpose

This Fox Cities Sewer Service Area Plan updates and amends the 1997 sewer service area planning element of the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001) and the State of the Upper Fox River Basin Plan (WDNR publ. WT-665-2001). The updating process is part of a regularly scheduled five-year re-evaluation, the last of which was completed in 1997 (and now again in 2005) according to Wisconsin Administrative Code NR121.07(2)(a)1.
Sewer service area plans serve as a basis for Department of Natural Resources (WDNR) approval of state and federal grants for the planning and construction of wastewater treatment and sewerage facilities. They also serve as a basis for WDNR approval of locally proposed sanitary sewer extensions and Wisconsin Department of Commerce approval of private sewer laterals. In addition, because the service area plans identify environmentally sensitive areas, they serve as a guide for environmental permit decisions by federal and state 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 for 20 year or more planning period;
- Forecast the amount and location of future urban development areas;
- Identify environmentally sensitive areas which should be preserved;
- Contain land use development forecasts and recommendations for implementing wastewater treatment and collection plans for individual sewer service areas;
- Inform developers and property owners of community policies and restrictions before development is proposed;
- Establish "holding tank" service areas for isolated and rural special uses.

**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 and designated water quality management areas were significant parts of this planning process. 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 NR121 which describes water quality and areawide waste treatment planning and management; and NR110 concerning wastewater facility and sanitary sewer extension planning. 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. 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.

On December 31, 1989 the Fox Valley Water Quality Planning Agency (FVWQPA) was disbanded and the Wisconsin Department of Natural Resources (WDNR) took over agency responsibility for the Fox Valley Designated Water Quality Management Area. Therefore, the WDNR now directs and is responsible for the implementation of sewer service area plans. East Central, as a sewer service area planning agency, has a contractual agreement with the Department which provides
that East Central will periodically review, revise and update the service area plans, and review proposed sewer extensions for conformance with the approved areawide water quality plan. The Department's role is to provide a water quality assessment and comment on revisions and updates of the sewer service area plan and to review and approve plans for wastewater treatment facilities and sewer extensions based upon their conformance to 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 policy and procedures were initially adopted in 1978 and revised in 1984, 1990, 1995, 2001, and 2004. These procedures establish standards and criteria for amending sewer service area boundaries and also describe the process for amending sewer service area plans. The amendment policies (page 178) 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 four elements of the Fox Cities Sewer Service Area Plan were adopted by the East Central Wisconsin Regional Planning Commission in April, 2005 (Appendix A). This Fox Cities SSA Plan is a formal amendment to the State of Wisconsin Water Quality Management Plan which, for this area, includes the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001) and the State of the Upper Fox River Basin Plan (WDNR publ. WT-665-2001). The Fox Cities SSA Plan update was certified by the Wisconsin Department of Natural Resources and became effective February 13th, 2006. (Appendix A).

**Fox River Designated Water Quality Management Area**

The Fox River Designated Water Quality Management Area comprises major portions of the four urban counties surrounding Lake Winnebago (Map 1). The 1580 square miles has been specially designated for water quality planning because of the concentration of industries and urbanization along the Fox River and Lake Winnebago. Within this overall area 26 different sewer service areas have been delineated and individual plans prepared (Map 1). The East Central Wisconsin Regional Planning Commission is responsible for preparing, maintaining and updating sewer service area plans within the designated area. The Wisconsin Department of Natural Resources is responsible for plan implementation.

While the Fox Valley area is interrelated from a water quality viewpoint, it can be separated into two distinct areas in terms of growth and development planning. These areas consist of the large communities of the Fox Cities, Oshkosh and Fond du Lac and the individual smaller communities of the outlying areas. In projecting future growth, these areas were handled differently in service area plan development.
ECWRPC / WDNR
208 Water Quality Management Planning Area
and Sewer Service Area Plans
Plan Goals, Objectives & 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 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 throughout the region.

A major review and update of the goals, objectives and policies was completed in 1995 and 1996 and they are currently being assessed again as part of the Commission's preparation of its Regional Comprehensive Plan (smart growth plan). As part of the updating process, 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.

Goals represent common community ideals and provide the direction in which planning is aimed. Objectives are more specific targets along the path of satisfying community goals. Objectives may be measurable, adding to the community good. Policies are strategies for accomplishing the stated objectives. Specific policies can be used in the decision-making process.

The intent of the Fox Cities Sewer Service Area Plan is to encourage efficient, orderly and planned land use development patterns which allow for logical, cost-effective sewered development that is 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, as follows:

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.
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 infilled, 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.

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: 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 avoided.
2. The proliferation of major public infrastructure facilities should be discouraged.
3. Intermunicipal agreements should be promoted for the provision of joint service.

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.

**Policies:**

1. The amount of solid waste generated by households, business and industry should be reduced.

2. Solid waste should be recycled as an alternative raw material for construction, manufacturing, and energy production.

3. Organic wastes should be used as soil amendments.

4. Waste disposal operations and facilities should be centralized where economically feasible.

5. Cost-effective waste management systems should be provided that are consistent with development and water and air quality regulations.

6. On-site waste disposal systems should be managed to minimize adverse land use, environmental, and public health impacts.

7. Health threats from toxic substances in the environment should be reduced.

**Open Space**

**GOAL:** PROVIDE SUFFICIENT PUBLIC OPEN SPACE TO MEET THE RECREATIONAL NEEDS OF ALL RESIDENTS AND PROTECT AND PRESERVE NATURAL AND CULTURAL RESOURCES.

**OBJECTIVE:** **Recreational Opportunity.** Provide all area residents an opportunity to partake in a wide range of active and passive recreational activities on a year-round basis.
Policies:

1. Recreational facilities should be provided to address the level of activity participation, facility deficiencies and aesthetic needs of the community.

2. Park sites to fully serve the local and areawide needs of the community should be located and developed.

3. Safe, convenient and adequate access to all parks and recreation areas should be provided.

OBJECTIVE: **Preservation Areas.** Preserve areas of unique natural, historical, and cultural significance or unusual beauty for public use and enjoyment.

Policies:

1. All significance preservation areas should be identified and mapped.

2. Unique areas should be protected by minimizing the impact of individual development proposals.

3. Significant natural areas should be preserved as public open space.

4. Public access and use within environmental corridors and drainage ways should be promoted.

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 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 acquired.
Leave blank
The Fox Cities 2030 SSA Plan is comprised of four separate SSAs, each relating to one of the four regional wastewater treatment facilities in the urbanized area. Map 2 shows the general location of the Fox Cities SSA and the four wastewater treatment planning areas. Much of the data for this plan update was collected and assessed at the same time for all four SSAs. The beginning year for this update was 2005, and hence; data was finalized in late 2004 to coincide with this starting timeframe. The plan itself looks out 25 years into the future (2030) in terms of projections. Typically, such a plan would have a time horizon of 20 years, however; due to the need for consistency with ongoing Metropolitan Planning Organization (MPO) transportation planning activities, this timeframe was extended to the 25 year period. The reader should further note that all references to SSA boundaries and acreages are associated with the ‘updated’ (2005) conditions, not with the ‘current’ (1997) plan features. Basically, the plan is written as if it has already obtained WDNR approval.

Common Plan Assumptions

Several aspects of the four SSAs had common issues related to data and information assessment, particularly with respect to SSA acreage projections and acreage calculations based on the creation of a regional ‘proposed land use map’ using local level plan information. Additionally, a major issue which could impact the SSAs in the future was brought to light early on in the process, that being a ‘regional industrial park’ – perhaps 1,000 acres or more in size. Further discussion on these items is contained below.

2030 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 SSA are contained in a separate appendix (Appendix C). 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 January 1, 2005. The planning horizon timeframe also encompasses a 25 year span, rather than the traditional 20 year span, which will allow staff to provide (for a 5-year period) 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

Each of the four SSA plans has tables and maps which illustrate 2030 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 existed. Where local comprehensive plans have not been adopted, existing zoning information was used. In preparing this information, it was apparent that individual community plans had some overlap, as incorporated communities statutorily have the ability to designate uses outside of their actual municipal boundary. Staff examined the areas of overlap amongst these plans and reviewed each area of overlap in detail to determine which plan would take precedence. The assumption was made only for the purposes of SSA planning and this should in no way be misconstrued as policy which favors annexation by incorporated municipalities.
LOCATION OF FOX CITIES SSA PLANS

MAP 2
Regional Industrial Park

In reaction to a request for information about the Fox River Valley area by Boeing, Inc. in 2004; communities in the Fox Cities and Oshkosh area expressed the desire to develop and accommodate potential future large industrial users with a sizeable (1,000 acre+) ‘regional’ industrial park using tax-base sharing concepts and other tools.

The Fox Cities Chamber took the lead on this idea and, in mid-2004, had hired S.B. Friedman to initiate a feasibility study which outlines and assesses the broad scope of issues associated with siting such a facility. The Phase I Feasibility Study looks at the existing industrial park base and land absorption rates (currently ~43 acres/year) and a targeted industry analysis. The Phase I study is in draft form (as of May, 2005) and further discussions by the Chamber will dictate whether or not Phase II (siting analysis) will be initiated.

Due to the timing aspects of the Fox Cities and Oshkosh SSA Plan Updates, it is not the intent of this plan to fully address the potential needs and impacts of siting such a facility. Projections regarding employment and commercial/industrial acreage needs do not factor in a new ‘regional industrial park’. East Central will likely assist in assessing the impacts upon existing WWTFs and sewer collection systems once the project moves forward to a stage where site selection is addressed. It is assumed, at this time, that any future proposal for a regional industrial park would need to be addressed through the Commission’s SSA amendment process.
Planning Area Description

The updated Neenah/Menasha SSA Planning Area covers approximately 37.7 square miles (as compared to 30.3 in 1997) and is located in northeastern Winnebago County and northwestern Calumet Counties. As illustrated on Map 3 the updated boundary extends easterly to CTH N, in the Town of Harrison; and westerly to STH 76 in the Towns of Vinland and Clayton. The Planning Area is bounded on the south and southwest by Lake Winnebago and on the north by the Winnebago/Outagamie County line (west of Oneida St.), and close to Midway Road in Calumet County (east of Oneida St.). The Planning Area contains the Cities of Neenah and Menasha as well as portions of the Town of Menasha (east of the Fox River), Town of Neenah, Town of Clayton, Town of Vinland, Town of Harrison, and City of Appleton.

The Planning Area is defined based on individual, or combinations of factors, including, but not limited to representations of: the "ultimate service" area of the treatment plant based on capacity; the extent of planned service areas for individual lift stations or interceptor sewers (as indicated on Map 3), and/or; the proximity of nearby clusters of development currently using on-site systems which may have long-term (20+ years) needs for sanitary sewer. This boundary is, conceptually, a much longer-term indication of the 'service area', perhaps 40 to 50 years out into the future. Adjustments to the Planning Area were developed and proposed by staff after a thorough review of information pertaining to the existing and planned wastewater collection system, as well as through discussions with each Designated Management Agency during the plan development process. Each modification is discussed below:

- **Planning Area Additions/Expansions:** Several areas were proposed for inclusion in the Planning Area during the update process to better reflect the ability of the DMAs to actually provide service to these areas. Based on technical information for existing interceptor sewers and lift stations, and input from the DMAs’ engineers, the following areas have been proposed for inclusion in the Planning Area:

  1. **South of the City of Neenah, east of USH 41:** This area has the ability to be provided gravity service through the extension of the existing Schultz Drive interceptor sewer, owned by the City of Neenah. This addition falls wholly within the Town of Vinland.

  2. **South and west of the City of Neenah, west of USH 41:** This area has the ability to be provided service through the recently installed 24-inch County Road G interceptor sewer, owned by the City of Neenah. Portions of this addition fall within the Towns of Neenah and Vinland.

  3. **North of Breezewood Lane and west of STH 76 in the Town of Clayton:** This area can be provided sewer service through an extension of the existing 21-inch Breezewood Lane interceptor which currently extends to Pendleton Road.

  4. **Between Clayton Avenue and STH 76, in the Town of Clayton:** This area is bisected by Oak Ridge Road and, according to the City of Neenah’s land use plan, could be provided gravity sewers through the extension of its 21-inch Breezewood Lane interceptor sewer.
5. An area located in Calumet County, east of Coop Road and west of CTH N, south of Woodland Road: This area has been shown to be cost-effectively served by the Waverly Sanitary District, however; a new (planned) lift station will be necessary to accommodate growth in this area. The infilling of lands which utilize the existing infrastructure would be considered a priority before extending development into this area.

- **Planning Area Deletions/Removals:** Only one area, located north of Oak Ridge Road, west of USH 41, was proposed for removal from the existing Planning Area. Based on a recent engineering study, this area would be most cost-effectively served through the extension of gravity sewers from the Town of Menasha Utility District. To date, the Town of Menasha has formally concurred with this modification. This area corresponds with the ‘addition’ portion to the Grand Chute/Menasha West SSA Planning Area.

- **Undefined Planning Area Designations:** One area has been designated as being ‘undefined’ in nature, since more than one DMA’s collection system can potentially provide sewer service to the lands. For the 2030 SSA Plan, these areas would be considered to be part of the long term Planning Area Boundary (and they may even be within the actual SSA), however; a ‘hold’ status would be applied for all sewer extension requests until such time that proper information is submitted to East Central and the WDNR to determine the cost-effectiveness of various service alternatives. This ‘hold’ status could be removed by the Commission’s Community Facilities Committee at a regularly scheduled meeting based on this information. The undefined Planning Area can be described as follows:

  1. An area located between STH 76 and Clayton Avenue, south of County Road II in the Town of Clayton: This area could potentially be served through either the Town of Menasha Utility District’s 18-inch North Road interceptor sewer, or through the City of Neenah’s 21-inch Breezewood Lane interceptor sewer. It appears that from either direction, no lift station would be necessary, however; the pace of growth and downstream capacity may be factors which dictate the direction of future flows from this area.

### Land Use and Development

Map 4 illustrates the current (2005), existing land use for the Neenah/Menasha SSA along with the updated Planning Area Boundary for reference purposes. This information is based on the Commission’s detailed land use inventory with corrections made by each community during the update process. This data corresponds with a timeframe (or ‘snapshot’) of late October/early November, 2004.

As updated in 2005, the 2030 SSA contains 16,909 acres of land of which 11,351 (67%) are considered to be developed. The developed lands can be described as follows: 5,506 acres of residential land use (32.6% total SSA); 715.7 acres of commercial land use (4.6% of total SSA); 1,161 acres of industrial use (6.9% of total SSA); 2,262 acres of transportation/road use (23.5% of total SSA); , and; 1,306 acres of public/institutional/utility use (11.5% of total SSA). The remaining 5,557 acres lands were either in low intensity agricultural or undeveloped uses (4,667 acres) or considered to be an ESA (890 acres).
MAP 3 - Neenah/Menasha SSA - Year 2050 Planning Area Boundary
(11 x 17 b/w)
Back of map 3
MAP 4 - Neenah/Menasha Planning Area - 2005 Existing Land Use
(11x17 color)
Back of map 4
Between 1995 and 2005, major new development areas occurred in the vicinity of South Commercial Avenue and CTH G (west of USH 41) in the City of Neenah, and east of Oneida Street in the City of Menasha and Waverly S.D.

**Environmentally Sensitive Areas**

The major areas designated as environmentally sensitive areas (ESAs) include the Waverly Beach area wetlands, wetlands in the City and Town of Neenah adjacent to Lake Winnebago, and the wetlands and floodway of the Neenah Slough. Other areas designated as environmentally sensitive include tributaries to Lake Winnebago and Little Lake Butte des Morts. Areas with environmental conditions that may impact development include areas of seasonally high groundwater, shallow bedrock and the floodplains of the Neenah Slough, Little Lake Butte des Morts and Lake Winnebago. ESAs and other limiting condition features are shown on Map 5. Additional information on ESAs is contained on page 175.

**Designated Management Area Descriptions**

Map 6 illustrates the existing Designated Management Areas (DMAs) within the Neenah/Menasha SSA. DMAs are the legal entities (communities, sanitary districts, or utility districts) that are responsible for the collection or treatment of wastewater. Within the SSA Planning Area, there are sixteen governmental entities which exist, eight of which are DMAs:

1. Neenah/Menasha Sewerage Commission*
2. Town of Harrison
3. Waverly Sanitary District*
4. City of Menasha*
5. City of Appleton*
6. Town of Menasha
7. Town of Menasha Utility District*
8. City of Neenah*
9. Town of Neenah
10. Town of Neenah Sanitary District No. 2*
11. Town of Neenah Sanitary District No. 3*
12. Town of Vinland
13. Town of Clayton
14. Town of Clayton Sanitary District No. 1
15. Calumet County
16. Winnebago County

* indicates DMA designation

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

**Neenah/ Menasha Sewerage Commission** - The Neenah/Menasha Sewerage Commission was jointly created by the municipalities and sanitary districts within the sewer service area. The Commission’s activated sludge plant presently serves the Cities of Neenah, City of Menasha and the east side of the Town of Menasha. Flows are also received from the Town of Neenah S.D. No. 2 and the Waverly Sanitary District.

**Waverly Sanitary District** - The Waverly Sanitary District is located in the northwestern portion of the Town of Harrison, Calumet County, and primarily covers the north shore of Lake Winnebago. A small portion of the Cities of Appleton and Menasha are also located within the district’s boundary and sewer service is provided to these areas by the District. The majority of the development served is residential. Commercial areas which are serviced by this district are primarily along the USH 10 and STH 114 corridor. The estimated population for the District was 3,997 persons and households were estimated at 1,395 for 2005.
The Waverly system currently has four lift stations. These lift stations are located at North Shore, near Fire Lane #2, and near Fire Lane #6. The fourth is a new lift station, along with an interceptor sewer system, that was recently installed to support development north of USH 10 and STH 114. The Waverly System is connected with the Town of Menasha Utility District at the Brighton-Beach lift station and is eventually discharged into the Neenah-Menasha Sewerage Commission system.

City of Menasha - The City of Menasha lies in the central portion of the SSA and straddles the Winnebago and Calumet County border. With a 2005 population of 16,988, the City is the second largest entity within the SSA. A majority of the land within the City is classified as residential, with most new development being single-family in nature. A new area for residential development was recently annexed near CTH LP (Lake Park Road) in the Town of Harrison, Calumet County. Commercial areas are present along Main Street in the downtown and along STH 47 and STH 10/114. Little major industrial development has occurred within the city. Existing major industrial areas are located in the vicinity of Milwaukee and Third Streets and the area along the U.S. Government Canal in Menasha. The City of Menasha has entered into formal boundary/growth agreements with both the Town of Harrison and the Town of Menasha which has alleviated many land use issues amongst the communities. The City is also participating in the Calumet County ‘Smart Growth’ Comprehensive Planning process.

City of Appleton - A small portion of the City of Appleton (66 homes and 187 persons in 2005) is also part of the Neenah/Menasha SSA and is provided sewer service through the Waverly Sanitary District. A majority of this area is residential in nature, although some minor amounts of commercial and public lands exist.

Town of Menasha Utility District – This District encompasses the entire Town of Menasha, however; only the portion east of Little Lake Buttes des Morts is part of the Neenah/Menasha SSA. Within this 2,791 acre portion of the Utility District, approximately 900 acres of residential development and 400 acres of commercial/industrial development existed. Major commercial areas include the Valley Fair Mall area and the area at the intersection of Midway Road and STH 47. In 2005, the Utility Districts’ population was estimated at 7,223 persons with 2,672 dwelling units.

City of Neenah - The City of Neenah is located in the southwestern portion of the SS and, in 2005, had an estimated population of 25,439 contained in 10,289 dwelling units. The majority of residential development is east of USH 41, however; several areas of residential development have been expanding slowly to the west of USH 41 and some recent housing development has occurred on the south edge of the City along CTH A. Major commercial areas in Neenah include the Fox Point Mall/Green Bay Road area, the area at the intersections of Main and Commercial Street, and a strip along Commercial Street south of Cecil Street. New commercial development has been focused in the Winneconne Avenue and Tullar Road area. Industrial areas in Neenah include an area north of Main Street from Commercial Street west along the Neenah Channel to Western Avenue; the area adjacent to the Chicago and Northwestern railroad tracks from Winneconne Avenue on the North to CTH G on the south, and the Neenah Industrial Park east of USH 41 between CTH G and Breezewood Lane. The City has recently purchased and annexed lands to the south of the industrial park for additional expansion. In 2003, the City had entered into an agreement with the Town of Neenah which specifies future growth and expansion areas. This agreement also allows the Town of Neenah additional accessibility to public sewer for their future growth.
MAP 5 - ESAs and Limiting Conditions
(11x17 color)
back of Map 6
**Town of Neenah Sanitary District No. 2** - Formed in the early 1970's, this district lies along the southern border of the City of Neenah, east of USH 41 and along the Lake Winnebago shoreline. The 2005 population was estimated at 1,705 persons and 638 housing units. Waste is transported to one of two connection points with the City of Neenah’s sewer system (24-inch Bell St. interceptor near Maple Lane and a 24-inch interceptor near Brantwood and Industrial Drive), and then to the Neenah-Menasha Sewerage District’s regional facility for treatment. The District, Town of Neenah, and City of Neenah signed an agreement in 1988 which outlines future service areas, connection points, and payment parameters and, construction and maintenance policies. Future development will be limited based on a subsequent agreement between the District and the City for the Bell St./Maple Lane connection which allows for 10 million gallons per month. The District currently generates 4.5-5.5 million gallons per month at this connection point. An amendment to the 1988 agreement also specified a 10 million gallon per month maximum flow to the Brantwood/Industrial Drive interceptor.

An additional portion of the District lies along CTH JJ on either side of USH 41. This area was originally known as Sanitary District 1-1 which was created in the 1950’s and was ‘dissolved’ by the Town Board in 2003 and the territory was attached to S.D. No. 2. All lands east of USH 41 are serviced by the City of Neenah under a previous arrangement dating back to the 1950’s, while 57 existing homes in the Cummings Plat, plus some existing homes on Meadow Lane and Tullar Road were recently provided service under an agreement with the City. This agreement also allowed the City to provide sewer service to the new Kohl’s Plaza.

**Town of Neenah Sanitary District 3** - Originally formed in 1971, this District expanded its boundaries in 1993 to incorporate a larger area. The District is located in the northern portion of the Town, west of USH 41 between Larsen Road and STH 150, and encompasses approximately 758 acres. A facilities plan was prepared in 1998 and an intergovernmental agreement with the neighboring Town of Menasha Sanitary District 4 (now Town of Menasha Utility District) was signed in 1994 to provide future service. While the main areas of development in S.D. #3 are actually served through the Town of Menasha Utility District and the Grand Chute/Menasha West WWTF, a small portion of the District, near Oak Ridge Road actually lies within the Neenah/Menasha SSA and Planning Area.

**Sewerage Collection & Treatment System**

The Neenah/Menasha Sewerage Commission was jointly created by the municipalities and sanitary districts within the sewer service area. The Commission's activated sludge plant presently serves the cities of Neenah and Menasha, portions of the Town of Menasha (east of Little Lake Buttes des Morts), the Waverly Sanitary District, and the Town of Neenah Sanitary Districts No. 2 and No. 3. The WWTF is located near the mouth of the Menasha Channel in the City of Menasha at 101 Garfield Avenue. The existing Neenah/Menasha plant was originally constructed in 1937. It was reconstructed in 1987, and has been performing exceptionally well.

The WWTF has a design capacity of 13.0 million gallons per day (mgd) and, according to its 2003 Compliance Maintenance Annual Report; it has received average monthly flows ranging from 7.8 to 13.2 mgd with an average of 10.3 mgd.
Based on the 2003 Compliance and Maintenance Report (CMAR), the plant has pollutant removal efficiencies of 96.4 percent for biochemical oxygen demand and an effluent TSS level averaging 6.51 mg/l. No major operational problems exist at this time and additional permit requirements have been established for residual chlorine and fecal coliform in the facility's discharge permit. Table 1 contains a summary of the WWTFs recent treatment performance, while discharge permit information and design characteristics of the plant are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPDES Permit Number</td>
<td>WI-0026085-07-0</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>June 30, 2007</td>
</tr>
<tr>
<td>Receiving Water</td>
<td>Fox River (Menasha Channel) in Winnebago County</td>
</tr>
<tr>
<td>Design Flow</td>
<td>13.0 mgd</td>
</tr>
<tr>
<td>Average Flow</td>
<td>10.3 mgd (2003 CMAR)</td>
</tr>
<tr>
<td>Treatment Type</td>
<td>Activated Sludge</td>
</tr>
<tr>
<td>Sludge Treatment</td>
<td>Anaerobic Digestion</td>
</tr>
<tr>
<td>Method of Sludge Disposal</td>
<td>Agricultural Land Spreading</td>
</tr>
</tbody>
</table>

The Commission contracts for operation, maintenance and management services for the WWTF to Midwest Contract Operations, Inc. (MCO), a division of McMahon Associates. An original contract was signed in 1988 and a number of contract extensions have occurred since that time.

Wastewater collection is the responsibility of the individual communities and sanitary districts in the Neenah/Menasha area. The collection system consists largely of eight and ten inch gravity sewers. Major interceptor sewers (18 inches or more) located in Neenah lie along the Neenah Slough from Little Lake Butte des Morts south to W. Cecil Street, then from this point south along USH 41 to Breezewood Lane; along Breezewood Lane from Pinehurst Lane on the west to South Park Drive on the east; along the Wisconsin Central railroad tracks from Byrd Avenue north to W. Cecil Street, then east to the Neenah Slough interceptor; along the railroad tracks from Winneconne Avenue north to Main Street, and along the south shore of Little Lake Butte des Morts north to the wastewater treatment plant. Map 7 illustrates the existing wastewater treatment plant location and all interceptor sewers larger than 18 inches.

In Menasha, major interceptor sewers are located along the Wisconsin Central railroad tracks from Appleton Street on the east to the Little Lake Butte des Morts interceptor which runs from Ninth Street on the north to the treatment plant along the shore of the lake; along Konemac Street south to Broad Street, then west along Broad Street and South Water Street to a point immediately downstream of the Menasha Dam; from there, crossing the Menasha Channel and following the channel to the treatment plant.

Major interceptors in the Town of Menasha are located from a point commencing at Stead Drive on the east then running due west to Airport Road and following Airport Road to the Town of Menasha East wastewater treatment plant; along Racine Street from Valley Road on the north to a point just north of Airport Road, then east to the treatment plant; and twin forcemains from the Brighton Beach lift station to the Airport Road interceptor.
Map 7 – Neenah/Menasha SSA – WWTF & Infrastructure Locations
(11 x 17 – b/w)
back of Map 7
# TABLE 1

**Neenah/ Menasha WWTF Performance Summary**

<table>
<thead>
<tr>
<th>Month</th>
<th>INFLUENT</th>
<th>EFFLUENT</th>
<th>BOD Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN</td>
<td>7.854</td>
<td>312</td>
<td>20,437</td>
</tr>
<tr>
<td>FEB</td>
<td>7.835</td>
<td>324</td>
<td>21,171</td>
</tr>
<tr>
<td>MAR</td>
<td>9.404</td>
<td>249</td>
<td>19,529</td>
</tr>
<tr>
<td>APR</td>
<td>9.987</td>
<td>201</td>
<td>16,742</td>
</tr>
<tr>
<td>MAY</td>
<td>13.219</td>
<td>184</td>
<td>20,285</td>
</tr>
<tr>
<td>JUN</td>
<td>10.715</td>
<td>197</td>
<td>17,605</td>
</tr>
<tr>
<td>JUL</td>
<td>10.321</td>
<td>236</td>
<td>20,314</td>
</tr>
<tr>
<td>AUG</td>
<td>12.780</td>
<td>201</td>
<td>21,424</td>
</tr>
<tr>
<td>SEP</td>
<td>9.637</td>
<td>264</td>
<td>21,218</td>
</tr>
<tr>
<td>OCT</td>
<td>8.345</td>
<td>289</td>
<td>20,114</td>
</tr>
<tr>
<td>NOV</td>
<td>12.650</td>
<td>219</td>
<td>23,105</td>
</tr>
<tr>
<td>DEC</td>
<td>10.912</td>
<td>220</td>
<td>20,021</td>
</tr>
</tbody>
</table>

**Total** | **123.659** | **2,896** | **241,964** | **104.25** | **78.06** | 96.40%

**Average** | **10.305** | **241** | **20,164** | **8.69** | **6.51** | 96.40%

\[
\text{Design Flow (mgd)} = \text{BOD Permit Limit (mg/l)} = 13.0 \quad 30 \\
90\% \text{ of Design} = 11.7 \quad 90\% \text{ of Permit Limit} = 27 \\
\text{Design BOD (lb/day)} = 24,573 \quad \text{TSS Permit Limit (mg/l)} = 30 \\
90\% \text{ of Design} = 22,115.7 \quad 90\% \text{ of Permit Limit} = 27
\]

*Note: Average of Monthly flows is 79.3% of design flow.*

Source: Neenah/Menasha Sewerage Commission, 2004

12/3/2004
This lift station pumps wastewater collected from the Waverly Sanitary District and portions of the Menasha Utility District (east). As part of the upgrading of the Neenah/Menasha plant, a new major interceptor was built from the former east side wastewater treatment plant to the intersection of Ninth and Tayco Street in Menasha. From that point to the Neenah/Menasha plant, portions of the interceptor sewer system were rebuilt.

Forecast Growth & Development

Note: See the tables in Appendix C for more detailed information. As shown in Table 2, the 2005 sewered (SSA) population for this SSA was estimated at 60,087 persons, which were housed in a total of 22,263 dwelling units. This corresponds to an average household size of 2.6 persons per dwelling unit. The persons per household are expected to decline somewhat by the year 2030.

**TABLE 2**

<table>
<thead>
<tr>
<th>Projection Type</th>
<th>Year</th>
<th></th>
<th></th>
<th></th>
<th>Change</th>
<th>Change + 10% of increase*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2010</td>
<td>2015</td>
<td>2020</td>
<td>2025</td>
<td>2030</td>
</tr>
<tr>
<td>Total Population</td>
<td>60,807</td>
<td>62,898</td>
<td>64,919</td>
<td>67,447</td>
<td>70,178</td>
<td>72,758</td>
</tr>
<tr>
<td>Total Households (d.u.)</td>
<td>22,263</td>
<td>23,348</td>
<td>24,409</td>
<td>25,524</td>
<td>26,570</td>
<td>27,734</td>
</tr>
<tr>
<td>Total Employment</td>
<td>33,453</td>
<td>26,165</td>
<td>38,876</td>
<td>n/a</td>
<td>47,159</td>
<td>50,643</td>
</tr>
</tbody>
</table>

*This figure is the one utilized as the base projection for the 2030 SSA acreage calculations.
Source: U.S. Census Bureau, 2000; ECWRPC, 2005.

Moderate growth has been projected for the Neenah/Menasha area with the population estimated to increase from 60,807 persons in 2005 to 72,258 persons by 2030, an increase of 11,951 persons. For SSA planning purposes, an additional 1,195 persons (10% of the projected increase) has been added to the base projection for facility design and sizing purposes, bringing the total planned population increase to 13,146.

In 2005, 22,263 dwelling units existed within the SSA, while the year 2030 projection is for 28,281. The projected population increase together with a decline in household size results in a need for 5,471 new dwelling units by the year 2030. This figure, similar to the population figure, was increased by a small amount for planning purposes and has been established at 6,018 dwelling units.
The estimated mix of new residential development over the planning period was based on 2000 U.S. Census Bureau data which estimated 72.0 percent single family, 8.4 percent duplex, and 19.6 percent multi-family. Assuming that this ratio is consistent during the planning period, the corresponding increase in each type of housing unit is expected: 4,332 single-family, 504 duplex, and 1,181 multi-family dwellings.

At an average net residential development density of 3.3 units per acre for single-family, 5.6 units per acre for duplex, and 11.36 units per acre for multifamily, the acreage needed to accommodate residential development totals 1,505 acres. With adjustment factors for necessary infrastructure (roads, etc.) at 15%, as well as the 20% market factor, this calculated need increases to 2,077 acres – 1,809 acres for single family, 124 acres for duplex, and 144 acres for multi-family development.

The acreage needs for commercial/industrial development were determined with labor force growth and employment densities based on the 2005 land use inventory. As shown in Table 1, the labor force is projected to grow from 36,165 employees in the year 2005, to 50,643 employees in the year 2030; an increase of 14,478. Assuming that the current (2005) ratio of 21.68 persons per acre of commercial/industrial land use remains constant, the estimated year 2030 acreage need for commercial and industrial development would be 667.9 acres. With the addition of a 20% market factor, the total need rises to 801.5 acres for the year 2030.

Growth Area Limitations

Potential growth areas to be serviced by the Neenah/Menasha WWTF are somewhat limited by the Grand Chute/Menasha West and Appleton SSAs to the north, and Lake Winnebago to the south and east. Aside from the lake, significant physical development limitations include the Neenah Slough and adjoining floodplain lying west of USH 41 and south of Breezewood Lane. Several quarries, areas of shallow bedrock, wetlands and industrial landfills are among other physical development limitations which exist to the west of Neenah. Shallow bedrock is also present on the east side of USH 41, south of Bell Street. In the northeastern portion of the planning area, wetlands and the floodplain of Lake Winnebago, pose limitations on development east of Oneida Street. Several major drainageways in this area may also limit development options.

Growth Allocation Areas & 2030 SSA

The policy basis for allocating acreage for future development is outlined on page 175. 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, and development plans and preferences of the individual communities (acreage requests) based on locally adopted land use plans. These needs are compared to reasonable projections of future development and, as necessary, these items are balanced with the needs of the community and region so as to minimize inefficiencies in development amounts and patterns.
Priority Development Area Mapping

New to this update was a more thorough request to the communities regarding the phasing, or ‘priority’ of development based on their adopted comprehensive plan. During the working meetings with each DMA and community, a map was developed which indicated their general thoughts of development timing based on their local plan, landowner knowledge and planned capital improvements. Three levels of ‘priority’ were assigned to overall areas requested for addition to the 1997 SSA and can be simply described as follows: #1 – generally felt to develop in the next 5, to possibly 10 years; #2 – generally felt to develop in 10 to 20 years, and; #3 – generally thought to develop in 20 or more years, primarily based on the need for, and timing of, major sewer infrastructure. For the entire SSA, the ‘priority area requests’, were as follows: Priority #1 – 852.9 acres, Priority #2 – 355.6 acres, and Priority #3 - 414.0 acres. Map 8 and Map 9 indicate the ‘priority level’ which was assigned to each community’s acreage request.

While East Central will not formally hold each community to these development priorities, they will serve to remind the Commission, community, and public of the basic thoughts of development timing for the year 2005. It should be noted that East Central may, and in some cases has, recommend that conditions be attached to WDNR sewer extension approvals where needed to deal with conflicts related to development timing issues or to preserve designated environmentally sensitive areas that lie within the growth allocation areas.

Year 2030 Sewer Service Area

The year 2030 Sewer Service Area for the Neenah/Menasha WWTF is illustrated in Maps 9a and 9b contain a total of 16,909 acres. Of this total, 890.4 acres have been designated as environmentally sensitive areas (ESAs) and 4,667 acres are considered to be vacant and available for development. If one removes the vacant acreage that is reserved for public or institutional uses based on community requests (232.4) from this total, a final figure of 4,434.6 acres are left to accommodate traditional residential, commercial, and industrial development. This compares to a calculated vacant acreage need of 2,878 acres for these types of development; therefore, an ‘excess’ of 1,556.4 vacant acres exists within the 2030 SSA. A more detailed listing of SSA allocations is contained in Table 3.

The 1,556.4 acres of ‘excess’ vacant acreage is attributed to several factors, and; after thorough analysis by staff, along with discussions with the affected entities, East Central feels that, although the acreage technically exceeds the projected needs of the SSA, the areas are warranted for the following reasons:

1. The existence of adopted comprehensive plans which were reviewed and certified by East Central under its current SSA policies;
2. The existing of legally binding inter-municipal boundary agreements (Map 12);
3. Knowledge on the rates and locations of recent growth as well as the location of existing or planned infrastructure, and;
4. Sensitivity to local politically driven issues dealing with land use, infrastructure, and development equity.
Map 8a – Neenah/Menasha SSA – Priority Development Areas (Westside) (11x17 color)
### TABLE 3
Neenah/ Menasha SSA - SSA Update Acreage Summary & Comparison

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed</td>
<td>10,880.1</td>
<td>n/a</td>
<td>11,351.8</td>
<td>471.8</td>
<td>n/a</td>
</tr>
<tr>
<td>Vacant (see below for breakdown by proposed land use)</td>
<td>3,149.3</td>
<td>2,878.5</td>
<td>4,667.0</td>
<td>1,517.7</td>
<td>1,788.5</td>
</tr>
<tr>
<td>Vacant/Undevelopable</td>
<td>104.3</td>
<td>n/a</td>
<td>104.3</td>
<td>0.0</td>
<td>n/a</td>
</tr>
<tr>
<td>Environmentally Sensitive Area</td>
<td>524.2</td>
<td>n/a</td>
<td>702.1</td>
<td>177.9</td>
<td>n/a</td>
</tr>
<tr>
<td>Water</td>
<td>56.7</td>
<td>n/a</td>
<td>83.9</td>
<td>27.2</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total SSA</strong></td>
<td><strong>14,714.6</strong></td>
<td><strong>2,878.5</strong></td>
<td><strong>16,909.2</strong></td>
<td><strong>2,194.6</strong></td>
<td>n/a</td>
</tr>
</tbody>
</table>

### Vacant Land By Proposed Land Use Type

<table>
<thead>
<tr>
<th>Vacant Land By Proposed Land Use Type</th>
<th>2020 SSA (2005 conditions)</th>
<th>2030 SSA Projection</th>
<th>2030 SSA (2005 conditions)</th>
<th>2020-2030 Difference</th>
<th>&quot;Excess&quot; (2030-projection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential (incl. duplex)</td>
<td>1608.9</td>
<td>1933.5</td>
<td>2,470.4</td>
<td>861.5</td>
<td>537.0</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>52.5</td>
<td>143.5</td>
<td>73.2</td>
<td>20.7</td>
<td>(70.4)</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>958.3</td>
<td>801.5</td>
<td>1,339.1</td>
<td>380.8</td>
<td>537.6</td>
</tr>
<tr>
<td>Public Institutional</td>
<td>193.7</td>
<td>n/a</td>
<td>232.4</td>
<td>38.7</td>
<td>n/a</td>
</tr>
<tr>
<td>Agriculture/Undeveloped (assumed to be SF Res.)</td>
<td>335.9</td>
<td>n/a</td>
<td>551.9</td>
<td>216.0</td>
<td>551.9</td>
</tr>
<tr>
<td><strong>Total Vacant Acreage</strong></td>
<td><strong>3149.3</strong></td>
<td><strong>2878.5</strong></td>
<td><strong>4,667.0</strong></td>
<td><strong>1,517.7</strong></td>
<td><strong>1,788.5</strong></td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005
A summary of the sewer service area allocations is contained in Table 3, while more detailed acreage figures and comparisons are provided in Appendix C. A short description of the major acreage allocations and growth areas are provided below:

- **T. Harrison/C. Menasha (East)** - Relatively little developable acreage remains between Oneida Street on the east and Little Lake Butte des Morts on the west. This area, served by both the City of Menasha and the Town of Menasha Utility District is projected to be fully developed within the planning period. Spill-over growth has been allocated east of Oneida Street in the Town of Harrison and City of Menasha. Major growth areas along CTH LP, USH 10/114, and Woodland Road will be facilitated by additional transportation projects such as the extension of Midway Road and Eisenhower Road during the planning period. Sewer service will be provided to the area by the Waverly Sanitary District. The city and sanitary district have negotiated an agreement which provides for service in both jurisdictions.

- **City/Town of Neenah Area (West)** - Major new acreage allocation areas exist west of USH 41 and include lands north and south of CTH G and west of the Neenah Slough wetland/floodplain complex. Additional residential growth will occur east of USH 41, south of Breezewood Lane. Much of this area is also targeted for expansion of the Neenah Industrial Park and additional industrial development along Dixie Road. New development in the Town of Neenah area will consist of infill development and new growth in either the CTH A and Muttart Road area (east of USH 41), or west of USH 41, near the Oak Ridge Road and Breezewood Lane areas. The Town’s growth areas are dictated by a boundary agreement with the City of Neenah.

**SSA “Hold Areas” & Descriptions**

During the SSA Plan Update process, several areas were identified as having some type of ongoing land use or service provision issue. These areas, identified as temporary ‘hold areas’ (Maps 9a and 9b) are, for the plan update purposes, going to be considered as part of the 2030 SSA and are recommended for approval by the Commission and the WDNR. Within these temporary ‘hold areas’, East Central staff will not consider approving any public sewer extension (i.e. ‘208’ WQM Letter) and would recommend against any development proposal within these areas until the issue(s) are adequately resolved (either at the local, county, or Commission level). The temporary ‘hold’ status can be removed by action of the Community Facilities Committee, at a regularly scheduled meeting, upon documentation being provided which adequately addresses the issue(s) at hand. Short descriptions of these areas, as well as the conditions that apply, are listed below:

**Town of Neenah – Oakridge Road Area:** This area was better defined during the update process in terms of the Planning Area Boundary, which ultimately determines which WWTF will service the area. Based on discussions with the Town, future commercial and industrial development is planned for a majority of this area; however, its current ‘Commission certified’ comprehensive plan illustrates the area as remaining in ‘agriculture’. *East Central would lift the ‘hold status’ upon documentation that the Town’s locally adopted comprehensive plan is modified to reflect a use other than ‘agriculture’ for these areas.*
Map 9a- Neenah/Menasha SSA - Year 2030 Sewer Service Area (Westside) (11x17 - color)
Map 10 - Neenah/Menasha SSA - Existing Growth & Service Area Agreements (11x17 color)
• City of Menasha: The City has yet to have its comprehensive plan ‘certified’ by the Commission, and; technically, based on current policy no additional SSA allocations are allowed. However, due to the previous involvement of the Commission in preparing the City’s plan and complications arising from its past relationship on this project, the Commission is willing to consider allowing approximately one-half of the acreage allocation at this time, with the ‘hold’ status being placed on the balance of the acreage until such time that the City successfully completes its planning activities in conjunction with Calumet County. The hold status would be lifted as soon as the Commission certifies the City’s comprehensive plan. In the interim, the Commission would consider allowing internal ‘swaps’ of acreage in order to provide additional flexibility under this requirement.

• Town of Harrison: This area is planned ultimately to receive sewer service from the Waverly Sanitary District, however; a second major lift station would be needed to transport wastewater. Based on recent issues, the District and Town will need to better determine the timing and financing aspects of this lift station construction. East Central would lift the ‘hold status’ from this area upon documentation on the sizing, and timing of lift station improvements, as well as information which illustrates that the District and Town have adequately addressed long-term financing issues associated with the expansion.

• Town of Harrison/City of Appleton: This area was previously designated with the ‘hold’ status due to ongoing conflicts between the City of Appleton’s and Town of Harrison’s adopted comprehensive plans. These issues include objections by the City of Appleton on specific land use designations within both the town and city growth areas as defined by their agreement. East Central would lift the ‘hold’ status once evidence is presented regarding the resolution of these issues at the local level.

Holding Tank Service Areas
There are a number of sewage holding tanks and individual on-site septic systems within the Neenah/Menasha Planning Area. According to Wisconsin Administrative Code NR113 septic pumpage from these systems is directed to the regional treatment facility. In addition, large holding tanks exceeding 3,000 gallons per day need a special holding tank service area designation.

There are no large holding tanks present in the Neenah/Menasha Planning Area. A complete inventory of existing private on-site holding tanks and septic systems is not available from Calumet and Winnebago counties for development within the planning area.

Water Quality Assessment & Development Impacts
Continued urbanization of the Neenah/Menasha area will impact surface and groundwater resources. Surface water runoff and pollutant loadings are likely to increase, and groundwater recharge is likely to decrease. 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.
**Point Source Impacts**

Population growth and commercial/industrial development will increase loadings to the Neenah/Menasha WWTF, and ultimately to the Lower Fox River system. Without a more detailed 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. However, a general estimate comparing existing average daily flows of current development to a percentage increase in overall future development, based on locally adopted land use plans (Maps 10 and 11) can be made.

The current WWTF is designed for 13.0 mgd and existing flows average 10.3 mgd, leaving a design capacity of 2.7 mgd. Based upon East Central’s analysis (Appendix C), the average flows are expected to increase by 2.81 mgd which is slightly above the design capacity of the treatment facility. Since not all of the acreage within the SSA is expected to develop within the planning time-frame, the existing WWTF should be able to adequately accommodate expected development out to 2030.

Impacts of increased discharge levels will be periodically evaluated by the Department of Natural Resources in conjunction with WPDES permit renewals. Assimilative capacity of the receiving water will be used under high temperature/low flow (wasteload allocation) conditions to establish discharge limits to maintain water quality standards.

**Non-point Source Impacts**

Surface water runoff and pollutant loadings will increase with the forecast growth for the 2020 sewer service area. The placement of roads, buildings and parking areas increase the amount of impervious area, and hence, more water runs off the land surface carrying organic and inorganic pollutants associated with these more intensive urban uses. The WDNR has general guidelines for estimating unit area loadings of pollutants by land use categories. Within the Neenah/Menasha SSA four pollutants have been analyzed for seven land use categories for both existing development and a fully developed state.

The estimated annual pollutant loadings for the existing development areas (based on November 2004 land use) within the Neenah/Menasha Sewer Service Area are listed in Table 4. The land uses within this area consist primarily of older development with significant infrastructure and stormwater mitigation is therefore more difficult and costly in these areas.

Table 5 lists the future annual pollutant loadings expected based on the total amounts of development which could occur by 2030 within the Neenah/Menasha 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. 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.
Map 11a - Neenah/Menasha SSA - Year 2030 SSA & Proposed Land Use (Westside) (11x17 - color)
Map 11b- Neenah/Menasha SSA – Year 2030 SSA & Proposed Land Use (Eastside) (11x17 – color)
Back of map 11b
### TABLE 4
Neenah/Menasha SSA - Existing (2005) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>Acres</th>
<th>Development Type</th>
<th>Sediment</th>
<th>Phosphorus</th>
<th>Zinc</th>
<th>Lead</th>
<th>Sediment</th>
<th>Phosphorus</th>
<th>Zinc</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,976.5</td>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>190.0</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>945,525.5</td>
<td>2,488.2</td>
<td>995.3</td>
<td>995.3</td>
</tr>
<tr>
<td>305.2</td>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>420.0</td>
<td>1.0</td>
<td>0.7</td>
<td>0.8</td>
<td>128,164.0</td>
<td>305.2</td>
<td>213.6</td>
<td>244.2</td>
</tr>
<tr>
<td>715.3</td>
<td>Commercial (strip/downtown)</td>
<td>1,400.0</td>
<td>1.5</td>
<td>2.1</td>
<td>2.7</td>
<td>1,001,378.0</td>
<td>1,072.9</td>
<td>1,502.1</td>
<td>1,931.2</td>
</tr>
<tr>
<td>948.8</td>
<td>Manufacturing Industries</td>
<td>900.0</td>
<td>1.5</td>
<td>2.1</td>
<td>2.4</td>
<td>853,947.0</td>
<td>1,423.2</td>
<td>1,992.5</td>
<td>2,277.2</td>
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<tr>
<td>2,720.2</td>
<td>Freeways / Local Roads</td>
<td>600.0</td>
<td>0.9</td>
<td>1.9</td>
<td>2.5</td>
<td>1,632,114.0</td>
<td>2,448.2</td>
<td>5,168.4</td>
<td>6,800.5</td>
</tr>
<tr>
<td>3,777.8</td>
<td>Undeveloped / Vacant</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>68,004.8</td>
<td>27.2</td>
<td>0.0</td>
<td>13.6</td>
</tr>
<tr>
<td>1,214.1</td>
<td>Institutional / Governmental</td>
<td>700.0</td>
<td>0.5</td>
<td>0.6</td>
<td>1.1</td>
<td>849,877.0</td>
<td>607.1</td>
<td>728.5</td>
<td>1,335.5</td>
</tr>
<tr>
<td>14,657.9</td>
<td>TOTALS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6,703,115.8</td>
<td>10,330.5</td>
<td>11,144.4</td>
<td>14,168.7</td>
</tr>
</tbody>
</table>

Tons | 3351.56 | 5.17 | 5.57 | 7.08 |

Source: ECWRPC, 2005

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

### TABLE 5
Neenah/Menasha SSA - Future (2030) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>Acres</th>
<th>Development Type</th>
<th>Sediment</th>
<th>Phosphorus</th>
<th>Zinc</th>
<th>Lead</th>
<th>Sediment</th>
<th>Phosphorus</th>
<th>Zinc</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,223.4</td>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>190.0</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>1,562,442.2</td>
<td>4,111.7</td>
<td>1,644.7</td>
<td>1,644.7</td>
</tr>
<tr>
<td>378.3</td>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>420.0</td>
<td>1.0</td>
<td>0.7</td>
<td>0.8</td>
<td>158,889.6</td>
<td>378.3</td>
<td>264.8</td>
<td>302.6</td>
</tr>
<tr>
<td>1,172.3</td>
<td>Commercial (strip/downtown)</td>
<td>1,400.0</td>
<td>1.5</td>
<td>2.1</td>
<td>2.7</td>
<td>1,641,288.4</td>
<td>1,758.5</td>
<td>2,461.9</td>
<td>3,165.3</td>
</tr>
<tr>
<td>2,043.5</td>
<td>Manufacturing Industries</td>
<td>900.0</td>
<td>1.5</td>
<td>2.1</td>
<td>2.4</td>
<td>1,839,170.1</td>
<td>3,065.3</td>
<td>4,291.4</td>
<td>4,904.5</td>
</tr>
<tr>
<td>2,662.1</td>
<td>Freeways / Local Roads</td>
<td>600.0</td>
<td>0.9</td>
<td>1.9</td>
<td>2.5</td>
<td>1,597,281.3</td>
<td>2,395.9</td>
<td>5,058.1</td>
<td>6,655.3</td>
</tr>
<tr>
<td>806.4</td>
<td>Undeveloped / Vacant</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>20,161.2</td>
<td>8.1</td>
<td>0.0</td>
<td>4.0</td>
</tr>
<tr>
<td>1,539.1</td>
<td>Institutional / Governmental</td>
<td>700.0</td>
<td>0.5</td>
<td>0.6</td>
<td>1.1</td>
<td>1,077,380.1</td>
<td>728.5</td>
<td>923.5</td>
<td>1,693.0</td>
</tr>
<tr>
<td>16,825.3</td>
<td>TOTALS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,896,613.0</td>
<td>12,487.3</td>
<td>14,168.7</td>
<td>18,369.5</td>
</tr>
</tbody>
</table>

Tons | 3948.31 | 6.24 | 7.32 | 9.18 |

Source: ECWRPC, 2005

Note: Total SSA acres is less than previously noted due to water features not being included in these calculations.
Groundwater Impacts
A United States Geological Survey study on groundwater and aquifer conditions for the Fox Valley region was completed in 1998. Findings of this study have determined that the deep aquifer (sandstone deposits), which provides high capacity wells, is recharged from the west and northern edges of the Fox Cities urban area. 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. According to U.S.G.S. reports, the deep sandstone aquifer in the Fox Cities area is declining at a rate of **two feet per year**.

The Neenah/Menasha SSA communities receive their potable water from the Lake Winnebago surface water. The City of Menasha operates a treatment plant and also provides water to the Town of Menasha Utility District and the Waverly Sanitary District. The City of Neenah operates a treatment plant for its own use and is currently in the process of constructing a new facility. The Town of Neenah sanitary districts currently rely on private individual wells. Increases in withdrawals are anticipated for private commercial/industrial high capacity wells. While there are no significant negative groundwater impacts anticipated with increased development in the service area, there may be localized impacts as areas continue to develop.

Water Quality Protection & Stormwater Management
Various local and county governments within the Neenah/Menasha SSA have been very active in stormwater management planning and implementation activities since the last SSA update occurred in 1997. These activities have been noted in the Designated Management Area Descriptions section of the report. In summary, provisions to 1997 Wisconsin Act 27 and 1999 Wisconsin Act 9 required the Department of Natural Resources (DNR) to establish performance standards to control non-point source pollution, a threat to Wisconsin’s water resources. As of October 1, 2002 Wisconsin’s Runoff Management Rules that need to be addressed by local units of government are encompassed in NR 120, 151, 152, 153, 154, 155, 216, and 243 (See Appendix D for an overview of these Administrative Codes).

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, and request the WDNR to attach such conditions to any sewer extension approval for the proposed development.

A variety of local and county-wide stormwater management planning activities have been accomplished or are ongoing in nature. Appendix D contains general info on the state’s stormwater planning requirements.
East Central recommends receipt of preliminary subdivision plats for review for a conformance check with the sewer service area and water quality plan. Recommendations are made for final plat approval concerning water quality and stormwater management as well as 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, and 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.

**Plan Implementation & Recommendations**

Although sewer service area planning was initiated at the state and federal levels, successful implementation of each plan rests at the local level. In the state-approved Areawide Water Quality Management Plan for the Fox River Valley, 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 Neenah/Menasha Sewerage Commission, the cities of Neenah and Menasha, the Town of Menasha S.D. No. 4, the Waverly S.D., and the Town of Neenah Sanitary Districts 1-1 and 2 were so designated.

The functions of these entities concerning sewerage system management are shown below:

<table>
<thead>
<tr>
<th>Governmental Unit</th>
<th>Category of Designation</th>
<th>Management Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neenah/Menasha Sewerage Commission</td>
<td>II</td>
<td>Wastewater Treatment</td>
</tr>
<tr>
<td>City of Neenah</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>City of Menasha</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Menasha Utility District</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Waverly Sanitary District</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Neenah S.D. No. 2</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Neenah S.D. No. 3</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
</tbody>
</table>
As designated management agencies for wastewater treatment and collection the above-mentioned jurisdictions should do the following:

1. Adopt the Neenah/Menasha sewer Service Area Plan update;

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 to review proposed extensions for consistency with sewer service area plans prior to being submitted to the WDNR for approval;

5. Submit wastewater facilities plans and plan amendments 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.

In addition to 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.

1. All communities should review and address issues and recommendations identified in the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001).

2. Monitor development amounts and rates to better determine the need for WWTF Facility Planning. As noted earlier, if any such plan is needed, it would likely be necessary in the latter portion of the 25 year planning period.

3. Continue to address issues and regulatory methods for the management of on-site system development within the 2050 Planning Area to better recognize the existing investment in sewer infrastructure.

4. Complete and/or update as necessary, local and county ‘smart growth’ comprehensive plans and incorporate information as necessary from the 2030 SSA Plan.
GRAND CHUTE/MENASHA WEST SEWER SERVICE AREA

Planning Area Description

The updated Grand Chute/Menasha West SSA Planning Area covers approximately 57.0 square miles (as compared to 45.7 in 1997) and is located in southwestern Outagamie and northern Calumet Counties. As illustrated on Map 15, the updated boundary extends from the City of Appleton on the east and encompasses lands north and west of the Fox River out to, or past, USH 76 in the Towns of Greenville and Clayton. The northern boundary extends to CTH JJ in Outagamie County while it reaches southward to Oak Ridge Road in the Town of Neenah (Winnebago County). The Planning Area encompasses portions of the City of Appleton, Town of Grand Chute and Town of Greenville in Outagamie County, and portions of the Town of Menasha, Town of Clayton, City of Neenah, and Town of Neenah in Winnebago County.

The Planning Area is defined based on individual, or combinations of factors, including, but not limited to representations of: the "ultimate service" area of the treatment plant based on capacity; the extent of planned service areas for individual lift stations or interceptor sewers, and/or; the proximity of nearby clusters of development currently using on-site systems which may have long-term (20+ years) needs for sanitary sewer. Map 12 illustrates the previous (1997 plan) Planning Area along with the proposed modifications to the Planning Area Boundary made in this update. These adjustments were developed and proposed by staff after a thorough review of information pertaining to the existing and planned wastewater collection system, as well as through discussions with each Designated Management Agency during the plan development process. Each modification is discussed below:

- **Planning Area Additions/Expansions:** Several areas are proposed for inclusion in the Planning Area in order to better reflect the ability of the DMAs to actually provide service to these areas. Based on technical information for existing interceptor sewers and lift stations, the following areas have been proposed for inclusion in the Planning Area:

  1. North of CTH JJ, between Lynndale Drive (CTH A) and Richmond St. (STH 47): This area is being added as the Town of Grand Chute S.D.#2 can provide gravity sewer service to the eastern portion through the extension of the existing 24-inch Gilett Street interceptor, while the western portion is within the existing Town Hall Lift Station service area.

  2. North of Everglade Road in the Town of Greenville and Town of Grand Chute. These areas are capable of being serviced using gravity sewers extending from the Greenville Sanitary District No. 1 (west of Mayflower Drive) and the Town of Grand Chute Sanitary District No. 2's 15-inch McCarthy Road interceptor sewer (east of Mayflower Drive). The Everglade Lift Station is in the process of being upgraded and will be at a depth capable of servicing lands up to, and possibly beyond, Mayflower Drive (town line).

  3. Generally located west of Julius Road and north and west of the Outagamie Co. Airport: This large area represents the ability of the Greenville Sanitary District No. 1 and the Town of Menasha Utility District to ultimately provide gravity sewer service to these outlying areas, including portions of the Town of Clayton, through the use of existing lift stations and gravity sewers. Portions west of the airport, northward
to STH 15 are within the Greenville Sanitary District’s Lift Station #2 service area, while areas north of STH 15 are within the Everglade Road Lift Station service area. The Town of Menasha’s 21-inch Cold Spring Road interceptor can be extended westerly to pick lands north of East Shady Lane, while its 18-inch American Drive interceptor sewer can accommodate lands between East Shady Lane and USH 10. The western extent of the updated Planning Area closely represents the actual ability to extend gravity sewer to these points using existing infrastructure. In order to extend sewer further to the west, additional lift stations (and possibly pipe upgrades) would be required.

4. North of Oakridge Road, west of USH 41: Located in the Town of Neenah, this area was recently determined to be cost-effectively serviced through the extension of gravity sewers from the Town of Menasha Utility District’s 18-inch North Road interceptor. This area was previously located in the Neenah/Menasha Planning Area, but is being switched to the Grand Chute/Menasha West Planning area based on the engineering report’s conclusions.

   - **Planning Area Deletions/Removals:** Three areas are proposed for removal from the SSA based on the inability of sewer to be extended in the long-term as follows:

      1. An area of wetlands located within the Town of Grand Chute, between Lynndale Drive and Casaloma Drive, would be removed, as this area is considered to be an Environmentally Sensitive Area.

      2. Areas generally located west of USH 76 (old USH 45) would be removed due to the presence of a ridgeline which would prevent the extension of gravity sewer service. New lift stations would be needed in order to extend sewer to the west using the 21-inch Jacobsen Road interceptor sewer or the 18-inch North Road interceptor sewer.

   - **Undefined Planning Area Designations:** Two areas have been designated as being ‘undefined’ in nature, since more than one DMA’s collection system can potentially provide sewer service to the lands. For the 2030 SSA Plan, this area would be considered to part of the long term Planning Area Boundary (and may even be within the actual SSA, once completed), however; a ‘hold’ status would be applied for all sewer extension request until such time that proper information is submitted to East Central and the WDNR to determine the cost-effectiveness of various service alternatives. These areas are described as follows:

      1. An area located wholly within the Town of Grand Chute which has the ability to be provided sewer service through either the Town Grand Chute Sanitary District No. 2’s existing 15-inch McCarthy Road interceptor sewer, or through the Town of Greenville Sanitary District’s gravity system which utilizes the Everglade Lift Station.

      2. An area located south of Winchester Road and west of Clayton Avenue in the Town of Menasha which potentially could be served by either the Menasha Utility District, or the City of Neenah through its Breezewood interceptor sewer.
Map 12- Grand Chute / Menasha West SSA - Year 2050 Planning Area Boundary (11 x 17 b/w)
Back of map 12
Land Use and Development

The Grand Chute-Menasha West SSA is located in the Lower Fox River Basin and Wolf River Basin. The northeast and eastern areas are located in the Fox River-Appleton and Mud Creek Subwatersheds. The northwest area is located in the Wolf River/New London and Bear Creek Watershed, which are part of the Wolf River Basin.

The majority of the Grand Chute/Menasha West Sewer Service Area consists of development initiated in the mid-1960s. Sanitary districts were formed in the late 1960s to provide wastewater collection and treatment to existing residential areas and address problems of individual commercial/industrial septic systems which were primarily in the Town of Grand Chute. At that time, what was known as the Town of Menasha S.D. No. 4, west of Little Lake Butte des Morts, served only a small area of existing development when the original westside treatment facility was constructed.

As updated in 2005 and shown on Map 13, the 2030 SSA contains 22,553 acres of land of which 14,309.3 (63.4%) are considered to be developed. The developed lands can be described as follows: 4,436.6 acres of residential land use (19.7% of total SSA); 1,635 acres of commercial land use (7.2% of total SSA); 1,712.2 acres of industrial use (7.6% of total SSA); 4,057.8 Acres of transportation/road use (18% of total SSA); and 1,146.1 acres of public/institutional/utility use (5% of total SSA). The remaining 9,317.7 acres lands were either in low intensity agricultural or undeveloped uses of ESA.

Environmentally Sensitive Areas

There are several large tracts of environmentally sensitive lands within the Grand Chute/Menasha West planning area, as well as many stream courses which have been designated environmentally sensitive as shown on Map 14. The northwest (Greenville S.D.) portion of the service area contains parts of two major environmentally sensitive areas. These areas consist of large wetland complexes with both inlet and outlet feeder streams which are tributary to the Bear Creek Watershed.

In the northern portion of the planning area (Grand Chute S.D.) there is a large wetland complex referred to as the "Center Swamp" which is also part of the Bear Creek Watershed. A major portion of this wetland has been preserved as the Buboltz Nature Center. In the central portion of the planning area southeast of the Outagamie County Airport, there is a large wetland area which has been identified as environmentally sensitive and which is primarily surrounded by development. Additionally, a number of major stream courses and many minor streams and drainageways within the Grand Chute S.D. area have been designated environmentally sensitive. A number of streams in this area have been modified or completely removed as a result of urban development in the 1960's & 1970's the function of these environmental corridors has been lost. These areas are part of the Mud Creek Subwatershed.

Within the southern (west side Town of Menasha) portion of the planning area, the majority of areas designated environmentally sensitive are associated with Little Lake Butte des Morts. A significant area is the Stroebel Island wetland complex which is associated with the outlet of Mud Creek, another significant environmental area which drains a majority of the land within the sewer service area.
Lands with Limiting Environmental Conditions

Lands with environmental conditions that may impact development include areas with seasonal high groundwater, steep slopes, high bedrock and floodplains as illustrated on Map 14. There are a number of major wetland complexes and streams scattered throughout the planning area. In most instances the streams do not have deep ravines with steep side slopes with the exception of the lower reaches of Mud Creek.

Seasonal high groundwater is associated with most of the stream channels throughout the planning area. A large area of high groundwater is located along Casaloma Drive south of CTH A in the Grand Chute Sanitary District. High groundwater is also associated with most of the large wetland complexes.

Areas of high bedrock are prevalent in the southern portion of the planning areas in the Town of Menasha and Town of Neenah. This bedrock is located in the developing area and, while increasing development costs, has not impeded development over the last twenty years. Many quarries also exist within this area.

Areas of floodplains are minor and generally located along the shore of Little Lake Butte des Morts.

Designated Management Area Descriptions

Map 15 illustrates the existing Designated Management Areas (DMAs) within the Grand Chute/Menasha SSA. DMAs are the legal entities (communities, sanitary districts, or utility districts) that are responsible for the collection or treatment of wastewater. Within the SSA Planning Area, there are fifteen governmental entities which exist, five of which are DMAs:

5. Greenville Sanitary District No. 1* 10. Grand Chute/Menasha West Sewerage Commission*

* indicates DMA designation

Short descriptions of each DMA, including basic information on their involvement in land use planning, stormwater management planning, and intergovernmental cooperation activities, is contained below:
Town of Greenville S.D. #1 - The Town of Greenville is located in the northwestern portion of the GCMWSSA, and is generally centered on the intersection of USH 15 and STH 76. Residential uses are prominent near the USH 15 and STH 76 area along with a limited amount of commercial development along these highways. Most new residential growth is planned to occur in the northeastern portion of the Town, within the boundaries of the existing, or expanded, Greenville Sanitary District. Most development is expected to be single-family in nature although some scattered duplex units and multi-family units are called for. Industrial development is located in the southeastern portion of the Town in close proximity to the Outagamie County Regional Airport.

An intergovernmental agreement was entered into in March, 1994 between the Town of Menasha S.D. #2 (now T. Menasha Utility District) and the Town of Greenville Sanitary District to share construction costs and capacity in a 24-inch interceptor sewer along a portion of CTH BB (Prospect Ave.) as well as a 42-inch relief sewer which transports wastewater to the Grand Chute/Menasha West WWTF.

Town of Grand Chute S.D. #2 - The Town of Grand Chute is located in the northern portion of the GCMWSSA, west of the City of Appleton, and is bisected by USH 41. The Town consists of a relatively even mix of residential and commercial development, with most businesses clustered near the Fox River Mall and areas along the USH 41 and College Avenue corridors. A significant amount of multi-family development exists within the Town. Several industrial and quasi-industrial uses exist to the west of the Fox River Mall and within portions of the Town east of CTH A along the railroad corridor, as well as in the southwest corner of the Town along Prospect Avenue (CTH BB). Several parks, trails, and community-oriented uses, such as the Fox Valley Technical College, are scattered throughout the Town while the center of local government is located in a new building north of USH 41 off of CTH A.

The Town of Grand Chute S.D 2 is part of an intergovernmental agreement with the neighboring City of Appleton to define permanent municipal boundaries as well as sewer service areas. A March, 1992 agreement with the City of Appleton outlined the permanent boundary between the two entities, which created both town and city growth areas, as well as provisions for accommodating wastewater from certain portions of the City.

Town of Menasha Utility District - The Town of Menasha is located in the south-central portion of the GCMWSSA, and is generally centered along USH 10 and CTH CB. The Town consists of a mixture of residential, industrial, and agricultural developments. Most of the existing development is located in the eastern and central portions of the Town. Residential uses are prominent near the USH 15 and STH 76 area along with a limited amount of commercial development along these highways. Industrial development is located in the southeastern portion of the Town in close proximity to the Outagamie County Regional Airport. Several major park facilities exist within the Town and the center of local government is located north of USH 15 and east of USH 76.

The Town of Menasha does not have any intergovernmental agreements with neighboring communities with respect to permanent boundary establishment or future growth areas. Neighboring communities are not incorporated and therefore the threat of annexation does not exist at this time. Agreements do exist with the Town of Neenah Sanitary District No. 3 to provide sewer service.
Clayton Sanitary District No. 1 - The Clayton Sanitary District No. 1 is generally located within the southeast portion of the GCMWSSA, and is centered along Winchester Road. Anticipated commercial and Industrial growth is projected along the Canadian National Railroad corridor. Residential development is expected to continue along Jacobson Road and STH 76. The Breezwood Lane Service area is an undefined service area located just south of the District's boundaries. The District is not operational at this time and does not actually provide sewer, although discussions continue with neighboring entities as to how service would ultimately be provided and paid for.

Neenah Sanitary District No. 3 - The Neenah Sanitary District No. 3 is an approximate 256 acre area along the south border of the GCMWSSA. The District contracts the Town of Menasha Utility District for the transport of wastewater through its system to the GCMW WWTF. Commercial development east of CTH CB and south of CTH O is projected while areas west of CTH CB and south of Winchester Road will remain in an undeveloped state for some time.

Grand Chute/Menasha West Sewerage Commission - The GCMW Sewerage Commission is the DMA responsible for operating the GCMW Wastewater Treatment Facility. The Commission does own portions of infrastructure transporting waste to the treatment facility located on the west shores of Little Lake Butte des Morts.
Map 13 - GCMW - 2005 Existing Land Use
(11x17 color)
Back of map 13
Map 14  ESAs and Limiting
(11x17 color)
Back of map 14
Back of map 15
**Sewerage Collection & Treatment System**

The Grand Chute/Menasha West Sewer Service Area was previously served by two wastewater treatment facilities. The Grand Chute S.D. No. 2 was served by a treatment facility located north of Stroebe Island on Little Lake Butte des Morts. This plant was abandoned in 1983. The Town of Menasha S.D. No. 4 was served by a treatment facility located on the west shore of Little Lake Butte des Morts. This plant was constructed in 1970 and reconstructed into a regional plant in 1983 and now treats waste from the entire service area. As part of the regional project, a major interceptor sewer was constructed from the abandoned Grand Chute plant to the regional plant. The regional plant and interceptor are managed and controlled by the Grand Chute/Menasha West Sewerage Commission. The collection and treatment system is illustrated in Map 19.

Discharge permit information and design characteristics of the regional plant are as follows:

- **WPDES Permit Number:** WI-0024686-4
- **Expiration Date:** September 30, 2008
- **Receiving Water:** Fox River
- **Design Flow:** 5.24 mgd (8.00 peak flow)
- **Average Flow:** 5.0913 mgd
- **Treatment Type:** Secondary treatment by activated sludge process with effluent limits for BOD, TSS, pH, Res. Cl., TP, NH3-N, and seasonal Fecal Coli.
- **Sludge Treatment:** Auto-thermo aerobic digestion
- **Sludge Disposal:** Agricultural land spreading

The treatment facility generally meets permit limits for all parameters. Facility planning was completed in 1992 and plant upgrading completed in 1994 culminating over five years of planned improvements. The construction included rebuilding the plant headworks, constructing new grit removal facilities, construction of primary clarifiers and final clarification, modification of the activated sludge and solids handling systems, and the installation of a new UV disinfection system. The plant was designed on the basis of a 30 day maximum flow of 8.0 mgd.

Within the Grand Chute S. D. the old treatment plant was abandoned and replaced by a major regional interceptor to the regional plant. The regional interceptor has been sized to accommodate flows from the northern portion of the service area through the year 2025. Also within the Grand Chute S. D. a major interceptor was constructed along Casaloma Drive to serve newly developing areas west of USH 41 and sewage flows from the Greenville S.D. This interceptor can also be used as a relief sewer or bypass sewer once flows east of USH 41 become too great for the existing undersized interceptor system. The Grand Chute S. D. currently operates two small sewage lift stations within the service area. One is located in the northern portion of the sanitary district and one in the southwest portion. The sanitary district also operates a major lift station in the northeast portion of the district. This portion of the sanitary district is east of STH 47 and within the Appleton Sewer Service Area.
The Greenville S.D. sewerage collection system was constructed in 1984 and became operational in 1985. One major interceptor was constructed between the unincorporated community of Greenville and the Grand Chute S.D. existing system. Two lift stations are required to serve portions of the district. A new interceptor system has been planned for, and portions constructed in the NE ¼ of section 15, T.21 N – R.16 E, along Meadow Park Drive, south of STH 15 and north of School Road. Areas to the west and south west of Municipal Drive and STH 15 will be serviced through an approved 2,600 foot 18 inch interceptor and by a planned future approximate 2,000 feet 15” inch interceptor.

The Town of Menasha Utility District’s sewerage system has five major interceptors sewers. Two large interceptors serve areas to the south of the treatment facility; one serves the area to the east of USH 41 and the other the area to the west. The third interceptor transports flow directly from the west of the treatment plant. This sewer can also serve areas to the north which are west of USH 41. The District has completed considerable interceptor expansion and renewal. The old American Drive Interceptor was abandoned and replaced with the Westside Interceptor, a large 42 inch serving a significant area to the southwest. Also, a 36 inch and an 18 inch interceptor was constructed on Cold Spring Drive. The district operates three lift stations and forcemains serving the Stroebe Island, Northern Road to CTH BB and the HWY 150 areas. The construction of new interceptors to relieve surcharging conditions in several portions of the existing system and the new lift station and forcemain in the vicinity of STH 150 were part of the recommended improvements.

While infiltration and inflow were problems in many of the sewered areas, the District has been extremely active in undertaking a program of I/I removal. The interceptor system improvements discussed above together with sewer rehabilitation are vastly improving capabilities to handle peak flows.

The Town of Neenah S.D. No. 3 was created in 1998 to serve an existing residential area on the southwest border of the planning area. The district is 197.8 acres in size and contains 36.2 acres of residential, 51.9 acres of commercial and 13.1 acres of industrial development. Only the northeastern portion of the District is provided by sewer at this time. Service is planned southward to Oakridge Road by the year 2030. The planning area is located north of Oakridge Road and south of CTH II. The 197 acres is crossed by CTH CB running north and south and CTH O which runs northwest and southeast though the planning area.

The Town of Clayton S.D. is an inactive district on the southwest boundary of the planning area. The district is 517.81 acres in size and is largely underdeveloped, with the majority of residential development south of USH 441 and west of Clayton Ave.

A small portion of the City of Appleton is also within the service area. It consists of 18.3 acres of residential and 73 acres of commercial developed lands and totals 186.1 acres in area. The City of Appleton’s boundary portion parallels STH 47 to the west and Association Drive to the east and lies s between USH 41 and Capital Drive.
### TABLE 6
**Grand Chute / Menasha West WWTF Performance Summary**

<table>
<thead>
<tr>
<th>Month</th>
<th>Avg. Monthly Flow (mgd)</th>
<th>Daily Avg. (C)BOD Concentration (mg/l)</th>
<th>Avg. Monthly BOD Loading (lbs/day)</th>
<th>Daily Avg. (C)BOD (mg/l)</th>
<th>Avg. Monthly TSS (mg/l)</th>
<th>BOD Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN</td>
<td>3.21</td>
<td>90</td>
<td>8,299</td>
<td>12</td>
<td>21</td>
<td>94.83%</td>
</tr>
<tr>
<td>FEB</td>
<td>3.21</td>
<td>108</td>
<td>8,664</td>
<td>7</td>
<td>17</td>
<td>97.41%</td>
</tr>
<tr>
<td>MAR</td>
<td>4.01</td>
<td>58</td>
<td>8,460</td>
<td>11</td>
<td>19</td>
<td>94.61%</td>
</tr>
<tr>
<td>APR</td>
<td>5.22</td>
<td>80</td>
<td>7,852</td>
<td>14</td>
<td>20</td>
<td>89.86%</td>
</tr>
<tr>
<td>MAY</td>
<td>6.74</td>
<td>61</td>
<td>8,093</td>
<td>14</td>
<td>18</td>
<td>87.50%</td>
</tr>
<tr>
<td>JUN</td>
<td>5.63</td>
<td>60</td>
<td>8,943</td>
<td>16</td>
<td>21</td>
<td>87.10%</td>
</tr>
<tr>
<td>JUL</td>
<td>4.61</td>
<td>91</td>
<td>8,136</td>
<td>6</td>
<td>11</td>
<td>95.00%</td>
</tr>
<tr>
<td>AUG</td>
<td>6.33</td>
<td>125</td>
<td>8,806</td>
<td>8</td>
<td>10</td>
<td>90.59%</td>
</tr>
<tr>
<td>SEP</td>
<td>4.79</td>
<td>153</td>
<td>8,237</td>
<td>4</td>
<td>11</td>
<td>96.97%</td>
</tr>
<tr>
<td>OCT</td>
<td>4.27</td>
<td>198</td>
<td>8,584</td>
<td>6</td>
<td>13</td>
<td>95.95%</td>
</tr>
<tr>
<td>NOV</td>
<td>6.47</td>
<td>179</td>
<td>8,677</td>
<td>7</td>
<td>11</td>
<td>93.91%</td>
</tr>
<tr>
<td>DEC</td>
<td>6.49</td>
<td>149</td>
<td>8,782</td>
<td>6</td>
<td>14</td>
<td>94.34%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60.98</strong></td>
<td><strong>1,352</strong></td>
<td><strong>101,531</strong></td>
<td><strong>111</strong></td>
<td><strong>186</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>5.08</strong></td>
<td><strong>112</strong></td>
<td><strong>8,461</strong></td>
<td><strong>9</strong></td>
<td><strong>16</strong></td>
<td><strong>92.00%</strong></td>
</tr>
</tbody>
</table>

Design Flow (mgd) = 8.0
90% of Design = 7.2
Design BOD (lb/day) = 10,444

BOD Permit Limit (mg/l) = 25
90% of Permit Limit = 22.5
TSS Permit Limit (mg/l) = 30
90% of Permit Limit = 27

Note: Average of Monthly flows is 68.3% of design flow.

Source: Grand Chute/Menasha West Sewerage Commission, 2004
 Forecast Growth & Development

The Grand Chute/Menasha West Sewer Service Area is forecast to have high growth within the planning period. This area has been one of the fastest growing areas during the last 20 years and the trend is likely to continue. The area is projected to increase by 13,199 people by the year 2030. This brings the population total to 43,879, a 43 percent increase between 1995 and 2030. This growth rate is substantially higher than the growth projected for other service areas in the Fox Cities.

Population growth, coupled with a declining household size, indicates a need for 8,064 dwelling units in the planning period from 2005 to 2030. The increase in single-family units is estimated to be 5,982 while approximately 2,143 multi-family and 1,193 duplex units will be needed. Based on the planned average density of 2.4 single-family, 8.83 multifamily, and 4.8 duplex units per acre, 2,984.2 acres of residential land will be needed. After the application of infrastructure and market factors, an additional 1,134 acres are needed bringing the total acreage needs to 4,118.2.

Population and housing projections for the Grand Chute/Menasha West Sewer Service Area are as follows:

**TABLE 7**  
Grand Chute/ Menasha West SSA Population, Housing & Employment Projections

<table>
<thead>
<tr>
<th>Projection Type</th>
<th>Year</th>
<th>Change 2005 - 2030</th>
<th>Change + 10% of increase*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2010</td>
<td>2015</td>
</tr>
<tr>
<td>Total Population</td>
<td>30,681</td>
<td>33,137</td>
<td>35,692</td>
</tr>
<tr>
<td>Total Households (d.u.)</td>
<td>12,538</td>
<td>14,050</td>
<td>15,626</td>
</tr>
<tr>
<td>Total Employment</td>
<td>34,360</td>
<td>36,937</td>
<td>39,513</td>
</tr>
</tbody>
</table>

*This figure is the one utilized as the base projection for the 2030 SSA acreage calculations.  
Source: U.S. Census Bureau, 2000; ECWRPC, 2005.

The amount of industrial and commercial development forecast for the Grand Chute/Menasha West Sewer Service Area is based upon labor force growth and employment density. The labor force is forecast to increase to 48,116 by the year 2030, an increase of 13,756. Carrying forward the 2005 commercial/industrial densities of 11.27 employees per acres, there is a forecast need for 1,220 acres of additional commercial and industrial land. After a 20 percent market value is added the acreage needed increases to 1,465 acres.

The year 2030 Grand Chute/Menasha West Sewer Service Area contains a total of 18,028.6 acres. Within the service area boundary 855.46 acres have been identified as environmentally sensitive land. Land considered developed within the service area totals 11,439 acres. This leaves 5,631.1 acres available for future development, compared to a forecast need for 1,465 acres. The final allocations include land for road right-of-way, utilities, and the 20 percent market factor.
**Growth Allocation Areas & 2030 SSA**

The policy basis for allocating acreage for future development is outlined on page 175. 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, and development plans and preferences of the individual communities (acreage requests) based on locally adopted land use plans. These needs are compared to reasonable projections of future development and, as necessary, these items are balanced with the needs of the community and region so as to minimize inefficiencies in development amounts and patterns.

**Priority Development Area Mapping**

New to this update was a more thorough request to the communities regarding the phasing, or ‘priority’ of development based on their adopted comprehensive plan. During the working meetings with each DMA and community, a map was developed which indicated their general thoughts of development timing based on their local plan, landowner knowledge and planned capital improvements. Three levels of ‘priority’ were assigned to overall areas requested for addition to the 1997 SSA and can be simply described as follows: #1 – generally felt to develop in the next 5, to possibly 10 years; #2 – generally felt to develop in 10 to 20 years, and; #3 – generally thought to develop in 20 or more years, primarily based on the need for, and timing of, major sewer infrastructure. For the entire SSA, the ‘priority area requests’, were as follows: Priority #1 – 1,802.5 acres, Priority #2 – 1,127.5 acres, and Priority #3 – 55.8 acres. Map 17 &18 indicates the ‘priority level’ which was assigned to each community’s acreage request.

While East Central will not formally hold each community to these development priorities, they will serve to remind the Commission, community, and public of the basic thoughts of development timing for the year 2005. It should be noted that East Central may, and in some cases has, recommend that conditions be attached to WDNR sewer extension approvals where needed to deal with conflicts related to development timing issues or to preserve designated environmentally sensitive areas that lie within the growth allocation areas.

**Year 2030 Sewer Service Area**

The year 2030 Sewer Service Area for the Grand Chute/Menasha West WWTF is illustrated in Maps 19 and 20 contain a total of 22,553 acres. Of this total, 1,067 acres have been designated as environmentally sensitive areas (ESAs) and 8,254 acres are considered to be vacant and available for development. If one removes the vacant acreage that is reserved for public or institutional uses based on community requests (946.9) from this total, a final figure of 7,307 acres are left to accommodate traditional residential, commercial, and industrial development. This compares to a calculated vacant acreage need of 5,583 acres for these types of development; therefore, an ‘excess’ of 1,720 vacant acres exists within the 2030 SSA. A more detailed listing of SSA allocations is contained in Table 8.
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Map 17 GCMW SSA – Priority Development Areas
(11x17 Color)
Back of map 17
Back of map 18a
Map 18b - GCMW SSA - Year 2030 Sewer Service Area (Southside) (11x17 - color)
Back of map 18b
The 1,720 acres of ‘excess’ vacant acreage is attributed to several factors, and; after thorough analysis by staff, along with discussions with the affected entities, East Central feels that, although the acreage technically exceeds the projected needs of the SSA, the areas are warranted for the following reasons:

1. The existence of adopted comprehensive plans which were reviewed and certified by East Central under its current SSA policies;

2. The existing of legally binding inter-municipal boundary agreements (Map 19);

3. Knowledge on the rates and locations of recent growth as well as the location of existing or planned infrastructure, and;

4. Sensitivity to local politically driven issues dealing with land use, infrastructure, and development equity.

A summary of the sewer service area allocations is contained in Table 8, while more detailed acreage figures and comparisons are provided in Appendix C. A short description of the major acreage allocations and growth areas are provided below:

- **Town of Grand Chute.** Major allocation areas include the remaining undeveloped portion of the town within USH 41, the west portion of the town north of Capitol Drive and west of USH 41 and also an area north of USH 41 between Lynndale Drive and Richmond Street. Acreage remnants remain within USH 41 with the tract bordered by USH 41 on the north and west and the Wisconsin Central tracks on the east. Approximately 200 acres are developable with half of the acreage allocated to residential and the other half to commercial and public use.

  About 300 acres has been allocated to the west of USH 41 and north of STH 76 for future residential growth. Also in this area 200 acres of commercial and industrial areas have been designated. South of STH 76 and north of STH 96 about 90 acres of residential has been added half of which is proposed multi-family growth.

  About 200 acres has also been added for future growth in an area to the northwest of the intersection of CTH BB and Casaloma Drive. The bulk of this area is planned for industrial growth with a small portion planned for residential development. A major new long-term development area is proposed north of USH 41 and west of STH 47.

- **Town of Greenville.** Within the Town of Greenville significant new acreage has been added due to accelerated growth in the town. A major expansion area has been added east of USH 76 between School Road and STH 96. Approximately 600 acres has been added for residential, commercial, and public/institutional uses. The public/institutional acres have been reserved for a new High school. Another large area of residential development is planned on the northwest corner of STH 76 (old USH 45) and STH 96.
• **Town of Menasha West.** Significant portions of the westside of the town have developed over the last twenty years and additional acreage is needed to accommodate anticipated accelerated development. The majority of the acreage added is in a block extending westward from Cold Spring Road on the northside of the USH 10 extension. This area straddles the Westside Arterial and includes 400 acres of residential, 50 acres of commercial and 50 acres of public developable land. On the northeast corner of STH 150 and Clayton Road approximately 100 acres of residential and 100 acres of industrial lands are targeted for development. Most other development in the town consists of commercial and multi-family infilling of scattered vacant parcels.

**SSA “Hold Areas” & Descriptions**

During the SSA Plan Update process, several areas were identified as having some type of ongoing land use or service provision issue. These areas, identified as temporary ‘hold areas’ (Maps 18a and 18b) are, for the plan update purposes, going to be considered as part of the 2030 SSA and are recommended for approval by the Commission and the WDNR. Within these temporary ‘hold areas’, East Central staff will not consider approving any public sewer extension (i.e. ‘208’ WQM Letter) and would recommend against any development proposal within these areas until the issue(s) are adequately resolved (either at the local, county, or Commission level). The temporary ‘hold’ status can be removed by action of the Community Facilities Committee, at a regularly scheduled meeting, upon documentation being provided which adequately addresses the issue(s) at hand. Short descriptions of these areas, as well as the conditions that apply, are listed below:

- **Town of Neenah – Oak Ridge Road Area:** This area is east of CTH CB in the northern portion of the Town of Neenah and the southeastern corner of the Grand Chute / Menasha West planning area. The Town’s proposed land use map indicates this area as remaining in agricultural use, however; that plan was adopted prior to the approval of a boundary/service agreement between the Town and the City. The hold status was placed on this area to recognize that the Town needs to formally amend their land use plan to better indicate the future land uses in this area as it is now available for development.

- **Town of Menasha – USH 10 and Clayton Avenue area:** This hold area is south of USH 10 and north of the Canadian National Railroad. Clayton Avenue borders the hold area to the west and is bordered to the east by Jacobson Road Interceptor Service Area. The majority of the hold areas acres are slated for vacant – developable areas with a small amount of acreage along Clayton Avenue designated for residential growth. There is a small amount of vacant – undevelopable acreage associated with a stream buffer zone in the southern portion of the hold area. The Town’s proposed land use map indicated this area as remaining in agricultural use, however; based on development rates within the Town, the local plan will likely be modified to reflect some form of future development. The hold status was placed on this area to recognize that the Town needs to formally amend their land use plan to better indicate the future land uses in this area.

- **Town of Menasha – CTH BB and Irish Road area:** The area south of CTY BB and north of the BB/Shady Lane Interceptor Area, is projected to stay an undeveloped woodland area with large amounts of environmentally sensitive buffer acres along a network of unnamed stream beds. The Town’s proposed land use map indicated this area as remaining in agricultural use, however; based on development rates within the Town, the local plan will likely be modified to reflect some form of future development. The hold status was placed on this area to recognize that the Town needs to formally amend their land use plan to better indicate the future land uses in this area.
Holding Tank Service Areas
There are numerous sewage holding tanks and individual on-site septic systems within the Grand Chute/Menasha West Planning Area. According to Wisconsin Administrative Code NR113 septic pumpage from these systems is directed to the regional treatment facility. In addition, large holding tanks exceeding 3,000 gallons per day need a special holding tank service area designation. Currently, there are no large holding tanks present in the Grand Chute/Menasha West Planning Area.
### TABLE 8
Grand Chute/ Menasha West SSA - SSA Update Acreage Summary & Comparison

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed</td>
<td>11,399.5</td>
<td>12,987.7</td>
<td>12,982.5</td>
<td>1,583.0</td>
<td>n/a</td>
</tr>
<tr>
<td>Vacant</td>
<td>5,631.1</td>
<td>5,583.2</td>
<td>8,250.4</td>
<td>2,619.3</td>
<td>2,667.2</td>
</tr>
<tr>
<td>Vacant/Undevelopable</td>
<td>3.6</td>
<td>n/a</td>
<td>55.9</td>
<td>52.3</td>
<td>n/a</td>
</tr>
<tr>
<td>Environmentally Sensitive Area</td>
<td>1,855.5</td>
<td>n/a</td>
<td>1,067.3</td>
<td>(788.2)</td>
<td>n/a</td>
</tr>
<tr>
<td>Water</td>
<td>102.6</td>
<td>n/a</td>
<td>147.0</td>
<td>44.4</td>
<td>n/a</td>
</tr>
<tr>
<td>Total SSA</td>
<td>18,992.2</td>
<td>5,583.2</td>
<td>22,503.1</td>
<td>3,510.9</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vacant Land By Proposed Land Use Type</th>
<th>2020 SSA (2005 conditions)</th>
<th>2030 SSA Projection</th>
<th>2030 SSA (2005 conditions)</th>
<th>2020-2030 Difference</th>
<th>&quot;Excess&quot; (2030-projection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential (incl. duplex)</td>
<td>3,703.63</td>
<td>3783.4</td>
<td>4,021.0</td>
<td>317.4</td>
<td>237.6</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>415.6</td>
<td>334.8</td>
<td>415.6</td>
<td>-</td>
<td>80.8</td>
</tr>
<tr>
<td>Commercial/ Industrial</td>
<td>3,049.45</td>
<td>1465.0</td>
<td>3,347.2</td>
<td>297.8</td>
<td>1,882.2</td>
</tr>
<tr>
<td>Public Institutional</td>
<td>840.28</td>
<td>n/a</td>
<td>1,094.9</td>
<td>254.6</td>
<td>n/a</td>
</tr>
<tr>
<td>Agriculture/Undeveloped (assumed to be SF Res.)</td>
<td>5,631.09</td>
<td>n/a</td>
<td>8,250.4</td>
<td>2,619.3</td>
<td>8,250.4</td>
</tr>
<tr>
<td><strong>Total Vacant Acreage</strong></td>
<td><strong>13640.05</strong></td>
<td><strong>5583.2</strong></td>
<td><strong>17,129.1</strong></td>
<td><strong>3,489.1</strong></td>
<td><strong>11,545.9</strong></td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005
Map 19 – GCMW SSA – Existing Growth Agreements
(11x17 – color)
Water Quality Assessment & Development Impacts

Continued urbanization of the Grand Chute/Menasha West area will impact surface and groundwater resources. Surface water runoff and pollutant loadings are likely to increase, and groundwater recharge is likely to decrease. 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.

Point Source Water Quality Impacts
Population growth and commercial/industrial development will increase loadings to the Grand Chute/Menasha West wastewater treatment plant, and ultimately to the Fox River. Without a wastewater engineering assessment it is not possible to analyze specific flows for the different existing land uses, although estimated future flows can be calculated for comparison to treatment plant design capacity. A rough estimate comparing existing average daily flows of current development to a percentage increase in overall future development can be made. Based upon this analysis, the average flows are expected to increase by 4.45 mgd, which is potentially beyond the design capacity of the treatment facility. Impacts of increased discharge levels will be periodically evaluated by the Department of Natural Resources in conjunction with WPDES permit renewals. Assimilative capacity of the receiving water will be used under high temperature/low flow (wasteload allocation) conditions to establish discharge limits to maintain water quality standards.

Non-point Source Water Quality Impacts
The proposed expansion of the Grand Chute-Menasha West SSA includes the headwaters of tributaries to Bear Creek which is located in the Wolf River Basin (WR 12). Bear Creek is an eighteen mile tributary to the Wolf River, ranked "medium" for selection of a small-scale priority watershed project based upon potential improvements for the creek and its tributaries' condition with erosion control via stream and waterway buffers (Wolf River WQM Plan, WDNR 1996).

Surface water runoff and pollutant loadings will increase with the forecast growth for the 2030 sewer service area. The placement of roads, buildings and parking areas increase the amount of impervious area, and hence, more water runs off the land surface carrying organic and inorganic pollutants associated with these more intensive urban uses. The Department of Natural Resources has general guidelines for estimating unit area loadings of pollutants by land use categories. Within the Fox Cities Sewer Service Areas four pollutants have been analyzed for seven 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 Fox River. Specific subwatershed analysis has not been attempted.

The estimated pollutant loadings for the existing 2005 development areas within the Grand Chute/Menasha West Sewer Service Area are listed in Table 9. Table 10 contains estimates of future, additional loadings based on the development of all vacant land with in the 2030 SSA (map 20).
### TABLE 9

Grand Chute/Menasha West SSA - Existing (2005) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>2005 Acres</th>
<th>Development Type</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>3,703.6</td>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>190.0</td>
<td>0.5</td>
</tr>
<tr>
<td>415.6</td>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>420.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1,605.2</td>
<td>Commercial (strip/downtown)</td>
<td>1,400.0</td>
<td>1.5</td>
</tr>
<tr>
<td>1,444.2</td>
<td>Manufacturing Industries</td>
<td>900.0</td>
<td>1.5</td>
</tr>
<tr>
<td>3,348.2</td>
<td>Freeways / Local Roads</td>
<td>600.0</td>
<td>0.9</td>
</tr>
<tr>
<td>840.3</td>
<td>Undeveloped / Vacant</td>
<td>25.0</td>
<td>0.0</td>
</tr>
<tr>
<td>840.3</td>
<td>Institutional / Governmental</td>
<td>700.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>11,360.8</strong></td>
<td>TOTALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005

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

### TABLE 10

Grand Chute / Menasha SSA - Future (2030) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>2005 Acres</th>
<th>Development Type</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>4,021.0</td>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>190.0</td>
<td>0.5</td>
</tr>
<tr>
<td>415.6</td>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>420.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1,635.0</td>
<td>Commercial (strip/downtown)</td>
<td>1,400.0</td>
<td>1.5</td>
</tr>
<tr>
<td>1,712.2</td>
<td>Manufacturing Industries</td>
<td>900.0</td>
<td>1.5</td>
</tr>
<tr>
<td>4,057.8</td>
<td>Freeways / Local Roads</td>
<td>600.0</td>
<td>0.9</td>
</tr>
<tr>
<td>1,948.3</td>
<td>Undeveloped / Vacant</td>
<td>25.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1,094.9</td>
<td>Institutional / Governmental</td>
<td>700.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>12,992.4</strong></td>
<td>TOTALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005
Back of map 20
Groundwater Impacts
A United States Geological Survey study done in 1998 assessed the groundwater conditions in the Fox Valley region. The findings of this study have determined that the deep aquifer (sandstone deposits), which provides high capacity wells, is recharged from the western and northern edges of the Fox Cities urban area. 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. 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.

The Grand Chute/Menasha West service area receives its potable water from two sources. The Grand Chute S.D. purchases water from the City of Appleton which uses Lake Winnebago surface water as its source. The Greenville and Town of Menasha Sanitary Districts rely on groundwater pumping. Increases in withdrawals are anticipated for both municipal and private commercial/industrial high capacity wells. While there are no significant negative groundwater impacts anticipated with increased development in the service area, there may be localized impacts as areas develop.

Water Quality Protection & Stormwater Management
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, and request the WDNR to attach such conditions to any sewer extension approval for the proposed development. A variety of local and county-wide stormwater management planning activities have been accomplished or are ongoing in nature. Appendix D contains general info on the state’s stormwater planning requirements.

East Central recommends receipt of preliminary subdivision plats for review for a conformance check with the sewer service area and water quality plan. Recommendations are made for final plat approval concerning water quality and stormwater management as well as 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, and 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.
Plan Implementation & Recommendations

Although sewer service area planning was initiated at the state and federal levels, successful implementation of each plan rests at the local level. In the state-approved Areawide Water Quality Management Plan for the Fox River Valley, 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 Town of Grand Chute S.D. No. 2 (formerly the Butte des Morts Utility District), the Town of Greenville S.D. No. 1, the Town of Neenah S.D. No. 3, the Town of Menasha Utility District, and the Town of Clayton S.D. No. 1 are so designated in the areawide plan (the Town of Clayton S.D. No. 1 has not been active for many years).

The functions of these entities concerning sewerage system management are shown below:

<table>
<thead>
<tr>
<th>Governmental Unit</th>
<th>Category of Designation</th>
<th>Management Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Chute/Menasha West Sewerage Commission</td>
<td>II</td>
<td>Wastewater Treatment</td>
</tr>
<tr>
<td>Town of Menasha Utility District</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Grand Chute S.D. No. 2</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Greenville S.D. No. 1</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Neenah S.D. No. 3</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Town of Clayton S.D. No. 1</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
</tbody>
</table>

As designated management agencies for wastewater treatment and collection, the above-mentioned jurisdictions should do the following:

1. Adopt the Grand Chute/Menasha West Sewer Service Area Plan;

2. Work with the general purpose units of government in their jurisdictions to review and update development policies and regulations in light of the sewer service plan and recommendations;

3. Encourage general purpose units of government to 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 to review proposed extensions for consistency with sewer service area plans prior to being submitted to the WDNR for approval;
5. Submit wastewater facilities plans and plan amendments 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.

7. All communities should review and address issues and recommendations identified in the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001).

8. Monitor development amounts and rates to better determine the need for WWTF Facility Planning. As noted earlier, if any such plan is needed, it would likely be necessary in the latter portion of the 25 year planning period.

9. Continue to address issues and regulatory methods for the management of on-site system development within the 2050 Planning Area to better recognize the existing investment in sewer infrastructure.

10. Complete and/or update as necessary, local and county ‘smart growth’ comprehensive plans and incorporate information as necessary from the 2030 SSA Plan.

11. The Town of Grand Chute should, when appropriate, initiate a joint study with the Greenville Sanitary District No. 1 to determine the ultimate sewer service conditions for the ‘undefined planning area’ located in the northwest corner of the Town.

12. The Town of Menasha Utility District and Town/City of Neenah should, when appropriate, initiate a joint study to determine the ultimate sewer service conditions for the ‘undefined planning area’ locate in the southwest corner of the Town of Menasha.

In addition to 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.
Planning Area Description

The updated Appleton SSA Planning Area covers approximately 28.9 square miles (as compared to 29.3 square miles in 1997) and is located in south-central Outagamie County and northeastern Calumet County. As illustrated on Map 25, the updated Planning Area (in the northern portion) generally extends from the STH 47 (Richmond Street) on the west to French Road on east, and includes lands northward of the Fox River and USH 41. On the south, the Planning Area is bound by the Heart of the Valley SSA and the Neenah/Menasha SSA and includes lands from Oneida Street on the west extending south and east to Coop Road and just south of STH 441.

- **Planning Area Additions/Expansions:** One area is proposed for inclusion in the Planning Area in order to better reflect the ability of the DMA to actually provide service to this area. Based on technical information for existing interceptor sewers and lift stations, the following area has been added to the Planning Area:

  - Lands north of Broadway Street, up to Mackville Road and east of CTH EE, can be serviced with gravity sewers through the City of Appleton's 18-inch Meade Street interceptor, however; it has been noted that downstream pipe sizing upgrade would likely be necessary to provide such service.

- **Planning Area Deletions/Removals:** Three areas, all located north of USH 41, are proposed for removal from the existing Planning Area based on the inability to extend sewers as follows:

  1. North of USH 41, east of French Road: This area is being removed from the Appleton SSA Planning Area and transferred to the Heart of the Valley SSA Planning Area based on the ability of the Village of Little Chute to provide more cost-effective service through the use of its 30-inch gravity interceptor sewer (versus the City of Appleton needing a new lift station to accommodate the area.)

  2. Two areas located north of Broadway Drive and to the east of Ballard Road (CTH EE) were removed based on the current boundaries outlined in the recent City of Appleton/Town of Freedom Growth Area Agreement. The new boundary represents the maximum extent of annexations into the City of Appleton during the 50 year agreement period.

  3. An area located north of CTH O and west of Ballard Road (CTH EE) is being removed from within the Town of Center as the City has expressed that it would be difficult to provide sewer to this area based on the amounts and patterns of existing development. At this time no agreement to extend sewers past this boundary exists.
Undefined Planning Area Designations: Only one area has been designated as being ‘undefined’ in nature, since more than one DMA’s collection system can potentially provide sewer service to the lands. For the 2030 SSA Plan, these areas would be considered to part of the long term Planning Area Boundary (and they may even be within the actual SSA), however; a ‘hold’ status would be applied for all sewer extension request until such time that proper information is submitted to East Central and the WDNR to determine the cost-effectiveness of various service alternatives. The area can be described as follows:

1. This area is located south of USH 41 and east of USH 441 can be serviced either through an (eventual) extension of sewer from the Village of Little Chute as the Paradise Valley area develops, or from the City of Appleton, although in the latter case, the line would need to be bored underneath USH 441. At this time, neither community shows a strong desire to provide service to this area and, as such, a more detailed determination of cost-effectiveness and capacity will be needed prior to considering which SSA Planning Area this land ultimately resides within.

Land Use and Development

In 2005, the Appleton SSA totaled 14,984.3 acres, of which 2,493.3 acres were considered to be vacant and developable. The mix of land uses for the entire SSA includes approximately 5,268.8 acres of single family and duplex residential development, 320.5 acres of multi-family development, 690.7 acres of industrial development and 944.3 acres devoted to commercial land uses. Map 26 contains detailed information on the characteristics of the existing (2020) SSA boundary based on data collected in late 2004.

Since the last SSA update in 1997, most residential growth has occurred in the northern portion of the SSA, north of USH 41. Continued residential development on the southside of the SSA - south of Calumet and east of Mathias Streets - has helped to balance the overall residential growth pattern. Major commercial areas within the SSA include the Appleton’s central business district along College Avenue, highway-oriented businesses along Wisconsin Avenue and Richmond Street, Valley Fair Mall and the CTH KK/STH 441 interchange in the southern portion, and the Northland Mall in the northwestern portion of the city.

Major industrial areas include the "Flats," an older industrial area along the Fox River. Portions of this area are undergoing redevelopment with old industrial buildings being converted to residential and commercial uses. The Southeast Industrial Park, located between CTH CE and Kimberly Avenue has undergone considerable development with very little of the original acreage remaining to be developed. The Northeast Industrial Park has likewise incurred substantial development with office as well as industrial uses. The Southwest Industrial Park located south of Spencer Street in the vicinity of Lynndale Drive is the fourth major area of industrial development within the city, while efforts have recently been initiated for the development another industrial area south of USH 441 to Midway Rd. between CTH LP and Coop Rd.
Map 21 Appleton SSA - Year 2050 Planning Area Boundary
(11 x 17 b/w)
Environmentally Sensitive Areas

There are no large tracts of environmentally sensitive lands within the Appleton planning area (Map 23). Scattered undeveloped shorelands along the Fox River have been designated environmentally sensitive. In addition, several steep ravines which terminate at the Fox River are also designated. Some of the streams with direct drainage to the Fox River are subject to severe erosion if disturbed by construction activities. Drainageways and small pockets of wetlands in the north and eastern portions of the area with drainage to Apple Creek have likewise been designated environmentally sensitive. Additionally, scattered wetlands exist in the far northern portion of the planning area east of CTH E and north of CTH EE.

Lands with Limiting Environmental Conditions

There are limiting environmental conditions within the northern portions of the Appleton planning area and along the Fox River. High groundwater and poor drainage are evident in portions of the planning area, especially the northern portion of the Apple Creek subwatershed. Mapped floodplains consist of minor areas along the Fox River and along Apple Creek tributaries. A formal flood study has been completed for the Apple Creek subwatershed. High bedrock does not pose problems for new construction within the Planning Area, however; significant areas of steep slopes are evident in the northern portion of the planning area in the Apple Creek subwatershed. The most environmentally suitable lands for future development appear to be in the northern sections of the planning area west of Meade Street and east of CTH "E" as well as south of CTH "AP" in the south portion of the planning area. These features are shown on Map 23.

Designated Management Area Descriptions

Map 24 illustrates the existing Designated Management Area of the Appleton SSA. DMA’s are the legal entities (communities, sanitary Districts, or utility districts) that are responsible for the collections or treatment of wastewater. Within the SSA Planning Area, there are eleven governmental entities which exist, of which the City of Appleton is the only DMA in the sewer service area.

2. Outagamie County  5. Town of Center  8. Town of Vandenbroek  11. City of Menasha

City of Appleton – The city of Appleton is bordered by the HOVMSD SSA to the east and by the Grand Chute/ Menasha West SSA to the west. The southern portion of the SSA south of Calumet Street is located in Calumet County, all other areas of the SSA is located within Outagamie County. The Appleton SSA had an estimated 2005 population of 72,314 contained in 28,058 dwelling units. Within this 14,984 acre SSA, 11,792 acres are considered developed, with 5,589 acres residential and 1,628 acres representing commercial and industrial development.
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Map 23- ESAs and Limiting Conditions
(11x17 color)
Back of map 23
Map 24– Appleton SSA – Political Jurisdictions & DMAs
(11x17 b/w)
Back of map 24
Sewerage System & Treatment System

The Appleton wastewater treatment plant was constructed in 1937 and underwent major renovation and expansions in 1965, 1979 and 1994. Due to wet weather bypassing and the pending imposition of effluent limits for ammonia, coliform bacteria, and residual chlorine, facility planning was initiated in the late 1980's. Based on the recommendations of the facility plan, the plant and a portion of the interceptor system were upgraded to eliminate capacity problems and meet new permit requirements.

On an annual average, the 15.5 million gallon per day plant is running just under design flow levels with additional capacity for extreme weather conditions. The wastewater treatment facility is presently meeting permit limits for all parameters. However, portions of the city's collection system are subject to inflow and infiltration problems and the city is continuing efforts to remove clearwater from the system through 'spot' corrections and long-term system replacement.

The wastewater treatment facility undertook a 1.8 million dollar expansion of its sludge storage facility in 1998 to meet the WDNR 180 day sludge storage requirement. The removal efficiencies of the activated sludge plant are 98.2 percent for biochemical oxygen demand; Map 25 illustrates the collection and treatment system for the Grand Chute/Menasha West SSA.

<table>
<thead>
<tr>
<th>WPDES Permit Number:</th>
<th>WI-0023221</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expiration Date:</td>
<td>September 30, 2007</td>
</tr>
<tr>
<td>Receiving Water:</td>
<td>Fox River</td>
</tr>
<tr>
<td>Design Flow:</td>
<td>15.5 Mgd (100 mgd peak)</td>
</tr>
<tr>
<td>Average Flow:</td>
<td>14.58 Mgd</td>
</tr>
<tr>
<td>Treatment Type:</td>
<td>Secondary treatment by activated sludge process with effluent limits for BOD, TSS, TP, Ammonia, pH, Resid. Chlorine. and Coliform Bacteria.</td>
</tr>
<tr>
<td>Sludge Treatment:</td>
<td>Anaerobic digestion</td>
</tr>
<tr>
<td>Sludge Disposal:</td>
<td>Agricultural land spreading</td>
</tr>
</tbody>
</table>

The collection system consists of two river crossings (15 inch and 30 inch sewers cross the river near Green Bay Road) and twin 16 and 24 inch sewers that serve the northern portion of the service area. As part of the 1994 reconstruction project, a new interceptor was built along the north bank of the Fox River from Water Street to Green Bay Road, where it crosses the river with a new 36 inch sewer and ultimately empties into the treatment plant at 2006 Newberry Street, located on the south side of the river.

A 36 inch interceptor serves areas to the north of the central business district including a large proposed growth area north of USH 41. The twin sewer crossing connects to a 42 inch interceptor which serves the city's northeast industrial park. A 27 inch interceptor serves the southeast portion of the city including long range growth areas. This interceptor was recently extended in 2002 underneath 441 with 24-inch pipe to provide service to the SE Industrial Park.
## TABLE 11
Appleton WWTF Performance Summary

<table>
<thead>
<tr>
<th>Month</th>
<th>Avg. Monthly Flow (mgd)</th>
<th>Average Mo. BOD Concentration (mg/l)</th>
<th>Avg. Monthly BOD Loading (lbs/day)</th>
<th>Avg. Monthly BOD (mg/l)</th>
<th>Avg. Monthly TSS (mg/l)</th>
<th>BOD Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN</td>
<td>12.3</td>
<td>167</td>
<td>17,131</td>
<td>4</td>
<td>6</td>
<td>96.41%</td>
</tr>
<tr>
<td>FEB</td>
<td>12.8</td>
<td>277</td>
<td>29,570</td>
<td>3</td>
<td>4</td>
<td>98.56%</td>
</tr>
<tr>
<td>MAR</td>
<td>15.2</td>
<td>239</td>
<td>30,298</td>
<td>4</td>
<td>3</td>
<td>98.74%</td>
</tr>
<tr>
<td>APR</td>
<td>15.9</td>
<td>245</td>
<td>23,488</td>
<td>5</td>
<td>6</td>
<td>97.55%</td>
</tr>
<tr>
<td>MAY</td>
<td>17.5</td>
<td>178</td>
<td>25,979</td>
<td>5</td>
<td>5</td>
<td>97.19%</td>
</tr>
<tr>
<td>JUN</td>
<td>14.3</td>
<td>254</td>
<td>30,293</td>
<td>3</td>
<td>4</td>
<td>98.43%</td>
</tr>
<tr>
<td>JUL</td>
<td>13.5</td>
<td>263</td>
<td>29,611</td>
<td>4</td>
<td>5</td>
<td>98.1%</td>
</tr>
<tr>
<td>AUG</td>
<td>15.2</td>
<td>204</td>
<td>25,861</td>
<td>3</td>
<td>3</td>
<td>98.53%</td>
</tr>
<tr>
<td>SEP</td>
<td>13.8</td>
<td>258</td>
<td>29,694</td>
<td>3</td>
<td>3</td>
<td>98.84%</td>
</tr>
<tr>
<td>OCT</td>
<td>12.1</td>
<td>295</td>
<td>29,770</td>
<td>2</td>
<td>4</td>
<td>98.64%</td>
</tr>
<tr>
<td>NOV</td>
<td>17.6</td>
<td>226</td>
<td>33,173</td>
<td>3</td>
<td>3</td>
<td>98.67%</td>
</tr>
<tr>
<td>DEC</td>
<td>14.7</td>
<td>239</td>
<td>29,301</td>
<td>4</td>
<td>3</td>
<td>98.74%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>174.9</strong></td>
<td><strong>2,845</strong></td>
<td><strong>334,169</strong></td>
<td><strong>43</strong></td>
<td><strong>49</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>14.58</strong></td>
<td><strong>237</strong></td>
<td><strong>27,847</strong></td>
<td><strong>4</strong></td>
<td><strong>4</strong></td>
<td><strong>98.2%</strong></td>
</tr>
</tbody>
</table>

Design Flow (mgd) = 15.5  
BOD Permit Limit (mg/l) = 25

90% of Design = 13.95  
90% of Permit Limit = 22.5

Design BOD (lb/day) = 40,900  
TSS Permit Limit (mg/l) = 30

90% of Design = 36,810  
90% of Permit Limit = 27

*Note: Average of Monthly flows is 94.0% of design flow.*

Source: City of Appleton, 2004  
12/3/2004
Forecast Growth and Development

The Appleton Sewer Service Area is forecast to have moderate growth during the planning period. The area is projected to grow by 8,289 persons by the year 2030, for a total population of 80,603, an 11.5 percent increase from 1995. This rate increase is slightly lower than the 17.5 percent increase estimated for Fox Cities urban area but still accounts for almost one-quarter of the total urban area real growth.

Population growth, coupled with a continued decline in household size (persons per housing unit), indicates a need for 4,936 dwelling units. It is estimated that 72.9 percent of these, or 3,598 units will be single-family, 10.4 percent, or 514 duplex units, and 16.7 percent, or 824 will be multifamily units. Given the residential densities of 2.73 single-family units, 5.45 for duplex, and 10.0 multifamily units per acre an additional 1,496.1 acres will be needed. With adjustment factors for necessary infrastructure (road, etc.) at 15%, as well as the 20% market factor an estimated 2,064.6 acres of additional residential land will be required by the year 2030. With 1,820.9 acres single family, 129.9 acres duplex, and 113.8 acres multi-family.

Table 12
Appleton SSA Population, Housing & Employment Projections

<table>
<thead>
<tr>
<th>Projection Type</th>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>Change 2005-2030</th>
<th>Change w/ 10% of increase*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td></td>
<td>72,314</td>
<td>74,337</td>
<td>76,350</td>
<td>78,227</td>
<td>79,610</td>
<td>80,603</td>
<td>8,289</td>
<td>9,118</td>
</tr>
<tr>
<td>Total Households (d.u.)</td>
<td></td>
<td>28,058</td>
<td>29,334</td>
<td>30,438</td>
<td>31,412</td>
<td>32,048</td>
<td>32,545</td>
<td>4,488</td>
<td>4,936</td>
</tr>
<tr>
<td>Total Employment</td>
<td></td>
<td>36,231</td>
<td>39,168</td>
<td>42,041</td>
<td>n/a</td>
<td>51,075</td>
<td>54,848</td>
<td>15,848</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*This figure is the one utilized as the base projection for the 2030 SSA acreage calculations.
Source: U.S. Census Bureau, 2000; ECWRPC, 2005.

The non-residential growth needs are determined by estimating the employment growth of the commercial and industrial business sectors. The estimated total employment of the service area in 1995 was 43,510. Based upon labor force projections the year 2030 employment is estimated to increase by 15,680 to a total of 54,848. Based upon 2005 employment densities of 24.24 employees per acre there is a need for 597.3 acres of commercial and industrial development to accommodate the projected increase in employment. With the addition of a 20% market factor, the total acreage needed for commercial/industrial land raises to 716.7 acres for the year 2030.

Growth Area Limitations

The policy basis for allocating acreage for future development is outlined in the Sewer Service Area Delineation and Planning Process, page 175. 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, and development plans and preferences of the individual communities.
East Central may recommend that conditions be attached to WDNR sewer extension approvals, where needed, to preserve designated environmentally sensitive areas or other significant natural features that lie within the growth allocation areas.

**Growth Allocation Areas & 2030 SSA**

The policy basis for allocating acreage for future development is outlined on page 175. 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, and development plans and preferences of the individual communities (acreage requests) based on locally adopted land use plans. These needs are compared to reasonable projections of future development and, as necessary, these items are balanced with the needs of the community and region so as to minimize inefficiencies in development amounts and patterns.

**Priority Development Area Mapping**

New to this update was a more thorough request to the communities regarding the phasing, or ‘priority’ of development based on their adopted comprehensive plan. During the working meetings with each DMA and community, a map was developed which indicated their general thoughts of development timing based on their local plan, landowner knowledge and planned capital improvements. Three levels of ‘priority’ were assigned to overall areas requested for addition to the 1997 SSA and can be simply described as follows: #1 – generally felt to develop in the next 5, to possibly 10 years; #2 – generally felt to develop in 10 to 20 years, and; #3 – generally thought to develop in 20 or more years, primarily based on the need for, and timing of, major sewer infrastructure. For the entire SSA, the ‘priority area requests’, were as follows: Priority #1 - 2,059.5 acres, Priority #2 - 468.1 acres, and Priority #3 - 391 acres. Map 26 indicates the ‘priority level’ which was assigned to each community’s acreage request.

While East Central will not formally hold each community to these development priorities, they will serve to remind the Commission, community, and public of the basic thoughts of development timing for the year 2005. It should be noted that East Central may, and in some cases has, recommend that conditions be attached to WDNR sewer extension approvals where needed to deal with conflicts related to development timing issues or to preserve designated environmentally sensitive areas that lie within the growth allocation areas.

**Year 2030 Sewer Service Area**

The year 2030 Sewer Service Area for the Appleton WWTF is illustrated in Map 27 and contains a total of 17,305.9 acres. Of this total, 226.4 acres have been designated as environmentally sensitive areas (ESAs) and 4,152.5 acres are considered to be vacant and available for development. If one removes the vacant acreage that is reserved for public or institutional uses based on community requests (419.2) from this total, a final figure of 3,733 acres are left to accommodate traditional residential, commercial, and industrial development. This compares to a calculated vacant acreage need of 2,847 acres for these types of development; therefore, an ‘excess’ of 13 vacant acres exists within the 2030 SSA. A more detailed listing of SSA allocations is contained in Table 13.
The 13 acres of ‘excess’ vacant acreage is attributed to several factors, and, after thorough analysis by staff, along with discussions with the affected entities, East Central feels that, although the acreage technically exceeds the projected needs of the SSA, the areas are warranted for the following reasons:

1. The existence of adopted comprehensive plans which were reviewed and certified by East Central under its current SSA policies;

2. The existence of legally binding inter-municipal boundary agreements (Map 32);

3. Knowledge on the rates and locations of recent growth as well as the location of existing or planned infrastructure, and;

4. Sensitivity to local politically driven issues dealing with land use, infrastructure, and development equity.

A summary of the sewer service area allocations is contained in Table 13, while more detailed acreage figures and comparisons are provided in Appendix C. A short description of the major acreage allocations and growth areas are provided below:

- **Northern Growth Area** - About 1,300 acres of developable area has been allocated to the northern portion of the Appleton Sewer Service Area to accommodate both residential and commercial/industrial development. Residential growth areas have been designated for a broad corridor from USH 41 on the south to CTH JJ on the north between Richmond Street (STH 47) and French Road. An additional 300 acres east of French Road and south of CTH JJ is also scheduled for long-term development. While most future growth area has been allocated north of USH 41, a few larger parcels remain south of the highway which are suited for residential development. A limited number of platted residential lots within existing subdivisions are also available. Commercial and industrial land allocations include an approximate 80 acre tract west of French Road between Evergreen Drive and USH 41 has been designated for industrial development. Commercial development is planned east of Ballard Road between the high school and Evergreen Drive. South of USH 41 and west of STH 441 significant commercial/industrial acreage has been allocated as an extension of the existing Northeast Industrial Park.

- **Southeastern Growth Area** - The Tri-County Expressway is at the core of a broad band of developable acreage allocated within the Appleton Sewer Service Area for future growth. This 600 acre area represents a continuation of Appleton's southeasterly growth trend which initiated in the 1970's and accelerated through the 1980's. A large land area along Lake Park Road south of Midway Road is scheduled for residential development. Additional infilling along Midway Road and between Midway and STH 441 is also anticipated. Commercial growth is expected in the vicinity of the Calumet Street/Tri-County interchange. A large area of land is set aside for industrial park development which is located between Lake Park and Coop Road. The development of the industrial area is longer term and dependent upon interceptor capacity south of HWY 441.
### TABLE 13
Appleton SSA - SSA Update Acreage Summary & Comparison

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<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed</td>
<td>11,792.4</td>
<td>n/a</td>
<td>12,366.8</td>
<td>574.4</td>
<td>n/a</td>
</tr>
<tr>
<td>Vacant (see below for breakdown by proposed land use)</td>
<td>2,493.3</td>
<td>2,846.5</td>
<td>4,152.5</td>
<td>1,659.2</td>
<td>1,306.0</td>
</tr>
<tr>
<td>Vacant/Undevelopable</td>
<td>93.7</td>
<td>n/a</td>
<td>93.7</td>
<td>0.0</td>
<td>n/a</td>
</tr>
<tr>
<td>Environmentally Sensitive Area</td>
<td>188.7</td>
<td>n/a</td>
<td>226.3</td>
<td>37.6</td>
<td>n/a</td>
</tr>
<tr>
<td>Water</td>
<td>416.3</td>
<td>n/a</td>
<td>463.6</td>
<td>47.3</td>
<td>n/a</td>
</tr>
<tr>
<td>Total SSA</td>
<td>14,984.3</td>
<td>2,846.5</td>
<td>17,302.9</td>
<td>2,318.6</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vacant Land By Proposed Land Use Type</th>
<th>2020 SSA (2005 conditions)</th>
<th>2030 SSA Projection</th>
<th>2030 SSA (2005 conditions)</th>
<th>2020-2030 Difference</th>
<th>&quot;Excess&quot; (2030-projection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential (incl. duplex)</td>
<td>5,268.84</td>
<td>1950.9</td>
<td>5,493.9</td>
<td>225.1</td>
<td>3,543.0</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>320.5</td>
<td>113.8</td>
<td>321.6</td>
<td>1.1</td>
<td>207.8</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>1,627.50</td>
<td>781.9</td>
<td>1,648.9</td>
<td>21.4</td>
<td>867.0</td>
</tr>
<tr>
<td>Public Institutional</td>
<td>1560.05</td>
<td>n/a</td>
<td>1,725.7</td>
<td>165.7</td>
<td>n/a</td>
</tr>
<tr>
<td>Agriculture/Undeveloped (assumed to be SF Res.)</td>
<td>2,493.26</td>
<td>n/a</td>
<td>4,152.5</td>
<td>1,659.2</td>
<td>4,152.5</td>
</tr>
<tr>
<td>Total Vacant Acreage</td>
<td>11270.15</td>
<td>2846.5</td>
<td>13,342.6</td>
<td>2,072.5</td>
<td>10,496.1</td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005
Map 26 - Appleton SSA - Priority Development Areas
(11x17 - color)
Map 27 - Appleton - Year 2030 Sewer Service Area
(11x17 - color)
Back of map 27
Map 28- Appleton – Existing Growth & Service Area Agreements (11x17 color)
SSA “Hold Areas” & Descriptions
During the SSA Plan Update process, several areas were identified as having some type of ongoing land use or service provision issue. These areas, identified as temporary ‘hold areas’ (Maps 9a and 9b) are, for the plan update purposes, going to be considered as part of the 2030 SSA and are recommended for approval by the Commission and the WDNR. Within these temporary ‘hold areas’, East Central staff will not consider approving any public sewer extension (i.e. ‘208’ WQM Letter) and would recommend against any development proposal within these areas until the issue(s) are adequately resolved (either at the local, county, or Commission level). The temporary ‘hold’ status can be removed by action of the Community Facilities Committee, at a regularly scheduled meeting, upon documentation being provided which adequately addresses the issue(s) at hand. Short descriptions of these areas, as well as the conditions that apply, are listed below:

- Currently there are no applied to the Appleton SSA. All acres within the SSA has the potential to be sewered provided the areas locally adopted land use priorities are followed.

Holding Tank Service Areas
There are numerous sewage holding tanks and individual on-site septic systems within the Appleton Planning Area. According to Wisconsin Administrative Code NR-113, septic pumpage from these systems is directed to the Appleton regional treatment facility. In addition, large holding tanks exceeding 3,000 gallons per day need a special holding tank service area designation. No such large holding tanks exist within the Appleton Planning Area.

Water Quality Assessment
Continued urbanization of the Appleton SSA will impact surface and groundwater resources. Surface water runoff and pollutant loadings are likely to increase, and groundwater recharge is likely to decrease. 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.

Point Source Water Quality Impacts
Population growth and commercial/industrial development will increase loadings to the Appleton wastewater treatment plant, and ultimately to the Fox River. Without a wastewater engineering assessment it is not possible to analyze specific flows for the different existing land uses, estimated future flows can be calculated for comparison to treatment plant design capacity. A rough estimate comparing existing average daily flows of current development to a percentage increase in overall future development can be made. Based upon this analysis, the average flows are expected to increase by 2.44 mgd which exceeds the design capacity of the treatment facility by 1.51 mgd. Impacts of increased discharge levels will be periodically evaluated by the Department of Natural Resources in conjunction with WPDES permit renewals. Assimilative capacity of the receiving water will be used under high temperature/low flow (wasteload allocation) conditions to establish discharge limits to maintain water quality standards.

Non-point Source Water Quality Impacts
The growth area for the Appleton SSA includes portions of the headwaters of Apple Creek to the northwest of the Fox River. The western portion of the Appleton SSA includes the headwaters of
Mud Creek which flows west and south discharging into Little Lake Butte des Morts. The Fox River splits the Appleton SSA into two nearly equal portions.

Apple Creek's 24 miles currently supports a warm water sport fishery for miles 0-4 and forage fishery for miles 5-24 including the headwaters. The creek can potentially support a sport fishery in miles 0-12 with water quality improvements. The stream is perennial for miles 0-20 and intermittent for its remainder to the headwaters.

Mud Creek, classified as a warm water sport fishery, flows into the Fox River just north of Little Lake Butte des Morts. Mud Creek is part of the Fox River-Appleton subwatershed. Stream habitat in Mud Creek and its tributaries were rated fair to poor in a stream assessment in 1985. While streambank erosion is relatively infrequent, there are areas along the stream with high erosion potential during high flows. Construction activities are believed to contribute a significant amount of sediment to the creek. A fish survey during August 1995 produced tolerant species. At the time the stream was supporting its potential biological use of a warm water sport fishery (WDNR, 1995).

The Fox River, which bisects the Heart of the Valley planning and sewer service areas, is classified as a warm sport forage fishery. However, the entire Lower Fox River below Little Lake Butte des Morts is included in an international effort to restore its ecological functions which are known to be degraded, in part, by excess phosphorus and sediment loading. Modeling work in 1993 showed that the largest contributors (50 to 60 percent of the total pollutant load) of these pollutants were from immediate surrounding watersheds including the Duck and Apple subwatersheds. (Fox-Wolf Basin 2000, 1993) This portion of the Fox River also contains sediment contaminated with metals and organics commonly found in urban runoff, including cadmium, zinc, copper, mercury and polyaromatic hydrocarbons. (WDNR, 1993).

Surface water runoff and pollutant loadings will increase with the forecast growth for the 2030 sewer service area. The placement of roads, buildings and parking areas increase the amount of impervious area, and hence, more water runs off the land surface carrying organic and inorganic pollutants associated with these more intensive urban uses. The Department of Natural Resources has general guidelines for estimating unit area loadings of pollutants by land use categories. Within the Fox Cities Sewer Service Areas four pollutants have been analyzed for seven 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 Fox River. Specific subwatershed analysis has not been attempted.

The estimated pollutant loadings for the existing 2005 development areas within the Appleton Sewer Service Area are listed in Table 14. Table 15 contains estimates of future, additional loadings based on the development of all vacant lands with in the 2030 SSA (Map 29)

Groundwater Impacts
A United States Geological Survey study was completed in 1998 to better determine groundwater conditions in the Fox Valley region. Findings of this study have determined that the deep aquifer (sandstone deposits), which provides water for high capacity wells, is recharged from the west and northern edges of the Fox Cities urban area. 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 the quality and quantity of groundwater. 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. Increases in withdrawals will be restricted to the private industrial/commercial high capacity wells within the planning area since the city utilizes surface water (Lake Winnebago) as its source of supply.

While there are no significant negative deep groundwater impacts anticipated with increased development in the service area, there may be localized impacts on the shallow aquifer as areas develop. The City of Appleton obtains its potable water supply from Lake Winnebago. The Town of Grand Chute S.D. currently receives it's water from the City. Therefore development will not place significant withdrawal demands on the deep groundwater aquifer. Within the planning area the supply impacts would only affect the existing private shallow wells as new private well development is limited. While there appears to be no direct surface discharge to supplement streamflows the cumulative impacts of increased impervious areas of development will still have negative impacts on the shallow aquifer within the subwatershed areas.
### TABLE 14

Appleton SSA - Existing (2005) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>Development Type</th>
<th>2005 Acres</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>5,268.8</td>
<td>190.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>936.8</td>
<td>420.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Commercial (strip/downtown)</td>
<td>609.7</td>
<td>1,400.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Manufacturing Industries</td>
<td>2,894.0</td>
<td>900.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Freeways / Local Roads</td>
<td>2,493.3</td>
<td>600.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Undeveloped / Vacant</td>
<td>936.8</td>
<td>25.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Institutional / Governmental</td>
<td>1,560.1</td>
<td>700.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>14,164.1</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tons** 3635.96 5.45 5.85 7.54

Source: ECWRPC, 2005

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

### TABLE 15

Appleton SSA - Future (2030) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>Development Type</th>
<th>2050 Acres</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>Medium Dens Res. (2-6 units/ac, no alleys)</td>
<td>5,493.9</td>
<td>190.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Multi-Family Res. (3+ units / 1-3 stories)</td>
<td>321.8</td>
<td>420.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Commercial (strip/downtown)</td>
<td>944.3</td>
<td>1,400.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Manufacturing Industries</td>
<td>3,047.7</td>
<td>900.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Freeways / Local Roads</td>
<td>4,152.5</td>
<td>600.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Undeveloped / Vacant</td>
<td>1,725.7</td>
<td>25.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Institutional / Governmental</td>
<td>16,390.3</td>
<td>700.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>16,390.3</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tons** 3137.77 4.59 5.85 7.57

Source: ECWRPC, 2005

Note: Total SSA acres is less than previously noted due to water features not being included in these calculations.
Map 29- Appleton SSA - Year 2030 SSA & Proposed Land Use
(11x17 - color)
Back of map 29
**Water Quality Protection**
Cumulative impacts, including loss of baseflow in streams from increased development of impervious surfaces and enhanced stream flashiness and the resulting streambank erosion from alterations to headwaters and tributaries, will occur with full buildout 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.

A variety of local and county-wide stormwater management planning activities have been accomplished or are ongoing in nature. Appendix D contains general info on the state's stormwater planning requirements.

A priority watershed project is also underway for the Duck-Apple Creek subwatersheds. Water quality improvements are being proposed and installed in both the rural and urban portions of these watersheds. The City of Appleton is participating in this program.

East Central recommends receipt of preliminary subdivision plats for review for a conformance check with the sewer service area and water quality plan. Recommendations are made for final plat approval concerning water quality and stormwater management as well as 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, and 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.

**Plan Implementation & Recommendations**

Although sewer service area planning was initiated at the state and federal levels, successful implementation of each plan rests at the local level. In the state-approved Areawide Water Quality Management Plan for the Fox River Valley, 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 City of Appleton was so designated in the original areawide plan.
The functions of the city concerning sewerage system management are shown below:

<table>
<thead>
<tr>
<th>Governmental Unit</th>
<th>Category of Management</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Appleton</td>
<td>I</td>
<td>Wastewater Collection and Treatment</td>
</tr>
</tbody>
</table>

As designated management agencies for wastewater treatment and collection, the above-mentioned jurisdictions should do the following:

1. Adopt the Appleton Sewer Service Area Plan;

2. Work with the general purpose units of government in their jurisdictions to review and update development policies and regulations in light of the sewer service plan and recommendations;

3. Encourage general purpose units of government to 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 to review proposed extensions for consistency with sewer service area plans prior to being submitted to the WDNR for approval;

5. Submit wastewater facilities plans and plan amendments 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.

7. All communities should review and address issues and recommendations identified in the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001).

8. Monitor development amounts and rates to better determine the need for WWTF Facility Planning.

9. Continue to address issues and regulatory methods for the management of on-site system development within the 2050 Planning Area to better recognize the existing investment in sewer infrastructure.

10. Complete and/or update as necessary, local and county ‘smart growth’ comprehensive plans and incorporate information as necessary from the 2030 SSA Plan.
11. The City of Appleton should initiate planning and design of an upgraded interceptor to allow downstream sewers to accommodate development north of Broadway Drive and east of USH 47.

12. The City of Appleton and Village of Little Chute should initiate, when appropriate, a study to determine the ultimate sewer service conditions for lands designated along the east side of USH 441 between USH 41 and CTH OO as an ‘undefined planning area’.

In addition to 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.
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HEART OF THE VALLEY SEWER SERVICE AREA

Planning Area Description

The updated Heart of the Valley SSA Planning Area covers approximately 39.0 square miles (as compared to 37.3 in 1997) and is located in southeastern Outagamie and northern Calumet Counties. As illustrated on Map 30, the current boundary extends from the City of Appleton on the west, to a line about 1-1/2 miles west of the Brown County line to the east. It contains the Villages of Kimberly, Combined Locks and Little Chute; the City of Kaukauna; and portions of the towns of Buchanan, Vandenbroek and Kaukauna in Outagamie County, and a portion of the Town of Harrison in Calumet County.

The Planning Area is defined based on individual, or combinations of factors, including, but not limited to representations of: the "ultimate service" area of the treatment plant based on capacity; the extent of planned service areas for individual lift stations or interceptor sewers, and/or; the proximity of nearby clusters of development currently using on-site systems which may have long-term (20+ years) needs for sanitary sewer. Map 30 illustrates the previous (1997 plan) Planning Area along with the proposed modifications to the Planning Area Boundary made in this update. These adjustments were developed and proposed by staff after a thorough review of information pertaining to the existing and planned wastewater collection system, as well as through discussions with each Designated Management Agency during the plan development process. Each modification is discussed below:

- Planning Area Clarifications: Two areas, which remain within the Planning Area, have been further clarified as to the provision of long-term sewer service:

  1. Lands south of the Fox River and east of the City of Kaukauna have been noted as being within the Planning Area, however a major new lift station would be needed to provide sewer service to this area. Given its proximity to the City of Kaukauna, pressure to develop this area may exist, however; East Central would recommend that other readily available lands, with the ability to provide service using more cost-effective gravity sewers, be developed prior to extending infrastructure into this area.

  2. An internal boundary is illustrated south of the Fox River which, based on topography and sewer depth, will dictate which lands are to be served through the soon to be constructed Darboy S.D. 21-inch interceptor sewer and the City of Kaukauna's 30-inch Kankapot Creek Interceptor sewer. Since the entire area south of the Fox River can be provided gravity sewer in some method staff would highly discourage the use, or construction of, new lift stations to service development.
Planning Area Additions/Expansions: Several areas are proposed for inclusion in the Planning Area in order to better reflect the ability of the DMAs to actually provide service to these areas. Based on technical information for existing interceptor sewers and lift stations, the following areas have been proposed for inclusion in the Planning Area:

1. North of USH 41, east of French Road: This area is being removed from the Appleton SSA Planning Area and transferred to the Heart of the Valley SSA Planning Area based on the ability of the Village of Little Chute to provide more cost-effective service through the use of its 30-inch Evergreen Road interceptor sewer versus the City of Appleton needing a new lift station to accommodate the area.

2. South and East of the City of Kaukauna: These areas could be provided sewer service through the extension of the existing City of Kaukauna 30-inch Kankapot Creek Interceptor. The Commission recognizes that, due to current annexation laws and circumstances, the City of Kaukauna may not be able to grow into Calumet County and that local agreements may be needed between the City and neighboring towns to service this land in the future.

3. South of the Darboy Sanitary District: Bounded on the west by CTH N and the east by State Park Road, this 320-acre area was reviewed in detail by staff to evaluate the most cost-effective method in which to provide sewer service. Based on the Darboy Sanitary District’s current 21-inch interceptor sewer project, it appears that a majority of this area could be provided gravity service. The addition is recommended as it was determined that this area could be serviced more cost-effectively via gravity sewers from Darboy, versus upgrading a planned future lift-station from the Waverly Sanitary District (Neenah/Menasha SSA). Although the local consultant’s modeling showed no problems (in terms of downstream interceptor capacity resulting from industrial development) both East Central and the HOVMSD Commission acknowledges some concern with the ability to accommodate future flows from this area and therefore, it is strongly recommend by both entities that no heavy water using industries be located within this area. The Darboy Sanitary District will need to monitor flows closely in the future as this area develops.

Planning Area Deletions/Removals: Only one area, located north of the Fox River and south of USH 41 (east of the City of Kaukauna) is proposed for removal from the existing Planning Area. According to the City, these lands will not be provided any sewer service, nor are they likely to be annexed, according to previous discussions and agreements with the Town of Kaukauna.
Undefined Planning Area Designations: Two areas have been designated as being ‘undefined’ in nature, since more than one DMA’s collection system can potentially provide sewer service to the lands. For the 2030 SSA Plan, these areas would be considered to part of the long term Planning Area Boundary (and they may even be within the actual SSA), however; a ‘hold’ status would be applied for all sewer extension request until such time that proper information is submitted to East Central and the WDNR to determine the cost-effectiveness of various service alternatives. These areas are shown as follows:

1. An area located mostly within the Town of Vandenbroek, between the Village of Little Chute and the City of Kaukauna. This area is somewhat lower than surrounding lands and, due to the configuration and depth of the respective communities’ sewer systems, a new lift station (from either system) would likely be needed in order to provide sewer to these lands. Flows from this area would ultimately be directed to either the Village’s 30-inch Evergreen Road interceptor, or the City of Kaukauna’s 27-inch interceptor which has a 15-inch pipe extension along USH 55, near the dog track facility.

2. An area of land located south of USH 41 and east of USH 441 can be serviced either through an (eventual) extension of sewer from the Village of Little Chute as the Paradise Valley area develops, or from the City of Appleton, although in the latter case, the line would need to be bored underneath USH 441. At this time, neither community shows a strong desire to provide service to this area and, as such, a more detailed determination of cost-effectiveness and capacity will be needed prior to considering which SSA Planning Area this land ultimately resides within.

Land Use and Development

Map 31 illustrates the current (2005), existing land use for the Heart of the Valley SSA along with the updated Planning Area Boundary for reference purposes. This information is based on the Commission’s detailed land use inventory with corrections made by each community during the update process. This data corresponds with a timeframe (or ‘snapshot’) if late October/early November, 2004.

As updated in 2005, the 2030 Heart of the Valley SSA (prior to modification) contained approximately 19,217 total acres. Of this total, about 3,875 acres, or 25 percent, was considered to be vacant and developable in nature. Of the 14,528 developed acres, about 31 percent of the area was in residential uses, another 13.5 percent in commercial/industrial land uses; 10 percent in public, institutional, or utility uses, and; 18 percent in transportation uses.
Environmentally Sensitive Areas

The Heart of the Valley planning area is located in portions of both the Upper and Lower Fox River Basins. The portion north of the Fox River is located in the Fox River/Appleton and Apple & Ashwaubenon Creeks watersheds, while lands to the south of the Fox River are within either the Plum and Kankapot Creeks subwatershed (which includes Garner's Creek) or the Lake Winnebago/North watersheds. Only the most southern portion of the Planning Area is within the Environmentally sensitive areas, or ESAs, cover approximately 668.8 acres throughout the Heart of the Valley Planning Area. These lands primarily consist of buffers along the perennial and intermittent streams and existing wetland areas as defined and mapped by the Wisconsin Department of Natural Resources. Sewer service policies protect environmentally sensitive areas from development activities associated with sanitary sewer extensions and are illustrated on Map 32. More detailed mapping and information on the definition of ESAs are contained on the final SSA maps and in Figure 1. Because of discrepancies and inaccuracies often associated with watercourse mapping, all streams shown on these maps are assumed to be ‘navigable’ in nature and are shown with the maximum 75-foot stream buffer. As newly allocated lands develop, East Central staff will monitor, determine, and re-map the streams with the appropriate width buffers during the subdivision plat and sewer extension review processes.

Perhaps the most significant area designated as environmentally sensitive in the planning area is the 1000 Islands Nature Preserve in Kaukauna. This area consists largely of riverine wetlands in the floodway of the Fox River. Other major areas classified as environmentally sensitive include areas along the Fox River, Apple Creek, Garner's Creek, Kankapot Creek, and a number of other small tributaries to the Fox River. Many of the streams with direct drainage to the Fox River consist of steep slopes and ravines which are subject to severe erosion if disturbed by development activities. Within the Apple & Ashwaubenon Creeks watershed a few scattered areas of wetlands are present, most of which are located south of USH 41 in the existing urbanized area. Riverine wetlands are also present within the lower reaches of the Garners Creek subwatershed, South of the Fox River, North of CTH K, and between S. Washington St. and Hidden Ridgeway. Many of these wetlands are adjacent to projected growth areas.

Lands with Limiting Environmental Conditions

Lands with environmental conditions that may impact development include areas with seasonal high groundwater, steep slopes, high bedrock and floodplains. In many instances the streams tributary to the Fox River flow through relatively deep ravines with steep side slopes. These areas are designated for steep slopes, floodplains and a few areas of high groundwater. Most of these areas are within permanent development areas and are not subject to development pressure. These areas are illustrated in Map 32.

North of the Fox River there are scattered small areas of high groundwater, however there are no documented areas of high bedrock, steep slopes or floodplains. There are virtually no limiting environmental conditions associated with proposed service area growth additions in this subwatershed. To the south of the Fox River there are areas of steep slopes associated with the channels in the Garner’s and Plum Creeks subwatersheds. These areas are primarily in existing development areas and are therefore not subject to significant further modification. There are a few small areas of high groundwater in the upper reaches of the watersheds within future growth areas. Construction site erosion for areas of steep slopes may become a problem if development is not restricted in these areas or if construction site erosion control measures are not employed.
Back of map 31
Map 32 ESAs and Limiting Environmental Conditions (11x17 color)
Back of map 32
Designated Management Area Descriptions

Map 33 illustrates the existing Designated Management Areas (DMAs) within the Heart of the Valley SSA. DMAs are the legal entities (communities, sanitary districts, or utility districts) that are responsible for the collection or treatment of wastewater. Within the SSA Planning Area, there are fourteen governmental entities which exist, six of which are DMAs:

1. City of Kaukauna*
2. Village of Little Chute*
3. Village of Kimberly*
4. Village of Combined Locks*
5. Town of Buchanan
6. Town of Harrison
7. Town of Kaukauna
8. Town of Vandenbroek
9. Darboy Sanitary District*
10. Outagamie County
11. Calumet County
12. Vandenbroek Sanitary District
13. City of Appleton
14. HOV/MSD*

* indicates DMA designation

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

The City of Kaukauna is the largest community in the Heart of the Valley with a 2005 population of 14,205. The City was 4,311.8 acres in size with 1,190.64 acres of residential, 142.38 acres of commercial, 374.19 acres of industrial and 555.29 acres of public and park lands. The major commercial area is in the downtown central to the city. Major industrial areas include the Thilmany Paper Mill site located in the eastern portion of the community along the Fox River and also the public industrial park located to the northeast along USH 41. Residential development has been occurring along the south and southeast edges of the community.

The Village of Little Chute had a 2005 population of 10,952. The community covers 3,279.2 acres with 934.5 acres of residential, 223.2 acres of commercial, 249.1 acres of industrial and 167.5 acres of public and park lands. The major commercial area is located in the downtown along Main Street with scattered commercial along Wisconsin Avenue. Industrial areas are located east of CTH N along Elm Drive and Buchanan Street. Residential development has been occurring in the northwestern portion of the Village along Elm Drive.

The Village of Kimberly is located south of the Fox River and had a population of 6,436 in 2005. Within the community there are 468.9 acres of residential development, 92.34 acres of commercial, 130.9 acres of industrial and 190.6 acres of public and open space lands. The entire community covers 1,267 acres. The community consists primarily of residential development with minor commercial development along North Washington/East Maes Street, and the Kimberly Avenue area. A major industrial complex is located along the Fox River and the Kimberly Business Park is located in the northeast quadrant of the CTH CE and Tri-County Expressway interchange.

Combined Locks had a population of 2,708 and was 1,064.6 acres in size. There were 373.9 acres of residences, 9.87 acres of commercial, 47.43 acres of industrial and 95 acres of public and park lands. The community is primarily residential in nature with scattered commercial development along South Washington Street and industrial development in the northeastern portion of the village along the Fox River.
The Darboy Sanitary District is located to the south of the Villages of Combined Locks and Kimberly. The district included 3,585.2 acres within its boundary in 2005. There were 1,605.6 acres of residential development, 164.4 acres of commercial, 47.85 acres of industrial and 66.5 acres of public and park lands. The District straddles the Town of Buchanan in Outagamie County and the Town of Harrison in Calumet County. This area has experienced significant residential development and also supporting commercial development.

The Vandenbroek S.D. is located to the north of the Village of Little Chute to the north of USH 41 along CTH N. The District was 811.64 acres in size and in 2005 included 62.53 acres of residential, 47.62 acres of commercial, 39.39 acres of industrial and 0 acres of public and park land development.

The City of Appleton searches into the HOV/MSD SSA along CTY KK. This narrow strip of acreage runs from USH 441, east to Eisenhower Drive. Heavy commercial development exists in this area with most of the acreage already developed.

**Sewerage Collection & Treatment System**

The Heart of the Valley Metropolitan Sewerage District (MSD) is a special purpose unit of government jointly created by the City of Kaukauna and the villages of Kimberly, Combined Locks and Little Chute to provide wastewater treatment to the various communities. In the early 1980's the Heart of the Valley MSD entered into an agreement with the Darboy Sanitary District for the provision of wastewater treatment. In 1995 the Darboy Sanitary District became a full member of the MSD. The MSD also owns and operates the major interceptor sewer installed in the Fox River which collects wastewater generated by the upstream communities. The MSD's activated sludge wastewater treatment plant, constructed in the late 1970's and upgraded in 1988, is located at the eastern limits of the City of Kaukauna adjacent to the Fox River. Major components of the sewerage collection and treatment system are illustrated on Map 34. Discharge permit information and design characteristics of the plant are as follows:

WPDES Permit Number: WI-0031232-07-0
Expiration Date: June 30, 2006
Receiving Water: Fox River
Design Flow: Planned 8.50 mgd (after planned upgrade)
Average Flow: 5.47 mgd (2003)
Treatment Type: Activated Sludge
Sludge Treatment: Aerobic Digestion
Method of Sludge Disposal: Injection on Agricultural Land
back of map 33
The facility has been performing well, recent modifications to the plant included a 2 million gallon sludge storage tank to increase sludge storage capabilities during winter months as well as a SCADA computerized system for monitoring and controlling various plant processes and operations.

In 2003 the MSD initiated NR-110 Facilities Planning process to address concerns related to flow levels and treatment capacity in the District-owned Fox River Interceptor system and the WWTF. Biological treatment for the future is also addressed, but was not the major factor driving the plan. The Facilities Plan was approved by the WDNR in June 2004. It should be noted again that the SSA plan and the Facilities Plan share the same basic data and assumptions and therefore SSA acreage allocations would ideally match the future plant design.

In the Heart of the Valley area, wastewater collection is the responsibility of the City of Kaukauna, three villages, and the Darboy Sanitary District. The wastewater collection system in the member communities consists largely of eight and ten inch gravity sewers. Major interceptor sewers are located along Kimberly Avenue and Maes Street in Kimberly; along Garner's Creek and the Chicago and Northwestern railroad tracks in Combined Locks; along First and Third Streets, along Kankapot Creek, then west and south serving the south side of Kaukauna, in the vicinity of Grignon and Railroad street, and along the northeastern city limits on the north side of Kaukauna; and along Madison, McKinley, Depot, Main Street and Lincoln Avenue in Little Chute. All local interceptors flow into the primary Fox River Interceptor leading to the treatment plant. There are no lift stations needed to pump wastewater to the plant, however; several metering stations and a dual siphon crossing exist to monitor flows and transport them from the south side of the Fox River.

The HOVMSD interceptor and wastewater treatment facility has experienced significant problems in the past during wet weather periods as a result of clearwater inflow and infiltration (I&I). During 1996 an I&I Grant Fund program was established by the MSD to provide money to communities to correct specific infiltration/inflow problems. The MSD further developed and instituted a ‘surcharge’ fee system which applied to communities whose I&I was measured at a ratio higher than established by the District. In 2004, as part of the NR-110 Facilities efforts, the MSD worked with communities to formally adopt a goal and improvement program which reduces current and projected I&I levels by 30 percent over a 10-year period; thereby avoiding unnecessary expenditures on plant upgrades to treat ‘clean’ water. This arrangement is required as part of the facilities plan approval and the District and, its consultants (as of February, 2005) are working with the communities on implementation options and project identification and scheduling tasks.
### Table 16
HOVMSD WWTF Performance Summary

<table>
<thead>
<tr>
<th>Month</th>
<th>INFLUENT</th>
<th>EFFLUENT</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>FEB</td>
<td>5.473</td>
<td>184</td>
</tr>
<tr>
<td>MAR</td>
<td>10.16</td>
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<tr>
<td>APR</td>
<td>6.596</td>
<td>150</td>
</tr>
<tr>
<td>MAY</td>
<td>9.658</td>
<td>114</td>
</tr>
<tr>
<td>J UN</td>
<td>8.804</td>
<td>112</td>
</tr>
<tr>
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<td>153</td>
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<tr>
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<td>NOV</td>
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<tr>
<td>Total</td>
<td>77.072</td>
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<tr>
<td>Average</td>
<td>6.423</td>
<td>155.3</td>
</tr>
</tbody>
</table>

Design Flow (mgd) = 9.0      BOD Permit Limit (mg/l) = 25
90% of Design = 8.1          90% of Permit Limit = 22.5
Design BOD (lb/day) = 9,800   TSS Permit Limit (mg/l) = 30
90% of Design = 8,820        90% of Permit Limit= 27

*Note: Average of Monthly flows is 71.4% of design flow.*

Source: HOVMSD, 2004
Map 34 - HOVMSD SSA - WWTF & Infrastructure Locations (11x17 - b/w)
Back of map 34
Forecasted Growth & Development

Population Projections
The HOVSSA Plan has a horizon year of 2030, or 25 years. Typically, SSA plans look at a 20-year period; however, due to need for consistency between the SSA Plan and the ongoing update of the Fox Cities Long-Range Transportation/Land Use Plan by East Central (acting as the designated Metropolitan Planning Organization, or MPO), it was deemed necessary to have the year 2030 serve as the planning horizon for both projects. All demographic data used and created for the SSA plan is integrated into the Transportation/Land Use Plan to more accurately portray the region’s transportation needs based on expected growth and development.

The population projections used for this plan update were developed and formally adopted by the Commission on October 30th, 2004. More information on the projections and methodologies are available in the Commission’s document entitled 2005-2030 Population Projections for Communities in the East Central Region. East Central has typically allowed an increase in theses projections to account for engineering and design considerations of interceptor sewers and wastewater treatment plants. The projections adopted by the Commission allow for an additional ten percent of the increase in population between 2005 and 2030 (2,117 persons in this case) to be added on to the year 2030 base figure for SSA Planning purposes. The HOVSSA projections are shown in Table 17.

These adopted projections do not specifically address individual sanitary district populations. For those unincorporated towns which provide sewer through sanitary districts, each district’s population is calculated using recent customer connection data. A base population is calculated and then the same rate of growth as the town(s) (percentage-wise) is applied to the base-year population for each period. Using this method, the Darboy Sanitary District’s population was estimated to be 12,086 for 2005 as shown in Table 17. Using the current percentage split of the Town of Harrison’s total population (69.1%), a projection was made assuming that ratio would be held constant over time. Additionally, it is assumed that the entire Town of Buchanan’s population will be sewer-ed in the future, if not by the Darboy Sanitary District, by some other entity, as the current district boundary coincides with the maximum extent of gravity service to the east. Lands further east of this boundary can be served through the City of Kaukauna’s collection system. This additional population is noted as ‘other than Darboy’ for this plan’s purpose.

A significant amount of growth is expected within the HOVSSA over the next 25 years. As shown in Table 17, the population within the SSA is estimated to increase by 21,170 persons, from 46,743 persons in 2005 to 70,030 persons by 2030. For SSA planning purposes, it has been determined that populations associated with the Town of Vandenbroek and Town of Kaukauna will not be included in the acreage allocation calculations due to the fact that public sewer is not currently available to these communities. It is assumed that future increases in population for these communities will be accommodated with on-site system technologies and that historic rates of annexation will continue into the future, so it is anticipated that sewered growth will be accommodated by the Village of Little Chute and City of Kaukauna. Also, for the HOVMSD’s Facilities Planning efforts, with a time horizon of 2028, this design figure has been straight-line calculated at 68,180 persons (including the additional 10 percent of the increase).
Please note that, unlike previous plan updates, no ‘market factor’ is being used in the 2005 HOVSSA Plan Update. The 1997 SSA Plan had allocated an additional 20 percent of the projected acreage to accommodate ‘market forces’ as well as numerous ‘unknowns’ in terms of specific lands that would, or would not, be developed in that time-period. The timing of the 2004/05 Plan Update is such that it is nearly simultaneous with the NR-110 WWTF Facilities Planning efforts for the HOVMSD, an effort which ultimately determines the sizing and capacity of the major collection and treatment systems. Due to the planned investment in infrastructure (~$28 million), it is important to have the actual SSA boundary reflect (as close as possible) the planned capacity of these facilities. Please note that for both plans, an additional increase in the base population was included and, for this plan, will be considered the built-in ‘market factor’. This additional population increase accounts for 3.1 percent of the total HOVSSA population; and therefore, an equivalent percentage of the calculated acreages are automatically considered ‘excess’ in nature.

Table 17
HOVMSD SSA Population, Housing & Employment Projections

<table>
<thead>
<tr>
<th>Projection Type</th>
<th>Year</th>
<th>Change 2005 -2030</th>
<th>Change w/ 10% of increase*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2010</td>
<td>2015</td>
</tr>
<tr>
<td>Total Population</td>
<td>72,314</td>
<td>74,337</td>
<td>76,350</td>
</tr>
<tr>
<td>Total Households (d.u.)</td>
<td>28,058</td>
<td>29,334</td>
<td>30,438</td>
</tr>
<tr>
<td>Total Employment</td>
<td>36,231</td>
<td>39,168</td>
<td>42,041</td>
</tr>
</tbody>
</table>

*This figure is the one utilized as the base projection for the 2030 SSA acreage calculations.
Source: U.S. Census Bureau, 2000; ECWRPC, 2005.

Household & Persons Per Household Projections
Table 17 illustrates the current and project households (HH) and persons per household (PPH) for each entity within the HOVSSA. The persons per household for the HOVSSA as a whole is expected to decrease from an average of 2.78 to 2.54 during the 25-year period. This trend is evident in many communities within the East Central region, as well as the nation, as it reflects an aging population and recent societal changes. Households are expected to increase by 9,635 units from 18,406 in 2005 to 28,041 in 2030. The household projections are based on the original community population projections and the PPH figures. The Town of Buchanan’s households were also split (based on population ratios) to reflect the projected ‘other than Darboy’ dwelling units. Although not quite the same according to strict definitions, for SSA planning purposes, ‘households’ will be the same as ‘dwelling units’ for projection purposes.

Residential Acreage Calculations
The projected 21,170 increase in population, coupled with a declining household size (2.54 by 2030), results in a need for 8,865 new dwelling units between the year 2005 and 2030. These factors, along with other assumptions as described below, comprise the methodology by which the ‘acreage need’ is calculated.
Based on an examination of building permits between the four-year period of 2000 and, the estimated single-family/multifamily mix of residential development for the entire SSA is 64.2 percent single-family (incl. mobile homes), 12.8 percent duplex, and 23.0 percent multifamily. In comparison, year 2000 U.S. Census data showed that the overall splits of housing types were 77.4 percent single-family; 10.7 percent duplex, and; 12.0 percent multi-family (Appendix C). In discussions with the affected communities, they generally felt that the year 2000 splits are likely to be more accurate, although some acknowledgement was given that multi-family and higher density projects may need to increase during the planning period due to the aging population. The 2005 SSA Plan Update will use the more conservative figures from the 2000 Census. Using average figures for the entire HOVSSA, and assuming that these percentage splits continue during the planning period, approximately 8,062 single-family units, 1,112 duplex units, and 1,246 multifamily units will be needed in the SSA by the year 2030, consuming approximately 3,505 acres (Table 8).

The acreage allocation formula also requires an estimate of future residential development densities during the planning period. The most logical place to find such estimates would be within locally adopted comprehensive plans; however, a majority of plans for the HOVSSA communities do not contain specific enough target densities for the various residential development types. Of all the adopted plans, only three references to density are mentioned: the Town of Harrison's specifies a planned density (2.0 units per acre) for single-family residential development; the Town of Buchanan's indicates a 5.0 units per acre density for multi-family development; and, the Village of Little Chute's mentions a goal for an overall development density of 4.6 units per acre for all types of residential development.

Due to the varying degree of information presented in these plans, East Central has chosen to utilize densities based on other sources of information as illustrated in Table 18. Single-family residential densities are based on recent development trends between 1996 and 2004 and were calculated from subdivision plat records. Duplex unit densities are simply twice that of the single-family, while multi-family densities are assumed to remain the same as the 1997 SSA plan specified (12.6 du/acre). The only exceptions to this (in the interest of consistency with currently engineered projects) are for the Darboy Sanitary District which specified assumptions of 2.3 du/acre for single-family and 10.0 du/acre for multi-family in its NR-110 Facilities Plan (2000).

This information results in HOVSSA average densities of 2.53, 5.07, and 12.08 du/acre for single, duplex, and multi-family dwellings, respectively. As shown in Table 4-10, if each communities’ density figure is applied to the previous assumptions, the total acreage required for residential development is 4,030.7 acres (3,659.8 for SF, 252.3 for duplex, and 118.6 for MF).
Commercial & Industrial Acreage Calculations

The acreage needed for commercial/industrial development is based upon labor force growth and employment density. As shown in Table 17, and based on East Central’s collection of employment data in 2004, the HOVSSA has approximately 20,266 employees. Given the amount of commercial and industrial land use within the existing (2005) SSA, (1,583.93 acres), the ratio of employees per acre equals 12.8. The HOVSSA communities’ labor force is projected to peak at 28,379 by the year 2030, an increase of 8,113 acres. At a commercial/industrial employment density of 12.8 employees per acre, the estimated acreage need for this type of development is 634.1 acres.

Growth Allocation Areas & 2030 SSA

The policy basis for allocating acreage for future development is outlined on page 175. 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, and development plans and preferences of the individual communities (acreage requests) based on locally adopted land use plans. These needs are compared to reasonable projections of future development and, as necessary, these items are balanced with the needs of the community and region so as to minimize inefficiencies in development amounts and patterns.

Priority Development Area Mapping

New to this update was a more thorough request to the communities regarding the phasing, or ‘priority’ of development based on their adopted comprehensive plan. During the working meetings with each DMA and community, a map was developed which indicated their general thoughts of development timing based on their local plan, landowner knowledge and planned capital improvements. Three levels of ‘priority’ were assigned to overall areas requested for addition to the 1997 SSA and can be simply described as follows: #1 - generally felt to develop in the next 5, to possibly 10 years; #2 - generally felt to develop in 10 to 20 years, and; #3 - generally thought to develop in 20 or more years, primarily based on the need for, and timing of, major sewer infrastructure. For the entire SSA, the ‘priority area requests’, were as follows: Priority #1 – 2,381.5 acres, Priority #2 – 1,011.9 acres, and Priority #3 – 1,683.6 acres. Map 35 indicates the ‘priority level’ which was assigned to each community’s acreage request.
Map 35 - HOVMSD SSA - Priority Development Areas
(11x17 color)
While East Central will not formally hold each community to these development priorities, they will serve to remind the Commission, community, and public of the basic thoughts of development timing for the year 2005. It should be noted that East Central may, and in some cases has, recommend that conditions be attached to WDNR sewer extension approvals where needed to deal with conflicts related to development timing issues or to preserve designated environmentally sensitive areas that lie within the growth allocation areas.

Year 2030 Sewer Service Area
The year 2030 Sewer Service Area for the Heart of the Valley WWTF is illustrated in Maps 41 and 42 contain a total of 19,028 acres. Of this total, 861 acres have been designated as environmentally sensitive areas (ESAs) and 5,825.4 acres are considered to be vacant and available for development. If one removes the vacant acreage that is reserved for public or institutional uses based on community requests (122.4) from this total, a final figure of 5,703 acres are left to accommodate traditional residential, commercial, and industrial development. This compares to a calculated vacant acreage need of 4,665 acres for these types of development; therefore, an 'excess' of 1,038 vacant acres exists within the 2030 SSA. A more detailed listing of SSA allocations is contained in Table 18.

The 1,038 acres of 'excess' vacant acreage is attributed to several factors, and; after thorough analysis by staff, along with discussions with the affected entities, East Central feels that, although the acreage technically exceeds the projected needs of the SSA, the areas are warranted for the following reasons:

1. The existence of adopted comprehensive plans which were reviewed and certified by East Central under its current SSA policies;
2. The existing of legally binding inter-municipal boundary agreements (Map 10);
3. Knowledge on the rates and locations of recent growth as well as the location of existing or planned infrastructure, and;
4. Sensitivity to local politically driven issues dealing with land use, infrastructure, and development equity.

A summary of the sewer service area allocations is contained in Table 18, while more detailed acreage figures and comparisons are provided in Appendix C. A short description of the major acreage allocations and growth areas are provided below:

- **Village of Little Chute.** Considerable acreage has been allocated to the HOV Sewer Service Area within and adjacent to the northern boundary, within the Town of Vandenbroek. Approximately 900 acres are planned for residential, commercial and industrial growth north of USH 41, along Evergreen Drive.

- **City of Kaukauna.** Major growth allocation areas in the City of Kaukauna include the USH 41 corridor on the north and vacant lands along CTH CE and along the USH 55 corridor in the southeast. Along USH 41 approximately 340 acres are designated for residential development and 407 acres are designated for commercial and industrial uses. On the Southeast side of Kaukauna along USH 55 there are approximately 855 acres slated for residential growth, this accounts for over half the acreage designated on the southeast side.
• **Village of Combined Locks.** Approximately 640 acres has been allocated to a parcel south of CTH CE and west of DeBruin Road as an extension of the present village limits. Several larger parcels also remain to be developed north of CTH CE along CTH K.

• **Village of Kimberly.** Growth acreage is limited to the infilling of vacant parcels of land. Approximately 73 acres of undeveloped land remains in the village’s portion of the sewer service area.

• **Darboy Sanitary District.** In response to the rapid growth rate of this area, significant acreage has been added to accommodate future growth within the Sanitary District. The allocated acreage stretches form CTH N to Highline Road. Approximately 1,630 areas of residential growth and 178 acres of commercial and industrial lands will be added.

**SSA “Hold Areas” & Descriptions**

During the SSA Plan Update process, several areas were identified as having some type of ongoing land use or service provision issue. These areas, identified as temporary ‘hold areas’ (Maps 9a and 9b) are, for the plan update purposes, going to be considered as part of the 2030 SSA and are recommended for approval by the Commission and the WDNR. Within these temporary ‘hold areas’, East Central staff will not consider approving any public sewer extension (i.e. ‘208’ WQM Letter) and would recommend against any development proposal within these areas until the issue(s) are adequately resolved (either at the local, county, or Commission level). The temporary ‘hold’ status can be removed by action of the Community Facilities Committee, at a regularly scheduled meeting, upon documentation being provided which adequately addresses the issue(s) at hand. Short descriptions of these areas, as well as the conditions that apply, are listed below:

• Town of Harrison – CTH N and Manitowoc Road Area: The Town of Harrison and the City of Appleton are currently addressing issues and working toward land use agreements. When both parties have agreed on the Town of Harrison’s Smart Growth / Land Use Plan, ECWRPC will facilitate a Community Facilities Committee meeting and recommend the removal of the ‘Hold’ status of this area.

• Town of Harrison – CTH KK and STH 55 Area: At this time it is undetermined if the Darboy Sanitary District or the City of Kaukauna will serve this area. The ‘Hold’ status will stay in place until an agreement of which DMA will serve this area.
Map 36 - HOVMSD - Year 2030 Sewer Service Area
(11x17 - color)
Back of map 36
### TABLE 18
HOVMSD SSA - SSA Update Acreage Summary & Comparison

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed</td>
<td>10,792.5</td>
<td>n/a</td>
<td>11,226.8</td>
<td>434.3</td>
<td>n/a</td>
</tr>
<tr>
<td>Vacant, (see below for breakdown by proposed land use)</td>
<td>3,542.4</td>
<td>4,664.8</td>
<td>5,825.4</td>
<td>2,283.0</td>
<td>1,160.6</td>
</tr>
<tr>
<td>Vacant/Undevelopable</td>
<td>281.3</td>
<td>n/a</td>
<td>276.3</td>
<td>(5.0)</td>
<td>n/a</td>
</tr>
<tr>
<td>Environmentally Sensitive Area</td>
<td>688.8</td>
<td>n/a</td>
<td>861.0</td>
<td>172.2</td>
<td>n/a</td>
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<tr>
<td>Water</td>
<td>74.3</td>
<td>n/a</td>
<td>643.4</td>
<td>569.1</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total SSA</strong></td>
<td><strong>15,379.3</strong></td>
<td><strong>4,664.8</strong></td>
<td><strong>18,832.9</strong></td>
<td><strong>3,453.6</strong></td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vacant Land By Proposed Land Use Type</th>
<th>2020 SSA (2005 conditions)</th>
<th>2030 SSA Projection</th>
<th>2030 SSA (2005 conditions)</th>
<th>2020-2030 Difference</th>
<th>&quot;Excess&quot; (2030-projection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential (incl. duplex)</td>
<td>4,637.30</td>
<td>3912.1</td>
<td>4,708.4</td>
<td>71.1</td>
<td>796.3</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>114.1</td>
<td>118.6</td>
<td>116.7</td>
<td>2.6</td>
<td>(1.9)</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>3,049.45</td>
<td>634.1</td>
<td>1,599.8</td>
<td>(1,449.7)</td>
<td>965.7</td>
</tr>
<tr>
<td>Public Institutional</td>
<td>1584.6</td>
<td>n/a</td>
<td>1,229.4</td>
<td>(355.2)</td>
<td>n/a</td>
</tr>
<tr>
<td>Agriculture/Undeveloped (assumed to be SF Res.)</td>
<td>3,542.37</td>
<td>n/a</td>
<td>5,825.4</td>
<td>2,283.0</td>
<td>5,825.4</td>
</tr>
<tr>
<td><strong>Total Vacant Acreage</strong></td>
<td><strong>12927.82</strong></td>
<td><strong>4664.8</strong></td>
<td><strong>13,479.7</strong></td>
<td><strong>551.9</strong></td>
<td><strong>8,814.9</strong></td>
</tr>
</tbody>
</table>

Source: ECWRPC, 2005
Holding Tank Service Areas
There are a number of sewage holding tanks and individual on-site septic systems within the Heart of the Valley Planning Area. According to Wisconsin Administrative Code NR113 septic pumpage from these systems is directed to the regional treatment facility. In addition, large holding tanks exceeding 3,000 gallons per day need a special holding tank service area designation. There is one large holding tank present in the Heart of the Valley Planning Area which serves the Starlight Supper Club at the corner of STH 55 and CTH JJ. A complete inventory of existing private on-site holding tanks and septic systems is not available from the county for development within the planning area.

Water Quality Assessment

Continued urbanization of the Heart of the Valley area will impact surface and groundwater resources. Surface water runoff and pollutant loadings are likely to increase, and groundwater recharge is likely to decrease. 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.

Point Source Water Quality Impacts
Population growth and commercial/industrial development will increase loadings to the Heart of the Valley wastewater treatment plant, and ultimately to the Fox River. Without a wastewater engineering assessment for this time-period 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 to a percentage increase in overall future development can be made. Based upon this analysis, the average flows are expected to increase by 4.03 mgd which is well within the design capacity of the treatment facility. Impacts of increased discharge levels will be periodically evaluated by the Department of Natural Resources in conjunction with WPDES permit renewals. Assimilative capacity of the receiving water will be used under high temperature/low flow (wasteload allocation) conditions to establish discharge limits to maintain water quality standards.

Non-point Source Water Quality Impacts
The sewer service expansion area includes tributaries to Apple Creek on the northwest side of the Fox River and also the outlets of Garners Creek and Kankapot Creek on the south side of the river.

Apple Creek's 24 miles support a warm Water fishery for miles 0-4 (as measured from the Fox River in Brown County) and a warm water forage fishery for miles 5-24 including headwater streams (those contained within the HOVSSA Planning Area). The creek can potentially support a sport fishery in miles 0-12 with water quality improvements. This subwatershed is part of a priority watershed project which received Land and Water Conservation Board approval in June, 1997.

The southern sewer service expansion also includes Kankapot Creek and its tributaries which support a limited forage fishery. The streambanks are eroded and slumping due to flooding and gully erosion is common from roadway drainage. Kankapot Creek has the potential to support a warm water forage fishery but excess organic pollution and lack of habitat inhibit this potential.
Garners Creek covers a significant portion of the Darboy/Combined Locks area. For Garners Creek and its tributaries, stream habitat is rated fair to poor. Streambank erosion and failure is common from flooding with bank failures in the downstream areas. Gravel, rubble and other stream habitat lie under a layer of clay sediment with many of the stream pools filled in. Filamentous algae covers the rocks and bottom substrate in shallow exposed areas. In rural portions of the watershed row crops border the stream banks. Significant portions of the lower stream are urbanized with development encroachments on the stream corridor. Macroinvertebrates samples indicate fair to poor water quality with organic pollution fairly significant to very significant. Stream flow is negligible during the summer but flashy with rain events. Tolerant forage fish species are most abundant. The creek's biological use potential should be classified as a limited forage fish community.

The Fox River, which bisects the Heart of the Valley planning and sewer service areas, is classified as a warm sport forage fishery. However, the entire Lower Fox River below Little Lake Butte des Morts is included in an international effort to restore its ecological functions which are known to be degraded, in part, by excess phosphorus and sediment loading. Modeling work in 1993 showed that the largest contributors (50 to 60 percent of the total pollutant load) of these pollutants were from immediate surrounding watersheds including the Duck and Apple subwatersheds (Fox-Wolf Basin 2000, 1993). This portion of the Fox River also contains sediment contaminated with metals and organics commonly found in urban runoff, including cadmium, zinc, copper, mercury and poly-aromatic hydrocarbons (WDNR, 1993).

Surface water runoff and pollutant loadings will increase with the forecast growth for the 2030 sewer service area. The placement of roads, buildings and parking areas increase the amount of impervious area, and hence, more water runs off the land surface carrying organic and inorganic pollutants associated with these more intensive urban uses. The Department of Natural Resources has general guidelines (Appendix D) for estimating unit area loadings of pollutants by land use categories. Within the Fox Cities Sewer Service Areas four pollutants have been analyzed for seven 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 Fox River. Specific subwatershed analysis has not been attempted.

The estimated pollutant loadings for the existing 2005 development areas within the HOV/MSD Sewer Service Area are listed in Table 19. Table 20 contains estimates of future, additional loadings based on the development of all vacant land with in the 2030 SSA (map 38).
TABLE 19

HOVMSD SSA - Existing (2005) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>2005 Acres</th>
<th>Development Type</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
<td>Zinc</td>
</tr>
<tr>
<td>4,637.3</td>
<td>190.0</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>114.0</td>
<td>420.0</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>684.1</td>
<td>1,400.0</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>899.8</td>
<td>900.0</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>2,713.2</td>
<td>600.0</td>
<td>0.9</td>
<td>1.9</td>
</tr>
<tr>
<td>1,139.8</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>13,730.6</td>
<td>700.0</td>
<td>0.5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

TOTALS 6,411,112.0 9,801.0 10,715.1 13,645.5

Tons 3205.56 4.90 5.36 6.82

Source: ECWRPC, 2005

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

TABLE 20

HOVMSD SSA - Future (2030) Non-Point Source Pollution Loading Estimate

<table>
<thead>
<tr>
<th>2030 Acres</th>
<th>Development Type</th>
<th>Unit Area Loads by Land Use (lbs/acre/yr)</th>
<th>Calculated Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sediment</td>
<td>Phosphorus</td>
<td>Zinc</td>
</tr>
<tr>
<td>4,708.4</td>
<td>190.0</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>116.7</td>
<td>420.0</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>680.2</td>
<td>1,400.0</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>919.6</td>
<td>900.0</td>
<td>1.5</td>
<td>2.1</td>
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<td>2,966.9</td>
<td>600.0</td>
<td>0.9</td>
<td>1.9</td>
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<td>5,825.4</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>1,229.4</td>
<td>700.0</td>
<td>0.5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

TOTALS 5,509,885.0 8,213.8 10,757.7 13,877.3

Tons 2754.94 4.11 5.36 6.94

Source: ECWRPC, 2005
Map 38 – HOVMSD SSA – Year 2030 SSA & Proposed Land Use
(11x17 – color)
Back of map 38
**Groundwater Impacts**

A United States Geological Survey study, completed in 1998, analyzed the groundwater conditions within the Fox Valley region. Preliminary findings of this study have determined that the deep aquifer system (sandstone deposits), which provides high capacity municipal and industrial wells, is recharged from the western and northern edges of the Fox Cities urban area. Increased development of the recharge areas could have long-term impacts on the rates of groundwater recharge. Conversion of rural/agricultural lands to urban uses may impact both the quality and quantity of groundwater. 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 uses.

The Heart of the Valley service area receives its potable water from the groundwater resource. The City of Kaukauna, Village of Little Chute, Village of Kimberly and Darboy S.D. all maintain separate wells and distribution systems. The Village of Combined Locks purchases its water from the Village of Kimberly. Increases in withdrawals are anticipated for both municipal and private commercial/industrial high capacity wells. While there are no significant negative deep groundwater impacts anticipated with increased development in the service area, there may be localized impacts on the shallow aquifer as areas continue to develop. Within the planning area the supply impacts would only affect the existing private shallow wells as new private well development is limited. The cumulative impacts of increased impervious areas of development will have negative impacts on the shallow aquifer system within the watershed area.

**Water Quality Protection**

Cumulative impacts, including loss of base flow in streams from increased development of impervious surfaces and enhanced stream flashiness and the resulting streambank erosion from alterations to headwaters and tributaries, will occur with full buildout 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.

Various stormwater management activities are underway within the subwatersheds of the planning area. The City of Appleton has prepared a stormwater management plan and ordinance for Apple Creek headwaters which will impact the planning area. The City is also instituting a stormwater utility for plan implementation and financing. The Village of Little Chute is in the process of adopting a stormwater ordinance. A stormwater plan has also been prepared for the Garners Creek subwatershed and communities are currently evaluating means for implementation. Calumet and Outagamie counties have incorporated various stormwater and drainage requirements within their development ordinances.

A variety of local and county-wide stormwater management planning activities have been accomplished or are ongoing in nature. Appendix D contains general info on the state’s stormwater planning requirements.
East Central recommends receipt of preliminary subdivision plats for review for a conformance check with the sewer service area and water quality plan. Recommendations are made for final plat approval concerning water quality and stormwater management as well as 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, and 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.

Plan Implementation & Recommendations

Although sewer service area planning was initiated at the state and federal levels, successful implementation of each plan rests at the local level. In the state-approved Areawide Water Quality Management Plan for the Fox River Valley, 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 Heart of the Valley MSD, the City of Kaukauna, the Villages of Combined Locks, Kimberly and Little Chute, and the Darboy Sanitary District were so designated.

The functions of these entities concerning sewerage system management are shown below:

<table>
<thead>
<tr>
<th>Governmental Unit</th>
<th>Category of Designation</th>
<th>Management Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart of the Valley Metropolitan Sewerage District</td>
<td>II</td>
<td>Wastewater Collection &amp; Treatment</td>
</tr>
<tr>
<td>City of Kaukauna</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Village of Combined Locks</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Village of Kimberly</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Village of Little Chute</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
<tr>
<td>Darboy Sanitary District</td>
<td>III</td>
<td>Wastewater Collection</td>
</tr>
</tbody>
</table>
As designated management agencies for wastewater treatment and collection, the above-mentioned jurisdictions should do the following:

1. Adopt the Heart of the Valley Sewer Service Area Plan;

2. Work with the general purpose units of government in their jurisdictions to review and update development policies and regulations in light of the sewer service plan and recommendations;

3. Encourage general purpose units of government to 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 to review proposed extensions for consistency with sewer service area plans prior to being submitted to the WDNR for approval;

5. Submit wastewater facilities plans and plan amendments 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.

7. All communities should review and address issues and recommendations identified in the Lower Fox River Basin Integrated Management Plan (WDNR publ. WT-666-2001).

8. Continue to address issues and regulatory methods for the management of on-site system development within the 2050 Planning Area to better recognize the existing investment in sewer infrastructure.

9. Complete and/or update as necessary, local and county ‘smart growth’ comprehensive plans and incorporate information as necessary from the 2030 SSA Plan.

10. The HOVMSD and the HOV communities should continue to move forward with the planned reconstruction and update of the WWTF per the approved, NR-110 Facilities Plan.

11. Communities and the HOVMSD should continue to address current infiltration/inflow problems within the collection and interceptor system.

12. Issues regarding annexation across county lines should be monitored and addressed as necessary within the context of providing cost-effective sewer service. The population noted a ‘Other than Darboy’ will need to be accommodated through the City of Kaukauna’s 30” Kankapot Creek interceptor sewer. Based on McMahon Associates modeling of the sewer with projected growth, it should be able to accommodate flows resulting from this population assuming that the downstream segments (Dodge St. to MS#5) of this sewer are upgraded (as currently planned for by the City.)
13. The Town of Harrison should work proactively to address more specific location, access, and design aspects of its planned industrial park along USH 10. Communication and involvement by the Darboy Sanitary District will be critical to this long-term effort.

14. The City of Kaukauna and Town of Buchanan should continue to address potential growth conflicts resulting from the expansion of the Darboy Sanitary District in the form of a boundary agreement(s).

15. All communities should regularly monitor growth and its related sewerage flows to lessen the risk of future overflows and better determine the timing for the next wastewater treatment upgrade. Communities should proactively ‘manage’ growth so that it does take place at a rate which exceeds the WWTF and Fox River interceptor’s design life (20-25 years). By doing so, the investment in the treatment plant/interceptor upgrades can be maximized.

In addition to 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.
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, 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 redefinition 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 the 20-year planning period (through the year 2020). Planning area boundaries generally include all areas within existing city, village and sanitary district limits. Undeveloped lands surrounding these entities are also included based on the potential ability to provide sewer service in the long-term future according to the existing/planned wastewater treatment and collection system. Additionally, clusters of nearby, existing development may be included if sewer may be warranted in the future due to failing on-site systems. Planning areas also 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 Figure 1. All wetlands shown on the state Wisconsin Wetland Inventory Maps and flood-ways 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 sewer service area file photos 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.
The Wisconsin 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. The WDNR’s code guidance document states:

"Environmentally sensitive areas will be used for all environmental features that should be excluded from sanitary sewer service areas."\(^1\)

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.

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:

1. 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;

2. 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;

3. 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 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 do not require prior approval of the East Central Wisconsin Regional Planning Commission or the Department of Natural Resources. However, as part of the sanitary sewer extension review process, East Central has to be informed of the change before it is effective. East Central is then 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:

\(^1\) Guidance for Approving Sewer Service Area Plans and Plan
Http://dnr.wi.gov/org/water/Wm/glwsp/ssplan/delineate.htm
(a) improved or revised DNR certified floodway delineations resulting from revised flood studies;

(b) revised wetland boundaries on the Wisconsin Wetland Inventory Maps resulting from field inspections by DNR 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:

(a) relocation of a non-navigable stream or drainageway as long as the environmental integrity of the stream or drainageway is preserved;

Figure 1
IDENTIFICATION AND QUANTIFICATION OF EXISTING CONDITIONS

The ability to inventory existing conditions both quantitatively and qualitatively are paramount to evaluating land use and development trends and impacts. Aerial photos are the basis for identifying and quantifying land uses within the East Central region. Comparing aerial photos at different time intervals can establish trends in types and magnitude of land uses. East Central's 2000 aerial photography and land use inventory was the last complete coverage of the Fox River Valley and the region. For the most up-to-date coverage, aerial photography flown by individual counties at various times is utilized. This information is supplemented by land use maps prepared from spot field surveys. Acreages for major land use categories are computer digitized and aggregated by section-township-range. Totals are also calculated for each town, town sanitary district, village, city and county within the planning area. In conjunction with the land use mapping program, all village and city municipal boundaries, as well as sanitary district limits, are identified on the aerial photos and transferred to the sewer service area digital maps.

Sanitary sewerage systems for all communities are identified on the sewer service area GIS data files. The location and size of most sewer collectors, mains, and interceptors (18" or larger), as well as 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. Additionally, "holding tank" service areas, if they exist, are identified on the GIS system within the planning areas.

Important for analyzing the planning areas, existing urban development areas are delineated on digital maps based on land uses shown on the 2000 aerial photos. Urban development areas consist of all concentrations of development within the planning area, together with undeveloped lands which are sewered or otherwise committed for short-term development. These urban development areas are, in most instances, the minimal land areas which should be designated as sewer service areas.

In addition to the development information included on the digital maps, existing sewer service area boundaries are identified to determine the location and amount of land currently available for development outside of the urban development areas. This land, in most instances, is the area which has been the primary long-term growth area forecast in the 2030 sewer service area plan. These lands are automatically included within the updated sewer service area.

In addition to the designations of environmental sensitive areas (shorelands, wetlands and floodways), other areas with natural characteristics which could impact environmental quality or development potential are identified. These areas are termed areas with "limiting environmental conditions" and include lands 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 the information placed upon the digital maps, additional data is collected on existing population, numbers of dwelling units, mixes and densities of residential development, existing employment by type and amount, and densities of industrial, commercial and institutional development.
Much of this information is available from the 2000 and later census materials; other information is gathered from state and local sources. This data is contained in East Central's data and GIS 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, major refinements were made to the original 1990 goals, objectives and policies over the years. This effort was accomplished early in the planning process 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.

A significant policy change involves the requirement of adopted community comprehensive plans prior to SSA plan updates in the urbanized areas for the year 2000. An additional change involves urban service delivery criteria which recommend thresholds and standards for levels of urban services. The goals, objectives and policies are included in Appendix D of the plan.

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 the key factor in forecasting urban growth. The projections used are the 2000-2030 Department of Administration (DOA) population projections by five year increments for individual counties. 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, October, 2004. The official DOA projections have been updated for this plan using the DOA annual population estimates for the counties and individual MCD's.

East Central has developed a process for distributing the county population projections to the minor civil division (MCD) level. This estimating process uses the "share-of-the-county trending methodology." This methodology is 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 is used which establishes "urban area" control totals. These control totals are then allocated to Transportation Analysis Zones (TAZ's) in the Fox Cities, Oshkosh and Sherwood areas and Special Analysis Zones (SAZ's) in the Fond du Lac area. This special projection process is needed because of the complex jurisdictional interrelationships of cities, villages and sanitary districts within these areas.
Residential Development

In addition to population projections, household size and housing densities are required to determine residential land needs. Household formation rates are 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 experience an increase in population, but still form new households which require new housing construction.

Once household size is established, residential development densities and the mixture of single-family/multifamily uses is determined. The number of dwelling units per acre is determined from existing residential development densities for the three major urban areas using recent subdivision plats for calculation purposes. Planned (future) densities are based on either locally adopted land use plan policies or, in the case where plans did not exist or a density was not specified, an assumption was made that existing densities will continue into the future.

The mix of residential development is determined from existing land use and building permit records from the various communities. The residential mix varies greatly from community to community. Community specific mixes are used for freestanding communities; however, standardized splits for the Fox Cities, Sherwood and Fond du Lac areas are developed and applied within the growth forecast method.

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

Non-Residential Development

Forecasts of nonresidential development are 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 rural planning areas. Within the urban areas the population projections plus a commuter variable serve as a basis for estimating future employment. These employment estimates are 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 are used to calculate employment for various employment categories. After future employment is estimated for commercial and industrial uses, densities are applied (employees per acre) and total acres of the land needs are calculated. This acreage is then allocated within particular planning areas.

In the outlying areas, a much simpler process for forecasting nonresidential growth is required, because of deficiencies in labor force and employment data available for small communities. Furthermore, because these communities have a small commercial and industrial base, 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 is used which calculates the existing amount of nonresidential development per capita within the area then multiplies 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 nonresidential 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, local politics, 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 project's GIS files are used to designate these growth areas. The following criteria and standards are utilized in the designation of growth areas:

1. 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 to line 200 feet from the sewer line. Development within this area is generally considered to be serviceable by a private sewer lateral.

2. 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. Where the cost-effectiveness of sewering areas of existing development is questionable, these areas shall be designated with the approval of WDNR wastewater facility plans.

3. Areas of existing development with approved wastewater facility plans shall be designated sewer service areas. (Note: Various areas of existing development previously designated have been dropped because of lack of approved wastewater facilities plans.)

4. The acreage allocations of future development areas should approximate residential, commercial, industrial and institutional growth projections. Once final acreage is determined a 20% "market factor" of developable acreage will be added to adjust for land development flexibility, unless otherwise noted.

5. Environmentally sensitive areas shall be excluded from the sewer service area.

6. Holding tank service areas shall be designated for existing large holding tanks defined in NR113 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 disposed of in accordance with NR113.
The standards and criteria for allocating future growth areas are policy based. These considerations are:

1. Urban development patterns should incorporate planned areas of mixed use and density that are clustered and compatible with adjacent uses.

2. The allocation of future urban development should maximize the use of existing urban facilities and services.

3. Future urban development should be encouraged to infill vacant developable lands within communities and then staged outward adjacent to existing development limits.

4. Future commercial and industrial development should expand upon existing areas and be readily accessible to major transportation systems.

5. The boundaries of urban development should consider natural and man-made features such as ridge lines, streams and major highways.

6. Residential land use patterns should maximize their accessibility to public and private supporting facilities.

7. 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.

8. Environmentally sensitive areas shall be excluded from the sewer service area to protect water quality.

9. Future urban development should pose no significant adverse impacts to surface or groundwater.

10. Urban development should be located in areas which can be conveniently and economically served by public facilities.

11. The waiver of acreage allocations based on density standards for large lot developments will be considered if the installation of sewers is cost-effective and the community adopts a specific site development plan and subdivision plat for the area specifying no smaller subdivision of parcels will be allowed.

12. The allocations should be consistent with adopted local comprehensive plans within the planning area.

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

Early in the service area planning process, a policy decision was made that the total allocated growth acreage for individual sewer service areas as delineated in the 1995 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 are greater than the updated forecast growth which is to be allocated.
The result of this policy is that there are fewer service areas where the existing service area boundaries need to be expanded.

PUBLIC AND COMMUNITY PARTICIPATION

Citizen participation during the update of the service area plans has been and is encouraged throughout the 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 (TACs) were formed and refined the policies during 2004 and 2005.

General public participation is sought from communities and counties during the plan update process through individual meetings with the entities. Public information meetings were held for each sewer service area once draft maps were completed. The purpose of sewer service area planning, the 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 are combined) additional meetings are held for communities within each sewer 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 Community 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 Fox River Water Quality Management Plan or appropriate river basin plan. After WDNR certification the plan becomes effective and copies of the final plans are distributed to the affected communities.
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BACK GROUND

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 will apply to the communities illustrated in Map 39.

When an amendment is requested, 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 prior to submission. 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 Regional Development 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 Regional Development Committee meeting if there are significant issues involved. The Regional Development Committee shall recommend approval or disapproval of the amendment. Upon approval, the amendment request and Commission recommendation(s) shall be submitted to the Wisconsin Department of Natural Resources to request revision of the applicable Water Quality Management Plan.

WDNR REVIEW AND APPROVAL

The Department should approve the amendment and certify the applicable Water Quality Management Plan within approximately 45 days unless the Department determines that an environmental assessment (EA) is required in accordance with ch. NR 150, Wis. Adm. Code. If an EA is required, the Department will prepare it and issue a public notification to allow for receipt of public comments to be considered prior to final approval. When an EA is required, the WDNR review period may extend to approximately three months or more. An EA is normally required if the amendment proposal delineates an area of over 1,000 acres that may be served by sewer, or if it may result in the sewered area increasing by more than 5% per year. The WDNR may require an EA under any project circumstances if they determine the proposal has the potential to cause significant environmental effects and may involve unresolved conflicts in the use of the available resources. Once WDNR decision is made, and if approved, East Central can review sewer extensions and submit comments to the WDNR for sewer extension plan approval.
The formal Sewer Service Area amendment process includes the following elements:

**Section I: Amendment Policies**

A. Sewer service area boundaries may be modified (acreage swap) provided no increase in the total acreage of the specific sewer service area occurs. The newly added area shall have Environmentally Sensitive Areas (ESAs) delineated prior to the amendment approval. Areas that are outside the SSA but adjacent to a proposed amendment area should also have environmentally sensitive areas identified. The land comprised of an ESA will not require a swap for and equal amount of acreage. Acreage swaps may occur on a regional basis within the same sewer service area. (i.e., added and deleted acreage does not have to be within the same community). Swap amendments less than 100 acres in size which do not have designated ESAs within, or immediately adjacent to, the area to be added may be approved by the Community Facilities Committee only and shall not require the approval of the WDNR so long as they are non-controversial and are consistent with the community's adopted comprehensive plan. The WDNR will be notified of all Commission approved swaps and will allow 14 days for any voluntary WDNR review and comment prior to Commission staff sending out approval letters. All review procedures and criteria still apply to such amendments (policy amendment approved by WDNR on 08/26/04).

B. Sewer service area boundaries may be swapped on an acre for acre basis (vacant, developable lands only) provided a documented need for a sanitary sewer collection system exists for areas of existing urban development. Newly added area will have Environmentally Sensitive Areas (ESAs) delineated prior to the amendment approval. The land comprised of an ESA will not require a swap for and equal amount of acreage. Acreage swaps may occur on a regional basis within the same sewer service area (i.e., added and deleted acreage does not have to be within the same community).

C. Sewer service area boundaries may be expanded (overall increase in net developable acreage) provided a documented need for sanitary sewers to serve a proposed unique facility or development exists.

D. Sewer service areas may be expanded (overall increase in net developable acreage) to provide the flexibility to accommodate unanticipated short-term development based upon accelerated growth which exceeds the forecasted total service area growth rate in the plan. The requesting DMA shall have the community(ies) certify that the proposed amendment area is required for reasonable community growth and is consistent with locally adopted land use 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 prior to the final approval of the amendment request.
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 Sewer Service Area’s total acreage.

   F. Sewer service area boundaries may be modified or expanded to correct an error in the maps, data, 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 will be compared to other alternatives. East Central may require this determination from the applicant. Amendments submitted under Policy B shall require such a determination from the applicant, and;

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 SSA’s (see Exhibit) should be consistent with East Central’s Long-Range Transportation/Land Use Plan Addendum’s goals, objectives and policies, particularly for density standards, as follows:

Policy 1.3 conformance:

a) The average net residential density of the buildable plat area is more than or equal to 1 unit per acre; or

b) The community has illustrated that development proposal meets 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 for 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).

c) 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 & 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 Plan (for Urbanized Area communities). Should the community not have enough of a particular type of land designated in its locally adopted Comprehensive 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, 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 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 has received Designated Management Agency (DMA) status and 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, 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) were notified of this request by the unit of government seeking the amendment. Any landowner 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 Community Facilities Committee meeting at which the amendment will be addressed. Failure to do so will result in the tabling of the amendment request until the next regularly scheduled 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 1 – Policy B, for Urbanized Area communities (see Exhibit) will require that additional information be submitted and criteria be met as follows:

   a) Documentation that the community’s locally adopted Comprehensive Plan illustrates the area as a future urban growth area which will be provided a full range of services as spelled out in the Urbanized Area Long-Range Transportation/Land Use Plan Addendum’s density standards, and;

   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, and;

   c) Documentation that at approximately 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 Community 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, the 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 Policy F pertaining strictly to the addition of ‘transporting sewers’ (i.e. 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 the Wisconsin Department of Natural Resources for review and certification without the need for Community Facilities Committee approval. The Department would review and certify such amendments within 5 to 10 working days from receipt of 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 Department 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 to the community 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.

D. 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. 83, 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 a proactive type of plan which identifies future sewered 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. Urbanized Area 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 interval. 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)
   (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 Plan updates, regulations and requirements, etc.)
   (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 sewered 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-fifty year Planning Area Boundary;
   (d) Environmentally Sensitive Areas

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 and approval and for plan implementation;

9) A review / revision of goals, objectives, and policies, if necessary;

10) The development of recommendations and strategies for plan implementation.

Urbanized Area Procedures & Standards
The Urbanized Area Procedures and Standards will apply to the following communities: City of Appleton, City of Kaukauna, Village of Combined Locks, Village of Kimberly, Village of Little Chute, Town of Buchanan, Town of Grand Chute, Town of Greenville, Town of Kaukauna, Town of Vandenbroek, City of Menasha, Village of Sherwood, Town of Harrison, City of Fond du Lac, Village of North Fond du Lac, Town of Calumet, Town of Empire, Town of Fond du Lac, Town of Friendship, Town of Taycheedah, City of Neenah, City of Oshkosh, Town of Algoma, Town of Black Wolf, Town of Menasha, Town of Neenah, Town of Nekimi, Town of Oshkosh, Town of Vinland.
The Urbanized Area Standards and Procedures include the above listed “Minimum” items, plus the following reviews of local conformance with policies and requirements as spelled out in the Urbanized Area 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 WDNR certification date of the 1997 (or subsequent) Sewer Service Area Plan Update are not required to meet this policy, however; ECWRPC 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 SSA after 1997 update are **required** to meet policy (see SSA Plan Amendment Policies and Procedures section for additional information)

   (d) If an individual community does not meet the density requirements spelled out in the 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;

3) **Comprehensive Plan Guidelines** – A review of local land use plan for conformance with the Guidelines and the communities’ plan certification status.

**Section VI: Definitions**

*Sewer Service Area:* An area defined and approved by the WDNR under Wisconsin Administrative Code, NR-121 with the assistance, and recommendation from, the East Central Wisconsin Regional Planning Commission and input from the communities involved and the general public. 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):

1) Definition and mapping of Environmentally Sensitive Areas (ESAs);

2) Justified acreage allocations based on projected 20-year growth and development using ECWRPC accepted methodologies;

3) Projected available 20-year capacity of wastewater treatment plant from publicly sewered development and established holding tank receiving areas;

4) Facilities Plan listed projects and improvements;
5) Projected available 20-year capacity of interceptor sewers, force-mains, and lift stations;

6) Location of existing sanitary sewer lines;

7) Existing and projected 20-year development patterns (based on local land use plan and zoning maps);

8) Proximity to development with known failing privately owned treatment works (POTWs) (also referred to as on-site wastewater treatment systems)

9) Ability to provide recommended levels of urban service per the Addendum matrices. (This would be addressed further as criteria for future allocations and amendments to the SSA).

10) Intergovernmental growth / service agreements (advisory only)

11) The boundary itself is located, for administrative use, on the location of:

   a) Environmentally Sensitive Areas (ESAs);
   b) Watershed, sub-watershed, and drainage basin boundaries;
   c) One lot depth (200-foot) buffer from existing sewer line locations;
   d) Quarter-section lines based on the Public Land Survey System (PLSS);
   e) MCD and Sanitary District Boundaries
   f) Road centerlines;
   g) Lift station service areas (topography and depth)
   h) Gravity and interceptor sewer service areas (topography and depth)

_Sewer Service Area Planning Area:_ An area defined and approved by the WDNR under Wisconsin Administrative Code, NR-121 with the assistance, and recommendation from, the East Central Wisconsin Regional Planning Commission and input from the communities involved and the general public. 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), cost-effective, urban growth areas. ECWRPC determines this boundary based on the following information (all of which are not necessarily listed in NR-121):

1) Definition and mapping of Environmentally Sensitive Areas (ESAs);

2) Justified acreage allocations based on projected 50-year growth and development using ECWRPC accepted methodologies;

3) Projected available 50-year capacity of wastewater treatment plant from publicly sewered development and establish holding tank receiving areas;

4) Projected available 50-year capacity of interceptor sewers, force-mains, and lift stations;

5) Existing and projected 20-year development patterns (based on local land use plan and zoning maps);
6) Location of existing development with known problems, or potential risk for on-site system failures;

7) Intergovernmental growth / service agreements

8) The boundary itself is located, for administrative use, on the location of:

   a) Environmentally Sensitive Areas (ESAs)
   b) Watershed, sub-watershed, and drainage area boundaries,
   c) Nearest quarter-section line of the Public Land Survey System (PLSS);
   d) MCD and Sanitary District boundaries;
   e) Wastewater treatment plant service areas (when multiple plants available);
   f) Road centerlines;
   g) Lift station service areas (topography and depth)
   h) Interceptor sewer service areas (topography and depth)
   i) 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).

Unique Facility: 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 facility which, if constructed, will 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 or 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 communities 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 the long term costs for providing sanitary sewerage system alternatives. The analysis shall include monetary costs, environmental costs, as well as other non-monetary costs consistent with NR-110.

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 Wisconsin Wetland Inventory Maps and floodways as delineated on the official Federal Emergency Management Administration Flood Boundary and Floodway Maps.
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February 13, 2006

Mr. Eric Fowle, Executive Director
East Central Wisconsin Regional Planning Commission
132 Main Street
Menasha, WI 54952-3100

Subject: Fox Cities 2030 Sewer Service Area (SSA) Plan Update

Dear Mr. Fowle:

We have completed our review of the subject plan update. A partial draft of the plan was submitted to the Department on June 22, 2005. A complete draft was submitted to the Department on October 28, 2005 and then supplemented with information submitted via e-mail on November 22, 2005 and by your letter of January 13, 2006. The Department hereby approves the plan update as submitted on October 28, 2005 and subsequently supplemented or amended. We request that when the final version of the report is printed that two copies be provided to this office (please direct to Tom Gilbert).

The plan expands the current 2020 sewer service area boundaries to a planning year of 2030. The plan covers the “Neenah-Menasha”, “Grand Chute-Menasha West”, “Appleton”, and “Heart of the Valley” sewer service areas. The combined service area for all four SSAs is being increased by 18% to a total of 75,548 acres. Within this area, the vacant developable land is 22,895 acres and the environmentally sensitive area is 2,857 acres.

It is the Department’s understanding that certain SSA Plan policy matters will be further reviewed and may be updated as a result of the Regional Comprehensive Plan preparation scheduled for completion in 2006. In particular, as you pointed out in your letter of January 13, 2006 to Tom Gilbert, the definition of an Environmentally Sensitive Area will be considered in this planning process. We believe this further review is appropriate and necessary. Please keep us informed on the status of this process and whether it will result in new SSA plan revisions.

The approval of this revision does not constitute approval of any of the following:

- private sewage systems pursuant to Chapter Comm 83, Wis. Adm. Code,
- sewer extension pursuant to Chapter NR 110, Wis. Adm. Code,
- authority to alter the bed or banks of any navigable waterway (Chapter 30, Wisconsin Stats.),
- certification for any wetland alteration (Section 401, Federal Water Pollution Control Act, and NR 103, 299, Wis. Adm. Code),
- takings of threatened and endangered resources pursuant to Wisconsin Statutes 29.415

If these approvals are required, they must be obtained separately from the applicable agencies.
If you believe you have a right to challenge this decision made by the Department, you should know that Wisconsin statutes, administrative codes and case law establish time periods and requirements for reviewing Department decisions.

To seek judicial review of the Department’s decision, sections 227.52 and 227.53, Stats., establish criteria for filing a petition for judicial review. Such a petition shall be filed with the appropriate circuit court and shall be served on the Department. The petition shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Stats., and ch. NR 2, Wis. Adm. Code, you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review.

Sincerely,

Susan L. Sylvester, Chief
Permits Section
Bureau of Watershed Management

cc:
Rob McLenahan – NER - Oshkosh
Mark Corbett – NER - Oshkosh
Jim Savinski – NER - Oshkosh
Mulaizm Nasir – NER – Madison WT/2
Tom Gilbert – WT/2
RESOLUTION NO. 04-05

APPROVING THE UPDATED, FOX CITIES 2030 SEWER SERVICE AREA PLAN (NEENAH/MENASHA, GRAND CHUTE/MENASHA WEST, APPLETON, AND HEART OF THE VALLEY SSAs)

WHEREAS, the East Central Wisconsin Regional Planning Commission has been designated by the Wisconsin Department of Natural Resources as the sewer service area management agency for the ten county East Central region, and;

WHEREAS, the East Central Wisconsin Regional Planning Commission has entered into a memorandum of agreement with the Wisconsin Department of Natural Resources to develop, update, and manage sewer service area plans for the designated area and select non-designated areas, and;

WHEREAS, the East Central Wisconsin Regional Planning Agency is preparing updated sewer service area plans for communities through the year 2030, and;

WHEREAS, the East Central Wisconsin Regional Planning Commission has held numerous public participation and community meetings for those areas affected during the planning process, and;

WHEREAS, the Sewer Service Area Plans will be submitted to the Wisconsin Department of Natural Resources and certified as part of the Wisconsin Water Quality Plans;

NOW THEREFORE BE IT RESOLVED BY THE EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION:

Section 1: That the Commission adopt the updated plan for the Fox Cities 2030 Sewer Service Area Plan Update, which includes the Neenah/Menasha SSA, Grand Chute/Menasha West SSA, Appleton SSA, and Heart of the Valley SSA, and recommend Wisconsin Department of Natural Resources certification of the aforementioned plan update(s), and;

Section 2: That the Commission provide continuing sewer service area planning and management functions including sewer service area amendments, the review of wastewater and sewer plans and the review of sewer extension requests for the four SSAs which comprise the Fox Cities 2030 Sewer Service Area.

Effective Date: April 29th, 2005
Submitted By: Community Facilities Committee
Prepared By: Eric W. Fowle, AICP – Executive Director

Ernie Bellin, Chair
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I. PLEDGE OF ALLEGIANCE

II. MOMENT OF SILENT MEDITATION

III. ROLL CALL

The meeting of the East Central Wisconsin Regional Planning Commission was called to order by Chair Ernie Bellin at 1:35 P.M. Roll call was taken showing the following attendance:

Commission Members Present
Merlin Gentz ................................................................. Calumet County
Wilma Springer ............................................................. Calumet County
Clarence Wolf .............................................................. Calumet County
Brian Kowalkowski ...................................................... Menominee County
Ruth Winter ................................................................. Menominee County
Robert “Toby” Paltzer ..................................................... Outagamie County
Clifford Sanderfoot ....................................................... Outagamie County
Laura Johnston (Alt. for Tim Hanna) .............................. Outagamie County
Larry Cain ........................................................................ Outagamie County
Don Grissman ............................................................... Outagamie County
Arlyn Tober ........................................................................ Shawano County
M. Eugene Zeuske ........................................................ Shawano County
James Loughrin (Alt. for Dick Koeppen) ......................... Waupaca County
Duane Brown ................................................................... Waupaca County
Robert Danielson ............................................................ Waupaca County
Yvonne Feavel ................................................................ Waushara County
Norman Weiss ................................................................ Waushara County
Lester Van Loon ................................................................ Waushara County
Mark Harris ..................................................................... Winnebago County
David Albrecht ................................................................ Winnebago County
Richard Wollangk (Alt. for William Castle) ...................... Winnebago County
Ernie Bellin ....................................................................... Winnebago County
Arden Schroeder ................................................................ Winnebago County
Phillips Scoville ................................................................ Winnebago County

Commission Members Absent
Randy Reiter ................................................................ Menominee County
Marvin Fox ................................................................. Outagamie County
Marshal Giese .............................................................. Shawano County
Brian Smith ..................................................................... Waupaca County

Staff Members Present
Eric Fowle ........................................................................ Executive Director
Fred Scharnke ................................................................ Assistant Planner
Walt Raith ................................................................. Principal Planner
Elizabeth Runge ............................................................ Principal Planner
Ed Kleckner .................................................................. Associate Planner
Betty Nordeng ............................................................. Associate Planner
Jason Kakatsch ............................................................ Associate Planner
Dave Moesch ................................................................ Planner
Mr. Fowle introduced Mark Harris, new County Executive from Winnebago County and Jon Motquin, new community development planner with the Commission.

IV. APPROVAL OF AGENDA

Mr. Wollangk moved to approve the agenda, seconded by Mr. Weiss. The motion passed unanimously.

V. MINUTES OF THE January 28, 2005 MEETING

Mr. Paltzer moved to approve the minutes of the January 28, 2005 meeting, seconded by Mr. Sanderfoot. The motion passed unanimously.

VI. BUSINESS

A. Steering Committee


   Mr. Sanderfoot moved to accept the Summary of Proceedings from the Steering Committee meetings. The motion was seconded by Mr. Tober and passed unanimously.

2. Approval of the CY 2004 Audit Report

   Mr. Fowle stated that Mr. Denis was scheduled to present the Audit Report, but due to his absence he would present it. He noted that the audit report appears different from last year because the Commission is now in compliance with the new Governmental Accounting Standards Board (GASB) Statement No. 39 requirements. Mr. Fowle indicated that the ending balance in 2004 was considerably lower than the ending balance of 2003. The end balance is $134,829 with the capital assets comprising $50,179 of that, leaving the total assets at a cash standpoint of $84,640. He continued stating that the auditor’s explanation of this lower balance was due to a slightly lower funding from the federal and state entities, with the biggest difference being attributed to the anticipated dollar amount for local contracts during the 2004 calendar year, which were not met.

   Mr. Van Loon motioned for approval of the audit, seconded by Mr. Wollangk. The motion passed unanimously.

3. Update on new Commission Offices & Current Lease Extension

   Mr. Fowle noted that this item was tabled at the Steering Committee due to lack of time, and will be addressed at the May 12th Steering Committee meeting. At a previous Steering Committee meeting it was agreed upon to try and have a new site selected by July, so that we could move forward with the options of building. A direction had been established by the previous Executive Director and the Steering Committee of possibly moving forward to a site with a new building near CB and 10. That discussion has been redirected and has been brought back to square one because of a number of concerns. Steering Committee has agreed that there are a lot more options to look at and not to rush into anything. Boldt Construction was brought in to provide information on ‘green building’ concepts, which deal mainly with energy efficiency types of issues and show how spending a little more in the beginning will save money in the long run.
Mr. Fowle suggested, if there were no objections, he would like to set up a tour of the third floor of the Atlas Mill site to coincide with the Annual Dinner. There were no objections.

Mr. Fowle stated that the Commission’s present landlord is agreeable to extending the present lease by one year. After discussion with a local developer and the Steering Committee, Mr. Fowle indicated that six-month extension will be pursued as necessary to allow the Commission more flexibility in finding a different location.

Mr. Sanderfoot motioned to pursue working with the Commission’s present landlord on future extensions of the present lease, seconded by Mr. Van Loon. The motion passed unanimously.

4. Regional Comprehensive Plan Contract Extension

Mr. Fowle stated with the transition and the departure of staff, an extension was requested from the Department of Administration. He indicated that the grant program administrator expressed no concern with extending East Central’s contract and grant requirements. A letter requesting a formal extension has been sent, but a confirmation has not yet been received from DOA. The new schedule states that Milestone #3 will be completed in October, 2005 and Milestone #4 completed in January, 2006.

5. Executive Director’s Report: Transition Plan

Mr. Fowle indicated that in the packet, is a two-page document he put together that outlines the major tasks at hand during the transition period. If the Commissioners have any concerns or questions they should contact him.

B. Economic Development Committee


2. Acceptance of the Summary of Proceedings for the April 5, 2005 meeting.

Mr. Brown moved for acceptance of the Chairman’s Report and the Summary of Proceedings for the April 5, 2005. The motion was seconded by Mr. Sanderfoot and passed unanimously.

3. Proposed Resolution No. 03-05: Authorizing the Commission to enter into an Agreement with Winnebago County for Commission Staff to Provide Grant Administration Services for a Community Development Block Grant for Economic Development submitted by Winnebago County.

Ms. Runge stated that Proposed Resolution No. 03-05 is to authorize Commission staff to enter into any agreement with Winnebago County to provide administrative services for a CBDG grant that is being awarded to Glatfelter Company in the City of Neenah. The contract for staff to provide these services is for $6,000.

Mr. Albrecht motioned to approve Proposed Resolution No. 03-05, seconded by Mr. Sanderfoot. The motion passed unanimously.

C. Open Space and Environmental Management Committee


2. Acceptance of the Summary of Proceedings for the April 12, 2005 meeting.
Mr. Van Loon indicated the Chairman's Report and the Summary of Proceedings for the April 12, 2005 committee meeting were in the packet and moved for acceptance of them. Mr. Van Loon also indicated that this would be his last meeting; he was stepping down after 23 years on the Commission. The motion was seconded by Mr. Weiss, passing unanimously.

D. Community Facilities Committee


Mr. Sanderfoot moved for acceptance of the Chairman's Report and Summary of Proceedings for the Community Facilities Committee meetings of March 16 and April 27, 2005. The motion was seconded by Ms. Springer and passed unanimously.

3. Proposed Resolution No. 04-05: Approving the Fox Cities 2030 Sewer Service Area Plan (Neenah/Menasha, Grand Chute/Menasha West, Appleton, and Heart of the Valley SSA)

Mr. Fowle noted that this update was initiated in August, 2004, with a considerable amount of preparation prior to that date. Since that time approximately 50 separate meetings have been held with entities in just the Fox Cities alone. He noted that the update of the sewer service area was for a 25-year period versus 20-year period to coincide better with the land use/transportation planning updates.

Mr. Fowle stated that the planning area boundary and the long-term boundary were adjusted, which is typically thought of being 40 or 50 years out into the future. Additional engineering types of information were incorporated to provide a more realistic view of what areas could actually be serviced in the long term in the urban fringe. Mr. Fowle noted that the 2030 boundary, which was shown on the maps in packet, was done with a common sense approach; calculations and projections were updated using very liberal assumptions where choices had to be made. One difference between the four separate sewer services areas is that in the Heart of the Valley Sewer Service Area the 20% market factor was not applied which is traditional in this type of planning. With this plan update and planning for the HOV’s new facility, a $26 million plant, running parallel, he wanted to have the boundary look fairly realistic as far as what was on the ground and could be serviced. A lot more information was available for this process this time around, including local land use plans, boundary and service agreements (which were possible to get into the GIS system) which assisted greatly in drawing the new boundaries. The communities should be commended for that. As an end result, excess acreage was added to the service area which is documented in the materials – the tables that are included in the packet. The last page shows the summary of how much acreage is in there and the excess. Mr. Fowle noted during the whole update process there was little negative comment, mostly positive.

Mr. Fowle said that a couple of additional items were put on the table prior to the meeting, one being a description of some areas that have a hold status, or additional issues to be worked out between communities. It was not necessary to do that now as it could hold up or jeopardize the approval of the plan update. Mr. Fowle pointed out changes that were made since the mail out on a display map. The Heart of the Valley, during a public informational meeting, made changes to the planning area by removing the lift station requirement/condition from the area due to incorrect information. Part of the planning area was added back in and two areas, near the Village of Little Chute where acreages were exchanged. The other change to the Heart of the Valley was a
Mr. Fowle stated that the Community Facilities Committee approved all four plans with the changes, and staff will be working to get these to DNR for approval.

Mr. Sanderfoot noted that the Public Hearing was held this past week, and with all the entities involved went extremely well due to Mr. Fowle's and East Central staff's work efforts. He thanked everyone involved in the updates. Mr. Sanderfoot then motioned to approve Proposed Resolution No. 04-05. The motion was seconded by Ms. Feavel and passed unanimously.

E. Transportation Committee


2. Acceptance of the Summary of Proceedings for the April 13, 2005 meeting.

Mr. Tober moved for acceptance of the Chairman's Report and the Summary of Proceedings for the April 13, 2005 meeting. The motion was seconded by Mr. Schroeder and passed unanimously.

F. Regional Comprehensive Planning Committee


Mr. Gentz noted that due to the extension of the comprehensive plan, the Regional Comprehensive Planning Committee did not meet this quarter.

VII. OTHER BUSINESS

A. Nominating Committee

Mr. Brown, Chair of the Nominating Committee, said that the Nominating Committee met prior to the Quarterly Meeting and the name of Ernie Bellin, Winnebago County was placed in nomination for Chair and Merlin Gentz, Calumet County for Vice-Chair. There being no other nominations, Mr. Van Loon moved nominations be closed and a unanimous ballot be cast for the candidates, seconded by Mr. Paltzer, passing unanimously.

B. Announcements

Mr. Bellin requested that the Commissioners fill out the questionnaire indicating preference on Standing Committees and submit it before leaving the meeting.

Mr. Fowle noted that the Wisconsin Department of Natural Resources and East Central will be holding a workshop regarding the use of endangered species information in community planning sometime in May. Anyone wanting more information should contact him after the meeting.

Mr. Fowle reminded the Commissioners that the Work Program/budget will be coming up and the he will be contacting the county Planning and Zoning Committees to talk over what has been accomplished in each county and what needs to be focused on in the coming year.
VIII. **ESTABLISH TIME AND PLACE FOR NEXT COMMISSION MEETING**

Annual Dinner, Wednesday, May 25 – Paper Industry Hall of Fame & J’ Restaurant, Appleton

Quarterly Commission Meeting, July 29, 10:00 A.M., Calumet County

IX. **ADJOURNMENT**

Mr. Zeuske moved for adjournment, seconded by Ms. Springer, passing unanimously. Meeting adjourned at 2:06 P.M.
The meeting was called to order by Clifford Sanderfoot at 10:00 A.M.

Committee members present:

Wilma Springer ............................................................................................................. Calumet County
Ernie Bellin......................................................................................................................Winnebago County
Clifford Sanderfoot..................................................................................................... Outagamie County
David Albrecht .......................................................................................................... Winnebago County
Brian Smith .................................................................................................................. Waupaca County

Committee members absent:

Randy Reiter .............................................................................................................. Menominee County

Others in attendance:

Catherine Girdley. .............................................................................................Waverly Sanitary District
Roy Van Gheem . .................................................................................................. Village of Little Chute
Attorney. ............................................................................................................... Village of Little Chute
John Johnson . ......................................................................................................... Heart of the Valley MSD
Jessica Beckendorf ................................................................................................. City of Menasha
Mark Surwillo ........................................................................................................... City of Neenah
Chris Haese. ..................................................................................................... Heart of the Valley MSD
Laura Johnston. ....................................................................................................... City of Appleton
John Gabby. .................................................................................................. Century 21 Realty
Joe Sprangers........................................................................................................ Town of Harrison
Steve Spanbauer ........................................................................................................ Town of Neenah
Bill Helein. ............................................................................................................ President, Waverly Sanitary District
Mike Sambs. ........................................................................................................... Supervisor, Town of Harrison
Joann Ashauer. ........................................................................................................... Darboy Sanitary District
Bill Beck. .......................................................................................................... Resident, Town of Harrison
Jeffery Uitenbroek........................................................................................................ Resident, Town of Harrison
Dick Hieptas. ........................................................................................................ Property Owner, Town of Harrison
Steve Laabs. ........................................................................................................... Town of Menasha Utility District
Gary Vosters............................................................................................................... Resident, Town of Vandenbroek

1. Welcome & Introductions

Mr. Sanderfoot welcomed everyone to the meeting, introductions were made and the meeting was called to order at 10:05 A.M.
2. **Neenah/ Menasha Sewer Service Area Amendment – Mapping Error Proposal**

Mr. Fowle introduced the Neenah/Menasha Sewer Service Area amendment submitted by the City of Neenah under East Central's Policy I,F that allows for the correction of previous mapping errors. The proposal would add approximately 6 vacant acres to the existing service area. Mr. Fowle explained to committee members that a previous amendment in this area occurred in April, 2004. At that time plating of this area was incomplete and the amendment request was approved on a conceptual design. The amendment request was based on additional wetland determinations discovered upon official plating being completed. The use of the mapping error policy would allow for those additional wetlands and wetland buffer areas to be credited to the City of Neenah. The City of Neenah indicated that the resulting difference of developable acreage would be sufficient to complete the subdivision and its utilities construction. Mr. Fowle concurred with the city's position and recommended that the amendment proposal be approved.

Ms. Wilma Springer then moved to approve the amendment request as presented. Mr. Ernie Bellin made the second. Motion passed unanimously.

3. **Public Hearing Session: Draft Fox Cities 2030 Sewer Service Area Plan Update**

Mr. Fowle, prior opening the floor to the public for comment, reiterated the sewer service area plan update process. This included a review of the summary tables containing calculated acreage figures for each of the four sewer service areas. These tables illustrated the excess acreage built into this update and an explanation of how each service area was justified in receiving their allocations. Mr. Fowle stated that during the process, started in August, 2004, forty separate meetings with municipalities, approximately six public information meetings and three separate public informational meetings, plus this public hearing were held for this update.

Mr. Fowle then described to the committee the final changes to the proposed sewer service area boundary and planning area boundary based on input given at the April 19th, 2005 public informational meeting. These changes primarily affected the Heart of the Valley and one very small correction to the Grand Chute-Menasha West Sewer Service Areas. Mr. Fowle used display mapping to illustrate the revisions. Several areas throughout the four service areas have a "hold status" applied to indicate conflicts between jurisdictions and service areas. Mr. Fowle went into great detail as to the creation of the hold areas. The example given included the City of Appleton and the Town of Harrison in which a hold status was placed on areas with conflicting future land uses. Mr. Fowle asked representatives of these communities to described the status of negotiations thus far. Joe Sprangers, Town of Harrison, indicated that a draft proposal had been produced and discussions would continue based on the draft document. Ms. Laura Johnston, City of Appleton, concurred with the Town of Harrison's assessment but indicated that there be no stipulation placed on a timeframe to complete the negotiations.

Mr. Fowle then concluded the discussion by recommending approval of the four sewer service area plan updates with revisions presented by staff. At this time Mr. Fowle opened the public hearing to the floor for comment. Jessica Beckendorf, City of Menasha, confirmed the city's land use plan was still in the works and questioned the hold status areas located in the city's eastern growth area. Mr. Fowle described the negotiations held with Greg Keil, Community Development Director, that resulted in half the city's allocation placed as a hold status. The remaining half would be taken off its hold status once the city completes and receives plan certification by the Commission. It was also pointed out that no amendment procedure would be required to lift a hold status. The city concurred with Mr. Fowle's response.

Steve Spanbauer, Town of Neenah, reported to the committee that the Neenah town board acted on and approved amendments to their land use plan which re-designated agricultural lands for future land use proposals which would affect the hold status on these areas. Mr. Fowle noted that the hold status could be removed at the next CFC meeting in July after staff reviews the plan amendments.
Ms. Laura Johnston, City of Appleton, indicated the city supports the proposed SSA plan update, however, stressed that the City of Appleton received less surplus acreage than the other sewer service areas. Ms. Johnston described potential development areas along USH 47 and Broadway Street that the city felt has potential for development in the near term. After some discussion it was agreed that approximately eighty acres could be added to the Appleton Sewer Service Area allocation in this area. Mr. Fowle sketched the proposed addition on a map and made this recommendation deferring to the committee for their approval.

John Gabby, Century 21 Realty, inquired about the next step in this process and also asked for a timeline for WDNR certification. Mr. Fowle stressed the WDNR’s lack of staff and the possible need for the Department to invoke NR150 which triggers an Environmental Assessment. If NR150 is initiated the certification process could take much longer than anticipated. Mr. Fowle was reluctant to put a specific date on certification; however, he did indicate that certification was likely to occur in mid to late summer.

Chris Haese, City of Neenah, brought into question the developable status of particular parcels within the city. Mr. Haese felt the developable vacant acreage counts were slightly off. The amount of developable acreage was the city’s main concern especially as it relates to swappable acreage on a jurisdictional level. Based on this scenario the city requested a re-examination of vacant available acreage. Mr. Fowle responded by explaining that the acreage calculations are based on “a snapshot in time’, that time being the fall of 2004. East Central acknowledges that development has occurred since then, however, constant updating of land use conditions was simply not practical. The calculations and figures were based on the fall 2004 data collection and would not be altered. As far as swappable acreage was concerned, Mr. Fowle stressed that East Central ignores municipal boundaries when dealing with swap amendments and that lands from anywhere in the SSA could be utilized. This policy has been long standing and will continue to be part of the process.

There being no further public comment the public hearing session was closed at 10:47 A.M.

4. **Resolution 4-05: Approval of the 2030 Fox Cities Sewer Service Area Plan Update**

Mr. Fowle presented committee members with Resolution 4-05 that adopts the Fox Cities 2030 Sewer Service Area Plan Update. Discussion ensued as to how the Fox Cities Plan would be submitted to the Department of Natural Resources. It was decided that the service areas should be submitted individually with a particular order. It was debated whether each revision today needed separate action by the committee. After some discussion two actions were motioned. Mr. Ernie Bellin motioned to adopt the Fox Cities 2030 Update with the modifications requested at the public informational meeting, and furthermore includes the approximate eighty acre addition for the Appleton Sewer Service Area, Dave Albrecht made the second. Motion passed unanimously. It was reaffirmed by the Committee that the hold status in place between the City of Appleton and Town of Harrison remain until additional information was received to justify its removal. Mr. Ernie Bellin then motioned that the Fox Cities SSA Plans be submitted to the WDNR in the following order: Neenah/Menasha SSA, Appleton SSA, Grand Chute-Menasha West SSA, and Heart of the Valley SSA. Ms. Wilma Springer made the second. Motion passed unanimously.

5. **Next Meeting and Agenda**

Mr. Fowle reminded committee members of the tentatively scheduled meeting for July 6, 2005. No conflicts with this date were stated and Mr. Fowle then confirmed this as the next meeting date.
## FOXCITIES 2030 SSA PLAN UPDATE – LIST OF MEETINGS HELD

<table>
<thead>
<tr>
<th>Entity</th>
<th>Meeting Date</th>
<th>Public Noticed</th>
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<tbody>
<tr>
<td>Fox Valley Urban Towns Group</td>
<td>Friday, January 09, 2004</td>
<td>YES</td>
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<tr>
<td>Public Informational Meeting (2 Sessions)</td>
<td>Thursday, August 19, 2004</td>
<td>YES</td>
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<tr>
<td>NE Wis. Realtors Association</td>
<td>Sunday, September 05, 2004</td>
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<tr>
<td>Village of Kimberly*</td>
<td>Wednesday, September 08, 2004</td>
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<tr>
<td>Village of Combined Locks</td>
<td>Monday, September 13, 2004</td>
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<td>Town of Grand Chute</td>
<td>Wednesday, September 15, 2004</td>
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<td>Town of Menasha</td>
<td>Thursday, September 16, 2004</td>
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<td>Town of Greenville</td>
<td>Thursday, September 16, 2004</td>
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<td>City of Menasha</td>
<td>Friday, September 17, 2004</td>
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<td>City of Neenah</td>
<td>Monday, September 20, 2004</td>
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<tr>
<td>Grand Chute/Menasha West Sewerage Commission</td>
<td>Wednesday, September 22, 2004</td>
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<tr>
<td>Heart of the Valley MSD</td>
<td>Friday, September 24, 2004</td>
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<td>Darboy Joint Sanitary District</td>
<td>Monday, September 27, 2004</td>
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<td>Waverly Sanitary District</td>
<td>Tuesday, September 28, 2004</td>
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<td>City of Kaukauna</td>
<td>Wednesday, September 29, 2004</td>
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<td>Town of Clayton</td>
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<td>Heart of the Valley MSD</td>
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<td>Village of Little Chute</td>
<td>Wednesday, October 06, 2004</td>
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<td>Heart of the Valley MSD</td>
<td>Wednesday, October 06, 2004</td>
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<td>City of Appleton</td>
<td>Thursday, October 07, 2004</td>
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<tr>
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<td>Town of Neenah</td>
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<tr>
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<td>Waverly Sanitary District</td>
<td>Thursday, October 28, 2004</td>
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<tr>
<td>Town of Vinland</td>
<td>Thursday, November 11, 2004</td>
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<tr>
<td>Calumet County Planning</td>
<td>Wednesday, November 17, 2004</td>
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<td>Heart of the Valley MSD</td>
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<tr>
<td>Outagamie County Regional Airport</td>
<td>Friday, December 03, 2004</td>
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<td>Fox Valley Homebuilders Association</td>
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<td>Heart of the Valley MSD</td>
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<tr>
<td>Outagamie County Planning</td>
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<tr>
<td>Winnebago County Planning</td>
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<td>Fox Cities Chamber of Commerce</td>
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<tr>
<td>Heart of the Valley MSD</td>
<td>Friday, January 07, 2005</td>
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<tr>
<td>Town of Clayton &amp; T. Neenah</td>
<td>Thursday, February 03, 2005</td>
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<td>Waverly Sanitary District</td>
<td>Wednesday, February 09, 2005</td>
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<tr>
<td>Towns of Clayton, Neenah &amp; Vinland</td>
<td>Thursday, February 10, 2005</td>
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<td>Town of Vandenbroek</td>
<td>Thursday, February 17, 2005</td>
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<tr>
<td>Darboy S.D. / C. Kaukauna / V. Combined Locks</td>
<td>Tuesday, March 1, 2005</td>
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<tr>
<td>City of Neenah, and Towns of Clayton, Neenah &amp; Vinland</td>
<td>Wednesday, March 02, 2005</td>
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<tr>
<td>Darboy S.D. / C. Kaukauna / V. Combined Locks</td>
<td>Tuesday, March 15, 2005</td>
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<tr>
<td>Darboy S.D. / C. Kaukauna / V. Combined Locks</td>
<td>Tuesday, March 15, 2005</td>
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<tr>
<td>Fox Cities SSA Technical Advisory Committee</td>
<td>Thursday, March 17, 2005</td>
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<tr>
<td>Darboy S.D. / C. Kaukauna / V. Combined Locks</td>
<td>Tuesday, March 22, 2005</td>
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<tr>
<td>City of Appleton Planning / Public Works Staff</td>
<td>Wednesday, March 23, 2005</td>
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<tr>
<td>Public Informational Meeting (UW-Fox Valley)</td>
<td>Tuesday, April 19, 2005</td>
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<tr>
<td>Public Hearing</td>
<td>Wednesday, April 27, 2005</td>
<td>YES</td>
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<td>Community Facilities Committee Meeting</td>
<td>Wednesday, April 27, 2005</td>
<td>YES</td>
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<tr>
<td>Quarterly Commission Meeting</td>
<td>Friday, April 29, 2005</td>
<td>YES</td>
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</tbody>
</table>
The following additional entities were involved during the process and were in attendance at the previously noted meetings. These entities were also included in all meeting notice and informational mailings:

- Town of Buchanan
- Town of Neenah Sanitary District 2
- Town of Neenah Sanitary District 3
- Town of Harrison
- Town of Grand Chute East Side Utility District
- Town of Grand Chute Sanitary District #1
- Town of Grand Chute Sanitary District #2
- Town of Greenville Sanitary District
- Town of Menasha Utility District
- Town of Clayton Sanitary District
- Part of Darboy S.D. meeting
- Part of T. Neenah meeting
- Part of T. Neenah meeting
- Part of Darboy S.D. & Waverly S.D. meetings
- Part of T. Grand Chute meeting
- Part of T. Grand Chute meeting
- Part of T. Grand Chute meeting
- Part of T. Greenville meeting
- Part of T. Menasha meeting
- Part of T. Clayton meeting

In addition, the following peripheral entities were sent copies of meeting notices and information regarding the plan for review and comment purposes:

- Brown County
- Town of Freedom
- Town of Center
- Town of Ellington
- Town of Wrightstown
- Village of Wrightstown
- Town of Kaukauna

Other entities included on the mailing list for notices and information included:

- Wisconsin Dept. of Natural Resources
- Valley Homebuilder's Association
- Winnebago Home Builder's Association
- Realtor's Association of Northeast Wisconsin
- Wisconsin Realtor's Association
- Fox Cities Chamber of Commerce & Industry
- Fox Cities Economic Development Partnership
- Heart of the Valley Chamber of Commerce
- Clean Water Action Council
- Citizen's Natural Resource Association
- Wisconsin League of Women's Voters
- Sierra Club – Fox Valley Chapter
- Wisconsin Wetland Association
- Fox Cities Greenways
- Winnebago County Audubon Society
- Local realty and development firms
- Local engineering and consulting firms
- Local newspaper and radio media
SUMMARY OF PROCEEDINGS
Fox Cities Sewer Service Area Technical Advisory Committee
East Central Wisconsin Regional Planning Commission
Town of Grand Chute Town Hall
March 17, 2005 – 1:30 P.M.

The meeting was called to order by Eric Fowle at 1:35 P.M.

Committee members present:

Jim Salm ......................................................................................................... Darboy Sanitary District
Amy Vaclavik .................................................................................................. McMahon Associates
Bob Jakel ........................................................................................................... City of Kaukauna
Stan Martenson ............................................................................................... Martenson & Eisele
George Dearborn ............................................................................................ Town of Menasha
Steven J. Spanbauer ...................................................................................... Town of Neenah
Mike Hendrick ................................................................................................. Outagamie County
Dave Tebo ........................................................................................................ Town of Greenville
John Sundelius ................................................................................................. City of Kaukauna
Pete VanGroll ................................................................................................. Town of Vandenbroek, Supervisor
Ross Buetow ..................................................................................................... City of Appleton
Laura Johnston ................................................................................................. City of Appleton
James Moes ..................................................................................................... Village of Little Chute
Roy Van Gheem ............................................................................................... Village of Little Chute
John Johnson ................................................................................................. Heart of the Valley MSD
Arden E. Schroeder ......................................................................................... City of Clayton
Maurice Buchanan ......................................................................................... Darboy
Mark Radtke .................................................................................................... City of Menasha
Ray Batley ....................................................................................................... Town of Vinland
Mike Sambs ..................................................................................................... Waverly Sanitary District
Bill Helein ........................................................................................................ Waverly Sanitary District
Jessica Beckendorf ........................................................................................ City of Menasha
Orville Nelson ................................................................................................. Town of Ellington
Steve Laabs .................................................................................................... Town of Menasha Utility District
James Kirk ....................................................................................................... GC-MWSC
Allen Davis ..................................................................................................... Town of Grand Chute
Eric Fowle ...................................................................................................... ECWRPC Staff
Joe Huffman ................................................................................................... ECWRPC Staff
Mike Zuege ................................................................................................... ECWRPC Staff

Welcome & Introductions

Mr. Fowle welcomed everyone to the meeting and prefaced the proceedings by explaining that the focus today would be of a technical nature as opposed to a political one. (This summary will be treated as one discussion item and agenda items will not be listed separately).

Fox Cities Sewer Service Area Plan Update Review

Mr. Fowle opened the discussion by briefly presenting an overview of the sewer service area planning process. The topics for discussion were incorporated into a PowerPoint presentation illustrating the progress and flow of the SSA plan through each of the planning phases. Mr. Fowle did, however, inform committee members that the policy issues paper failed make its way into the materials mailing. It was decided that the policy information would be handled through a subsequent mailing prior to the public hearing. Mr. Fowle stressed the importance of municipal feedback regarding the policy issues as these can be re-visited in the near future.
The Fox Cities SSA Plan Update, at least to this point, has involved approximately thirty or more municipal entities ranging from sanitary districts and incorporated places to local town boards. Mr. Fowle commended all entities for their participation and cited various reasons for the plans success to this point. Mr. Fowle indicated that of the policy issues needing to be addressed, the Environmentally Sensitive Areas definition will likely be determined after the update was completed as it is being addressed in the context of the Commission’s regional ‘smart growth’ plan.

Mr. Fowle then proceeded with the presentation referring to various tables and mapping displays illustrating the service area boundary delineations. It was noted that a more common sense approach was used to arrive at the new boundary determinations. Mr. Fowle felt that statistical data in and of itself should not be the sole basis for the new SSA boundary. Several factors including but not limited to engineering considerations, local municipal boundary agreements, environmental features, comprehensive land use plans, in-fill and redevelopment areas and community input took on a more prominent role in making decisions. Although population and employment projections certainly played a significant role, Mr. Fowle relied on sensible logic. At this point several of the acreage and projection data tables were discussed with no objections or conflicts as to their validity.

Mr. Fowle then discussed the “Ongoing Issues” revolving around the Fox Cities SSA Plan Update. It was made clear that these particular areas were not problematic enough to delay adoption of the plan. Mr. Fowle then addressed each issue briefly identifying the potential problem and describing the best way to resolve them. A clear direction for these areas allowed for the continuation of the plan process.

Acreage allocations were the next phase of discussion with Mr. Fowle explaining the methodology used to derive the proposed allocations for each service area. Most of the committee members were well aware of the allocation process and no disagreements were recorded based on the information presented. Mr. Fowle held one caveat relating to the Heart of the Valley SSA. The HOVMSD has recently completed facilities planning for a 26 million dollar upgrade to the treatment plant which coincides with the Fox Cities Sewer Service Area Plan timeline. Mr. Fowle has recommended that no excess acreage be built into the Heart of the Valley SSA allocations in hopes of showing a true reflection of HOV’s plant capacity. This scenario would also disallow the traditional 20% market factor to be calculated and included.

At this point Stan Martenson questioned a 320 acre planning area adjustment not represented on the supplied mapping pertaining to the planned T. Harrison industrial park. Mr. Fowle acknowledged the error and responded that the area would at least be part of the planning area boundary adjustments. Steve Spanbauer then asked for clarification on the “in-fill” policy and its affect on swap amendments. Mr. Fowle explained that in-fill areas one half acre or less and within the existing sewer service area would not be deducted from allocation areas. This method will only be used to address vacant parcels that are unlikely to be developed. The Town of Ellington began to debate the removal of existing planning area lands located within the town. Some discussion then ensued relative to the potential service issues the town could face as development neared the Greenville Sanitary District. Mr. Fowle reminded committee members the Town of Ellington scenario reflects the on-going issues that will be addressed at the local level. Mr. Fowle will re-visit this issue in the context of the SSA plan and consider several options for resolution.

Mr. Fowle then presented and discussed the remaining schedule to complete the plan update identifying key dates in April. In particular a public hearing/informational meeting would be scheduled for late April, prior to a Community Facilities Committee meeting. The plan would then work its way to a full Commission meeting on April 29th, 2005 for adoption and then a final draft submitted to the Department of Natural Resources for certification. Mr. Fowle stressed that WDNR review times may include a mandatory Environmental Review Assessment based on NR-150 guidelines. Mr. Fowle warned that such a review could create a delay in plan certification. It was determined that corrections to mapping and acreage calculations would remain a priority in order to meet any deadlines for the public hearing/informational meetings for April, 2005.

The meeting adjourned at approximately 3:20 p.m.
Appendix B- Transportation/ Land Use Plan Addendum Policies
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URBAN AREA GROWTH POLICIES AND URBAN SERVICE DELIVERY

INTRODUCTION

Federal transportation legislation has for some time required all urbanized areas to have a comprehensive, cooperative and continuing transportation planning process to guide effective use of federal funding assistance. East Central first developed goals and objectives for transportation/land use planning in the mid 1970's, and updated those policies and objectives in the early 1980's. In 1991, the federal government passed the Intermodal Surface Transportation Efficiency Act (ISTEA) requiring all Metropolitan Planning Organizations (MPOs) to update and adopt long-range transportation plans which conformed to ISTEA's metropolitan planning requirements. ISTEA's requirements emphasized multimodal transportation, a strong transportation/land use interrelationship and an expanded public involvement process.

East Central began this process by conducting an issues identification session on November 16, 1993. Representatives of governmental agencies, area officials, environmental groups, developers, business groups, civic organizations, minority advocates and interested citizens attended the session. Session participants and others who were unable to attend the session joined East Central's ongoing Technical Advisory Committee (TAC). Their task was to develop goals, policies, and objectives for the long-range transportation/land use plan for the urban planning area, paying particular attention to the items indicated in the issues identification session. The goals, policies, and objectives and accompanying definitions developed by TAC were adopted by the Commission as part of the long-range transportation/land use plan on January 27, 1995.

The TAC, however, was unable to resolve several key policy issues regarding growth management and urban service delivery (see Appendix B). TAC members who wished to continue working on these policies were asked to participate on a new committee, the Land Use Advisory Committee (LUAC). In June 1995, LUAC was organized to address unresolved issues and provide community input into the land use portion of the Long Range Transportation/Land Use Plan and also the urban sewer service area update. LUAC's discussion focused on the urban planning area, which includes the cities, towns, and villages of the Fox Cities, Fond du Lac and Oshkosh urban areas. Their recommendations, therefore, apply to the communities within those areas. Areas outside of the urban planning area need to address many of the same issues facing the urban planning area in the east central region. However, since they have a different amount of development and size of population, their needs differ from communities within the urban planning area.

The LUAC revised some TAC definitions and one TAC policy statement. The committee developed additional definitions and urban service standards for new development within the urban planning areas. LUAC also approved a set of comprehensive plan guidelines developed by staff to help all communities understand the comprehensive planning process. The comprehensive plan guidelines identify key elements for a good comprehensive plan, explain the comprehensive plan review and approval process, and discuss the relationship to future sewer service updates within the urban sewer service area.
East Central staff reviewed LUAC's recommendations and made minor revisions to some definitions and recommendations. Using the TAC goals, policies, and objectives as a guideline, East Central staff also developed an open space recommendation and a rural development recommendation. Staff solicited written comments regarding LUAC and staff recommendations. All written comments and recommendations, except for the rural development recommendation, were presented to the Community Facilities Committee on December 14, 1995. The Community Facilities Committee approved the revised definitions and comprehensive plan guidelines, and requested minor revisions to the single family density standards matrix and staff recommendations. The requested revisions and the rural development policy recommendations were presented to the Community Facilities Committee on January 18, 1996. The Community Facilities Committee approved the revisions and recommendations. The Committee approved recommendations were submitted to the full Commission on February 9, 1996. The Commission approved the urban growth, urban service delivery, open space, and rural development policies and definitions as written. The Commission revised the comprehensive plan guidelines to include the following statement:

“If a community's plan is incompatible with other plans, the communities involved will not receive expanded sewer service area or receive approval of any amendment request for the area in contention.”

The Commission then adopted all recommendations as an addendum to the Long Range Transportation/Land Use Plan at their February 9th, 1996 meeting.

1999-2000 ADDENDUM UPDATE

After the Addendum was adopted, East Central staff began implementing the policies and standards using three basic methods: 1) by reviewing individual communities’ land use plans for conformance with the policies, density standards, and comprehensive plan guidelines; 2) through the process of updating and amending local Sewer Service Area Plans; and 3) through the “208” review process for sanitary sewer extensions and advisory subdivision plat reviews.

During the implementation, staff identified concerns with several of the major policies. More clarification and definition was needed, as well as better interpretation of how the policies would be applied in specific situations. Additionally, several major changes were proposed at the state level regarding on-site sewer regulations (Comm. 83) and statutory definitions and procedures for the preparation and adoption of local comprehensive land use plans.

These issues dictated the need for staff to re-convene the Land Use Advisory Committee. The LUAC met eleven times between May, 1999 and July, 2000 to discuss these and other issues in detail in the hopes of achieving consensus from the urbanized area communities on the various regional policies and implementation details. The LUAC approved the modified documents on August 10th, 2000. The proposed changes were approved by the Commission’s Community Facilities Committee on September 27th, 2000 and by the full Commission on October 27th, 2000. Appendix E contains the Summary of Proceedings for all of the meetings held, as well as other pertinent correspondence relating to the approval of this revised document.
Please note that these revised policies and the Comprehensive Plan Guidelines will affect all of the following communities effective upon adoption by the full Commission:

**CALUMET COUNTY:**
- City of Appleton
- City of Menasha
- Village of Sherwood
- Town of Harrison
- Town of Brothertown (new)

**FOND DU LAC COUNTY:**
- City of Fond du Lac
- Village of North Fond du Lac
- Town of Calumet (new)
- Town of Empire
- Town of Fond du Lac
- Town of Friendship
- Town of Taycheedah

**OUTAGAMIE COUNTY:**
- City of Appleton
- City of Kaukauna
- Village of Combined Locks
- Village of Kimberly

**WINNEBAGO COUNTY:**
- City of Appleton
- City of Menasha
- City of Neenah
- City of Oshkosh
- Town of Algoma
- Town of Clayton
- Town of Black Wolf
- Town of Menasha
- Town of Neenah
- Town of Nekimi
- Town of Oshkosh
- Town of Vinland

Also note that the Commission and its staff may elect to review and revised any or all of the policies contained in this document, subject to input from local and state units of government, as part of the preparation of its Regional Comprehensive Plan as newly required by Wisconsin State Statutes 66.0295.
URBAN SERVICE DELIVERY RECOMMENDATIONS

The objective of these recommendations is to encourage growth within the urban planning area to develop in a manner consistent with the policies and objectives stated in the Long Range Transportation/Land Use Plan, while maintaining individual community character and identity. In keeping with that objective, the decision as to what level of land use development tier (high, medium or low density) a jurisdiction wishes to achieve is the decision of the jurisdiction. However, the thresholds and standards developed by LUAC provide the degree of essential services to be provided. All urban areas of the Fox Cities, Oshkosh, and Fond du Lac shall primarily fit into one of the three levels of land use development tiers, although various portions of a jurisdiction may fit more than one tier.

The thresholds and standards are summarized in Exhibits 2, 3, and 4 which contain the Residential Density Standard Matrices (Parts A and B) and the Levels of Service for Commercial and Industrial Development Matrix (See pages 6, 7, and 8). The matrices are based on the growth management and urban service delivery goals, policies and objectives. The densities within the residential matrix are formulated from recent development patterns within the urban planning area. The matrix discussion is applicable to the urban planning area only. The open space discussion (page 9) is applicable to all communities within the east central region. The rural development recommendations are directed to development occurring outside the urban planning area (Sewer Service Area Planning Area). The rural development recommendations are designed to help minimize any unintentional consequences resulting from the urban policy recommendations. Definitions apply to the entire region.

MATRIX RECOMMENDATIONS

Levels of Residential Land Use and Development Tiers.

The levels of residential land use have been reformulated into three land use development tiers: high, medium, and low density.

- The high density definition designates those jurisdictions or portions of a jurisdiction that meet density standards of three or more residential units per gross acre (high density), provide all essential urban services, and continue to plan new development at the appropriate density levels.

- The medium density definition identifies those jurisdictions or portions of a jurisdiction where the residential density standards range between 1.0 and 2.99 units per acre, and where essential urban services are provided for all development where density is greater than 1.0 and where new development is planned at 2.0 or greater.

- The low density definition distinguishes those jurisdictions or portions of a jurisdiction where the residential density factor is less than 1, where essential urban services are not necessarily provided, and where development is limited.
### Exhibit 2 - Residential Density Standards Matrix
#### Part A

<table>
<thead>
<tr>
<th>SERVICES</th>
<th>HIGH DENSITY</th>
<th>MEDIUM DENSITY</th>
<th>LOW DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SANITARY SEWER</strong></td>
<td>• Full public sewer all dwelling units</td>
<td>• Primarily public sewer</td>
<td>• Single family on-site sewer</td>
</tr>
<tr>
<td></td>
<td>• Pipe sizes increase with density</td>
<td>• On-site systems in very low density 1 acre or less</td>
<td>• Other housing, full public sewer</td>
</tr>
<tr>
<td></td>
<td>• Pipe length decreases with density</td>
<td>• Pipe size increases with density</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Remain within treatment facility capacity</td>
<td>• Pipe length decreases with density</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Remain within treatment facility capacity</td>
<td></td>
</tr>
<tr>
<td><strong>WATER SUPPLY</strong></td>
<td>• Full public water service for all dwelling units</td>
<td>• Primarily public water</td>
<td>• Private on-site wells</td>
</tr>
<tr>
<td></td>
<td>• Pipe sizes increase with density</td>
<td>• Private wells for very low density 1 acre or less</td>
<td>• Adequate water pressure and fire flow to meet</td>
</tr>
<tr>
<td></td>
<td>• Pipe lengths decrease with density</td>
<td>• Pipe sizes increase with density</td>
<td>• standards for fire protection and consumption</td>
</tr>
<tr>
<td></td>
<td>• Adequate water pressure and flow to meet</td>
<td>• Pipe lengths decrease with density</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Standards for fire protection and consumption</td>
<td>• Adequate water pressure and fire flow to meet</td>
<td></td>
</tr>
<tr>
<td><strong>STORMWATER</strong></td>
<td>• Full underground storm drainage system</td>
<td>• Underground and surface mix</td>
<td>• Surface drainage</td>
</tr>
<tr>
<td></td>
<td>• Required for all development</td>
<td>• Required for all development</td>
<td>• Required for dense and commercial development</td>
</tr>
<tr>
<td></td>
<td>• Pipe sizing as for sewer and water</td>
<td>• Pipe sizing such as for sewer and water</td>
<td>• Pipe sizing as for sewer and water</td>
</tr>
<tr>
<td></td>
<td>• Detention/Retention as appropriate</td>
<td>• Detention and retention as appropriate</td>
<td>• Detention and retention as appropriate</td>
</tr>
<tr>
<td></td>
<td>• Adequate to carry peak flow per design storm</td>
<td>• Adequate to carry peak flow per design storm</td>
<td>• Adequate to carry peak flow per design storm</td>
</tr>
<tr>
<td><strong>STREET NETWORK</strong></td>
<td>• Lighting, curb, gutters &amp; sidewalk</td>
<td>• Mix of lighting. Curb &amp; gutter or alternative</td>
<td>• Sparse lighting, no curb, gutter, or sidewalk</td>
</tr>
<tr>
<td></td>
<td>• Right of Way (ROW) and Pavement width</td>
<td>• Effective stormwater management. Sidewalks or</td>
<td>• Right of Way (ROW) and Pavement width</td>
</tr>
<tr>
<td></td>
<td>• meet Level C standards for traffic flow</td>
<td>• other distinct, maintained pedestrian corridors</td>
<td>• meet Level C standards for traffic flow</td>
</tr>
</tbody>
</table>
### Exhibit 3 - Residential Density Standards Matrix

#### Part B

<table>
<thead>
<tr>
<th>SERVICES</th>
<th>HIGH DENSITY</th>
<th>MEDIUM DENSITY</th>
<th>LOW DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>• Adequate number of officers to provide an average response time of 7 min., under 4 min. for Code 1 and 2 calls.</td>
<td>• Adequate number of officers to provide an average response time of 10 min., under 5 min. for Code 1 and 2 calls.</td>
<td>• Adequate number of officers to provide an average response time of 15 min., under 6 min. for Code 1 &amp; 2 calls.</td>
</tr>
<tr>
<td>Fire</td>
<td>• Full time staff and chief&lt;br&gt;• Average response time: 4 min</td>
<td>• Partly on call staff&lt;br&gt;• Average response time: 6 min</td>
<td>• All on call staff/ no full time staff&lt;br&gt;• Average response time: 8 min</td>
</tr>
<tr>
<td>Ambulance</td>
<td>• Fractile time response: for 90% of calls&lt;br&gt;• First responders arrive within 4 minutes,&lt;br&gt;• Backup arrives in less than 8 minutes.</td>
<td>• Fractile time response: for 90% of calls&lt;br&gt;• First responders arrive within 4 minutes,&lt;br&gt;• Backup arrives in less than 10 minutes.</td>
<td>• Fractile time response: for 90% of calls&lt;br&gt;• First responders arrive within 4 minutes,&lt;br&gt;• Backup arrives in less than 12 minutes.</td>
</tr>
<tr>
<td>Schools*</td>
<td>• plan for adequate capacity to absorb projected development</td>
<td>• plan for adequate capacity to absorb projected development</td>
<td>• plan for adequate capacity to absorb projected development</td>
</tr>
<tr>
<td>General Government</td>
<td>• Central Municipal building, specialized depts.&lt;br&gt;• Full-time staff</td>
<td>• Central municipal building, less specialized depts.&lt;br&gt;• Full-time &amp;/or Part-time staff</td>
<td>• Central municipal building, few specialized depts.&lt;br&gt;• Part-time staff</td>
</tr>
<tr>
<td>Library</td>
<td>• 18.3 wkly service hrs. per/1000 pop&lt;br&gt;• 3.61 books per capita</td>
<td>• 18.3 weekly service hours per 1000 pop&lt;br&gt;• 3.61 books per capita</td>
<td>• 18.3 wkly service hrs. per/1000 pop&lt;br&gt;• 3.61 books per capita</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>• Weekly Curbside by municipality</td>
<td>• Weekly curbside by municipality or patron</td>
<td>• Weekly curbside by patron or patron to landfill</td>
</tr>
</tbody>
</table>

*School districts and communities should cooperate when siting schools in a manner which does not encourage sprawl.*
## Exhibit 4 - Levels of Service for Commercial and Industrial Development Matrix

<table>
<thead>
<tr>
<th>SERVICES</th>
<th>CATEGORY A</th>
<th>CATEGORY B</th>
<th>CATEGORY C</th>
</tr>
</thead>
</table>
| Street Network | • Lighting, curb, gutters & safe, distinctive provision  
• For pedestrian and bicycle access  
• Right of Way (ROW) and Pavement width  
• Increase with density | • Mix of lighting, curb, & gutter. Safe, distinctive  
• Provision for pedestrian and bicycle access  
• ROW and Pavement width related to density | • Sparse lighting, no curb, gutter, or sidewalk  
• ROW and pavement width relative to density |
| Storm Water | • Fully engineered storm drainage system  
• Required for all development  
• Pipe sizing as for sewer and water  
• Detention/retention as appropriate  
• Adequate to carry peak flow per design storm | • Underground and surface mix  
• Required for all development  
• Pipe sizing as for sewer and water  
• Detention and retention as appropriate  
• Adequate to carry peak flow per storm design | • Surface Drainage  
• Pipe sizing as for sewer and water  
• Detention and retention as appropriate  
• Adequate to carry peak flow per storm design |
| Sanitary Sewer | • Full public sewer for all development  
• Pipe sizes increase with density  
• Pipe length decreases with density  
• Remain within treatment facility capacity | • Primarily public sewer  
• On-site systems for low daily waste water flow rates  
• Pipe size increases with density  
• Pipe length decreases with density  
• Remain within treatment facility capacity | • On site systems |
| Water Supply | • Full public water service for all development  
• Pipe sizes increase with density  
• Pipe lengths decrease with density  
• Adequate water pressure and fire flow to meet  
• Standards for fire protection | • Primarily public water; water assessment required  
• For establishments not on public water.  
• Pipe sizes increase with density  
• Pipe lengths decrease with density  
• Adequate water pressure and fire flow to meet  
• Standards for fire protection | • Private on site wells; water assessment for heavy users  
• Adequate water pressure and fire flow to meet  
• standards for fire protection |

**Category A:** Commercial and industrial development which has a projected daily wastewater flow rate of 10,000 or more gallons. Examples: warehouses, industrial parks, and shopping malls.

**Category B:** Commercial and industrial development which has a projected daily waste water flow rate of less than 10,000 gallons. Examples: furniture store, neighborhood grocery store.

**Category C:** Commercial and industrial development which requires no additional infrastructure beyond what would be expected in a low density environment. A low density commercial and industrial environment includes areas that have low traffic volumes, sparse development, and are located further away from medium and high density areas of development. Examples: home occupations and bed and breakfast establishments as defined in ILHR 51.01, mini-warehouses, landfills, and resource production and extraction.

**Note:** Compatible Category B and C commercial and industrial establishments can be located in a Category A environment. However, in these cases, the Category A level of service will be expected to be provided.
Levels of Industrial and Commercial Development

The levels of industrial and commercial development have been divided into three service categories: Category A, Category B, and Category C.

- **Category A** includes industrial and commercial development which has a projected daily wastewater flow rate of 10,000 or more gallons. Establishments in this category can be expected to employ large numbers of people, generate considerable automobile and/or pedestrian traffic, require a high level of infrastructure development, and may place considerable demands on government services such as police and fire protection. Examples include, but are not limited to, warehouses, industrial parks, and shopping malls.

- **Category B** includes industrial and commercial development which has a projected daily wastewater flow rate of less than 10,000 gallons. Establishments in this category still may generate considerable automobile and/or pedestrian traffic, but do not require the same level of infrastructure development as Category A businesses. Examples include, but are not limited to, furniture stores and neighborhood grocery stores.

- **Category C** includes industrial and commercial development which require no additional infrastructure beyond what would be expected in a low density environment. A low density commercial and industrial environment includes areas that have low traffic volumes, sparse development, and are located further away from medium and high density areas of development. Examples include, but are not limited to, home occupations and bed and breakfast establishments as defined in ILHR 51.01, mini-warehouses, landfills, and resource production and extraction.

Compatible Category B and C commercial and industrial establishments can be located in a Category A environment. However, in these cases, the Category A level of service will be expected to be provided by Category B and C establishments, in order not to disrupt the level of service needs required by Category A establishments.

Urban Services

Urban services are all services that should be provided within urban areas, with particular reference to facilities placed on or in the land as part of a development process. Development should only occur when the facilities and services are available to support that development. For the purpose of this discussion, urban services have been divided into four categories: infrastructure, environmental, health and human safety, and social services. Essential urban services for each category are listed below.

- **Infrastructure Services** include sanitary sewer, water distribution and storage, stormwater handling, and street networks.

- **Environmental Services** include recreation and parks, and conservation.

- **Health and Human Safety Services** include law enforcement, fire protection, and emergency medical services.

- **Social Services** include education, public buildings, and library services.
Infrastructure and environmental services should be included for discussion in a jurisdiction's comprehensive plan. Threshold levels for these services are listed in Part A of the Residential Density Standards Matrix and the Levels of Service for Commercial and Industrial Development Matrix (Exhibits 2 and 4) and described in more detail in this document. The criteria listed in the matrix is the minimum level of service, which should be provided to development which meets each of the density levels. A higher level of service may be provided to a particular development if a community so desires. Providing a lower level of service than listed in the matrix may result in the denial of new sewer service allocations in future sewer service plan updates.

Current and future needs for health and human safety and social services should be discussed in the comprehensive plan. The level and provision of these services should be provided for in the community's short range plan. Suggested levels for these services are listed in Part B of the Residential Density Standard Matrix (Exhibit 3) and described in more detail in this document. Part B standards differs from Part A standards in that Part B standards are suggested goals to strive for throughout the community, while Part A standards are criteria to be met by new development. Part B standards for police, fire, and ambulance are recommended guidelines from national professional organizations, such as AMA and NFPA.

Sewer service allocations will not be denied to communities which do not meet the suggested goals within Part B of the single family density standard matrix. However, communities should realize that growing or changing populations require more services. As a community's population grows and changes, the community may need to add additional services or increase their level of service to insure the health and safety of their residents. A good practice is for communities to review their provision of these services at least once every five years, and make adjustments as needed. Rapidly growing communities may wish to review their provision of these services on an annual basis.

THRESHOLD LEVELS

The following discussion describes the threshold levels established for future development in the urban planning area (Sewer Service Area Planning Area). These levels are summarized in the matrices found on pages 6, 7, and 8.

**Essential Infrastructure Services**

1. **Sanitary Sewer Services:** Minimum Level of Service (LOS) standard for sanitary sewer by development:
   
   1.1. *Sewer service shall be evaluated by demand generation, and provided in accordance with NR 110.*
   
   1.2. *The provision of sanitary sewer service shall be consistent with the land use allocation identified in the future land use element of the comprehensive plan.*
   
   1.3. *All new major subdivision development on sites of less than one acre shall be connected to sanitary sewer. All Category A commercial and industrial development shall be connected to sanitary sewer. Category B commercial and industrial development shall be connected to sanitary sewer, unless the establishment or group of establishments has a low daily wastewater flow rate and public sewer is not available. Category C commercial and industrial development can be connected to on-site systems.*
1.4. On-site sewer systems are allowed within the Sewer Service Area Planning Area on existing lots of record regardless of lot size. However, East Central recommends that no new development, whether CSMs or subdivisions, using on-site sewer systems (regardless of the type) be permitted within the Sewer Service Area, or within the SSA Planning Area as of the date of the Commission’s adoption of this policy. If rural residential development is allowed within this geographic area, the community should adequately address the following items prior to approval of the development:

a) Whether the area will eventually have public sewer (40 to 50 year time horizon);

b) How the area will fit into the overall planned residential density scheme of that portion of the community once “build-out” is completed;

c) How the development is designed to accommodate the cost-effective provision of sewer in the future (i.e., sewer routes, easements, future increases in density, land access, etc.)

Staff is aware that communities may not realize the full implication of this policy and how it is to be implemented at the local level. Therefore, as part of the adoption of this revised policy, the Commission expresses its intent to assist the communities (beginning with the Oshkosh urbanized area) in the interpretation of this policy with respect to the current SSA Plan and locally adopted Comprehensive Plan in the following manners prior to, or during, the next regularly scheduled update of the applicable SSA Plan:

- ECWRPC will map out all of the urbanized community’s Land Use / Comprehensive Plans (proposed land uses);
- ECWRPC will map out all of the urbanized community’s locally developed Boundary / Service Agreements;
- ECWRPC staff will conduct an assessment of all urbanized area land use plans and boundary agreements for conformance with Policy 1.3 and 1.4;
- ECWRPC staff will suggested modifications to local land use plans and boundary agreements, if necessary, for conformance with Policy 1.3 and 1.4;
- ECWRPC staff will request that the WDNR revise the SSA Planning Area boundary during the next SSA Plan update process per the findings of its assessment and local input.

2. **Potable Water**: Minimum LOS standard of service for potable water shall be:

2.1. **All Category A commercial and industrial development and all new residential development at medium densities of 2.0 or greater shall be connected to municipal water.**

2.2. **Category B and C commercial and industrial development and residential development at medium-low densities of 1.0 to 1.99 will require a water needs assessment.** Issues such as water quality and quantity, groundwater impact, surface water recharge and similar concerns will form the basis for determining if residential development at medium-low density should be connected to public water.

2.3. **Public water will not be required for low density residential development and Category C commercial and industrial development which uses little water, nor is a water needs assessment required.** However, if communities are experiencing water quantity and quality problems, they may wish to consider a water needs assessment for these types of development to avoid placing a demand on the aquifer which will create an otherwise unnecessary need for a public water system.

2.4. **Refer to appropriate PSC, DNR, and EPA codes.**

3. **Stormwater**: Minimum LOS standard of service for stormwater shall be:
3.1. Minimum drainage levels for the standards of service for the retention volume and storm design of stormwater shall be established to assure the reception, retention, detention, and release of stormwater in a timely, safe manner, so as to prevent flooding and environmental degradation.

3.2. A regional stormwater management view shall be preferred, as stormwater management is a regional problem. If a regional option is not available, each community shall include regulations in their development ordinance to identify adequate on-site drainage and storage retention/detention. Communities should note that within the matrices, different criteria have been set for different densities. A stormwater management system should be designed to provide adequate drainage for the entire area.

3.3. Where the WDNR Priority Watershed Program has been established, local communities should follow the guidelines and plans set by the priority watershed plan in the area. A regional perspective is always more effective and efficient for stormwater controls, whereas subdivision by subdivision controls are the least effective management mechanism available.

3.4. Each jurisdiction shall develop a stormwater plan in conjunction with the comprehensive plan. This plan shall include a minimum drainage level for standards of service to be provided for the retention, volume, and storm design of stormwater to assure the reception, retainage, detainage and release of stormwater in a timely manner. Category A commercial and industrial developments and residential developments where density factors are at 3.0 or higher shall provide a full range of stormwater services; alternatives include detention, retention, curb and gutter and site drainage. Category B and C commercial and industrial development and communities where the residential density factors are less than 2.9 shall delineate how they plan to handle stormwater and the criteria that will be used. The Stormwater Management Plan portion of the comprehensive plan shall set specific design and flow criteria for the 24 hour/5-25 year design storm for the regulation of stormwater.

4. Road Network: Traffic circulation levels of service shall be based on criteria set in the “Wisconsin Highway System Plan Level of Service Standards and Guideline Manual”.

4.1. The following roadway types shall meet the subsequent level of service standards: principal arterials, minor arterials, collectors. Level of service standard C shall be the accepted criteria for the urban Fox Cities, Oshkosh, and Fond du Lac area. The document referenced describes Level of Service C as follows:

"Level of Service C represents stable operations: however, ability to maneuver and change lanes in mid-block locations may be more restricted than in LOS B, and longer backups and/or adverse signal coordination may contribute to lower average travel speeds of about 50 percent of the average free flow speed for the arterial. Motorists will experience an appreciable tension while driving."

4.2. Lighting shall be provided in a manner that provides for the public’s safety.

4.3. Curb, gutter and sidewalks shall be provided in residential developments where density factors are at 3.0 or higher. Sidewalks or other safe, distinct, maintained pedestrian corridors and bicycle access shall be provided for medium density residential development and Category A and B commercial and industrial development. Sidewalks are optional for low density development. Low density residential development, however, does not necessarily mean low traffic volumes. There may be instances where a community may wish to provide sidewalks or other safe, distinct, maintained pedestrian or bicycle corridors for low density areas. For example, providing a sidewalk along a busy road between a subdivision and a school site within easy walking distance of that subdivision would eliminate the cost of providing bus or automobile transportation to and from the school site.
4.4. The Long Range Transportation/Land Use Plan includes goals, policies, and objectives for alternative modes of transportation such as pedestrian and bicycle travel and public transportation. East Central would suggest that communities consider these policies when developing their comprehensive plans and updating their ordinances in order to reduce long term infrastructure costs and provide their residents with greater mobility. Providing alternate modes of transportation reduces traffic congestion, road infrastructure costs, and provides individuals, particularly the elderly and the young with greater independence of movement. It also makes automobile usage a matter of choice, rather than a necessity.

Communities should also be aware that some development patterns cannot be efficiently served by fixed route transit. If communities anticipate a current or future need or desire for fixed route service, they should promote land use patterns and site designs standards which can be efficiently served by public transportation. Studies show that 1/4 mile is a reasonable distance to expect an individual to walk to catch a bus. Curb cuts are important for making transit accessible to persons with disabilities.

Many zoning ordinances require extended building setbacks for commercial and industrial establishments. While such setbacks make it easier and less costly to widen the road in the future, site designs which include sidewalks along the front of buildings, with parking lots behind the buildings make commercial and industrial establishments more accessible for pedestrians and transit users. Benches and/or bus shelters or indoor waiting areas also make transit use more convenient.

East Central encourages mixed use commercial and industrial development which incorporates pedestrian and bicycle circulation within its design. Such designs can substantially reduce the need for automobiles, especially if this development is also pedestrian or bicycle accessible from other areas within the community.

Environmental Services

5. Parks and Recreation: Approximately 10 acres of park land should be provided for every 1,000 residents. A hierarchy of community and neighborhood parks which meet the recreational needs of a community's residents shall be provided for residential development. Park design should reflect the community's needs or desires for recreational space and equipment.

6. Open Space: The TAC has set policies regarding open space goals objectives and policies. These objectives include recreational opportunities, preservation objectives, urban recreation needs, cost effectiveness, and aesthetic considerations. The matrices include a requirement for park space only.

6.1. Communities are encouraged to include open space policies for their communities within the comprehensive planning elements.

The need to protect some areas from development by preserving them as open space is universal to urban, suburban, ex-urban and rural environments. No matter how much open space presently exists in an area, its very attributes which attract new residential development, are compromised with each new house constructed.

Preserving open space is socially, environmentally, and economically prudent. It can be effectively and inexpensively accomplished. It merely requires a recognition by local decision-makers that some lands due to their location and/or physical features are more suitable for development than others and an unwavering commitment to channel new growth to those areas which can best accommodate it. Clearly delineating areas which will be preserved as open space in the land use plan or through official mapping is essential to ensuring that natural areas and the important environmental or aesthetic functions they serve are not lost as growth occurs.
Health and Human Safety Services

7. **Communities shall arrange to provide an adequate level of emergency services to provide for the health and safety of their residents and business establishments.**

Communities currently providing their own police, fire and ambulance service can better plan for future service needs by regularly monitoring the provision of service to ensure adequate protection of their citizens. Communities not currently providing their own police protection, can better plan for future service needs by maintaining an open dialogue with the county sheriff's department. Such communities should be aware that as growth occurs, a community will at some point need to establish its own police department and/or provide additional funds to supplement the county sheriff department's protection.

Social Services

8. **Education:**

8.1. **Communities should work with their local school district to ensure that schools have adequate capacity to absorb the projected level of development.**

8.2. **School districts and communities should cooperate when siting schools in a manner which does not encourage additional sprawl.**

8.3. **East Central would encourage the construction of sidewalks and pedestrian bridges to provide children living within walking distance safe access between their place of residence and school.**

9. **Public Buildings:** **Jurisdictions should provide the necessary staffing and physical infrastructure to efficiently and effectively provide the level of government services required by their citizens.**

10. **Library Services:** **Communities should work with the regional library systems to help provide the level of library service desired by their residents.**

11. **Solid Waste:** **Weekly curbside pickup shall be provided by municipalities where the residential density factor is 3.0 or greater. Weekly curbside service shall be provided by municipalities or patrons where the residential density factor ranges from 1.0 to 2.99. Patrons shall provide pickup where the residential density factor is less than 1.0.**

12. **Intergovernmental and Interagency Cooperation:** **Intergovernmental and interagency cooperation is important for cost effective, efficient, equitable provision of all of services. East Central would encourage communities to work together to form better relations and cost saving, equitable techniques for services.**

COMPREHENSIVE PLAN GUIDELINES

Introduction & Revisions

With the passage of the Governor’s 2000-2001 biennial budget bill, new statutory language which defines the content and preparation process of a Comprehensive Plan, was also passed (Wis. Stats. 66.0295(2)). In order to achieve consistency between local, county, regional, and state plans, ECWRPC staff recommends that the definition of a Comprehensive Plan, as described under 66.0295(2) be adopted by the LUAC and the Commission in place of the current Transportation/Land Use Plan Addendum’s Comprehensive Plan Guidelines. This recommendation would apply as follows:
A) Communities within the urbanized areas that have, prior to the final Commission adoption of this Addendum document and with the intent of meeting ECWRPC’s previous Addendum guidelines, either: 1) received Commission “certification”; 2) submitted their plan to ECWRPC for review, or; 3) initiated the process of preparing a Comprehensive Plan will be allowed to receive future or SSA allocations for the next SSA Plan update (Fox Cities and Oshkosh are scheduled for initiation in 2002, while Fond du Lac’s will begin in 2005). SSA Plan Amendment requests are allowed at any time for communities once their plan is “certified”.

Certified Plans (as of July 27, 2000):
- Calumet County – T. Harrison, C. Appleton;
- Outagamie County - T. Buchanan, T. Grand Chute, C. Appleton;
- Winnebago County – T. Menasha, C. Appleton, C. Oshkosh
- Fond du Lac County – None

Plans Completed & Submitted for Review (as of July 27, 2000):
- Calumet County – None;
- Outagamie County – T. Greenville, V. Combined Locks, C. Kaukauna;
- Fond du Lac County – T. Empire, T. Taycheedah, T. Friendship, C. Fond du Lac

Planning Initiated or In Progress (as of July 27, 2000):
- Calumet County – V. Sherwood;
- Outagamie County – V. Little Chute;
- Winnebago County – C. Menasha, T. Nekimi;
- Fond du Lac County – V. North Fond du Lac, T. Fond du Lac, T. Calumet.

B) All remaining communities must meet the new statutory definition for the content of a Comprehensive Plan as described under 66.0295 and have Commission “certification” under in order to receive new SSA allocations during the next update (2002 for Fox Cities & Oshkosh / 2005 for Fond du Lac) or to request SSA amendments.

Plans Not Initiated:
- Calumet County – T. Brothertown;
- Outagamie County - T. Kaukauna, T. Vandenbroek, V. Kimberly;
- Winnebago County – T. Oshkosh;
- Fond du Lac County – None

C) Any community receiving Commission “certification” under the previous Addendum guidelines should meet the Wis. Stats. 66.0295 definition and have their plan “re-certified” prior to the 2007(Fox Cities & Oshkosh) or 2010 (Fond du Lac) Sewer Service Area Plan Update in order to receive future Sewer Service Area acreage allocations. SSA Plan amendments will be allowed between the 2002 and 2005 Sewer Service Area Plan updates for category A communities with “certified” plans under the old Addendum guidelines.

Guidelines for Category A Communities

Note: Staff recognizes that a number of the statutory references and plan requirements listed below are now out of date due to the adoption of the new “smart growth” legislation. However, the contents of the plan, as listed below, will still be used as a guideline for reviewing community plans which fall under category A.

A comprehensive plan is the most useful tool a community has in making thoughtful and fiscally responsible decisions regarding growth and development in a community. Without specific criteria, a community fashions arbitrary decisions based on zoning and subdivision regulation. Local comprehensive or “master” plans are defined in the Wisconsin Statutes Section 62.23 (3)(a) which states:
"The master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality which will, in accordance with existing and future needs, best promote public health, safety, morals, order, convenience, prosperity or the general welfare, as well as efficiency and economy in the process of development."

In reference to a memo dated June 1, 1995 sent to the Land Use Advisory Committee, staff recommended the following definition of a comprehensive plan:

"The comprehensive plan is the official public document adopted by a local government as a policy guide to decisions about the physical development of the community."

A comprehensive plan, which typically encompasses a twenty year period of time, is a precursor to an effective zoning ordinance. A zoning map and ordinances are not substitutes for a comprehensive plan or singularly sufficient criteria for the creation of adjoining planning maps. Without the comprehensive plan in place, land use decisions are made simply to support zoning criteria. A plan can provide sufficient backing in resolving difficult conflicts and making land use decisions. A community's comprehensive plan should be consistent with other local, neighboring communities, county, regional, and state plans and policies. It should also incorporate county overlay districts and farmland preservation plans where appropriate. The plan should include citizen input and maintain internal consistency between plan elements. Types of acceptable citizen input include public sessions and/or citizen surveys. A comprehensive plan should be updated at least every five years. This timeframe is also dependent on the level of growth which a community promotes. Some communities may wish to update a comprehensive plan more often.

The community should choose a document format which is clear, concise, and easy for them to use and follow. The plan should, at the very minimum, identify a description of the community's characteristics, physical resources, the community's needs, a vision for the future characteristics of the community, and an implementation strategy for actuating the plan.

Description of community characteristics and resources:
A description of community characteristics and resources should include existing population, housing, income, and employment characteristics, and transportation networks. This description should also describe existing environmental conditions and resources including stormwater management issues, potable water conditions, and existing land uses. It should answer questions such as: What social, economic, and physical characteristics make our community unique or special? Who are the major employers? What are the characteristics of our labor force? What environmental resources need to be protected? What physical or social attributes can we build upon? How do our community's land uses impact the environmental conditions of the community and how can we minimize the negative impacts?

Identification of community needs and their vision for the future:
This information should include projected population growth and household projections. In order to meet specific growth trends, the plan must identify projected infrastructure, service, and housing needs. This plan should make clear what level of growth and urban development a community desires to achieve, with the understanding that along with urban growth comes service needs for the community. A community must then provide the proper public support for this effort.

If the residents of a community do not wish to add services such as additional police protection, sidewalks, etc. to sustain urban types of development, then the community's land use goals and objectives should reflect this idea by expressing the desire to maintain the current amount and/or addressing how the level of development in a community will or will not impact the service needs of a community.

For example, if residents vote in a referendum, or indicate in a survey, or a public information session that they do not wish to add additional police protection, the existing level of service is obviously viewed as satisfactory. Communities which are growing in population and housing intelligibly need to continue providing
the same level of protection in relation to the population. A community should recognize, for health and human safety reasons, that an increase in population automatically increases the service needs of the residents. A community should make a conscience decision whether or not they want to add or expand those services, hence deciding at which level a community should grow, if at all. If a community decides not to change the level of services necessary to accommodate additional urban development, then development should be discouraged by the community.

Community land use plan goals and desires should form according to the public's vision of their community. It should answer such questions as: What do we like about our community? What is our community presently lacking? What physical or social attributes of our community need to be rectified or improved? What do we want our community to look like in the future? What needs will we have to address in the future?

Implementation strategy
An implementation strategy should include practical recommendations for achieving the community's goals for strengthening and building their community while addressing the needs of its citizens. The adoption process for a community's comprehensive plan includes ongoing participation and review by a community's planning and/or zoning committee (where applicable) and then final adoption by resolution by the common council, or village or town board.

Historically, the legality of community comprehensive plans has been tested in the court system. A community's adopted plan and requiring consistency with the plan is completely legal and binding according to the courts' decisions. Sporadic use of a plan by a community is not appropriate from a legal standpoint, and ignores the intent for preparing a plan.

Zoning is an implementation tool that is highly effective in promoting the goals and objectives of a community. A comprehensive plan should identify areas in which the current zoning ordinance is inconsistent with those goals and then make reasonable improvements to the zoning ordinance. Types of recommendations may include additions or changes to a subdivision review process, subdivision plat requirements, general zoning changes, etc.

Short range plans are micro-plans that focus on a specific issue. Short range plans are formed from a set of community needs within a condensed period of time, generally within a five year period. A community can choose to effectively discuss the short range plans at a very concise level depending on the character of the plan. Examples of short range plans are short-term service plan improvements, CIP's, and special projects. Part B items in the single-family service matrix are all candidates for short term plans.

A Capital Improvement Program or CIP is a five to ten year short range plan with updates occurring annually. A general CIP includes a community's capital items such as existing parks, public buildings, emergency vehicles, wastewater and water treatment facilities, streets and other infrastructure. The CIP also includes improvement projects required for the community's future and the appropriate timeline and funding which is being followed to implement the improvements. A CIP is highly specific to each community.

A Capital Improvement Program is considered a short range planning item within the implementation strategy. A CIP helps a community to focus on community needs and goals, and allows a community to establish rational priorities. Intergovernmental coordination can also be enhanced with the aid of a Capital Improvement Program. A standard CIP includes cost considerations for improvements and any other costs expected for the community within a reasonable period of time (i.e.: five to ten year plan updated annually).

Intergovernmental coordination and concurrency for additional development and services is recommended. Concurrency requires the creation of supporting infrastructure at the same time as new development projects occur. The community should be able to document anticipated funding levels and sources needed to accommodate the creation of new development in the plan.
Consistency Issues

Three levels of consistency are necessary in a comprehensive plan. The first is the consistency in the planning process of a community and how different elements are formed. For example, has a sufficient amount of public input been gathered for the creation of the plan? Is the information gathered within the inventory portion of the plan current, unbiased, and credible? Has there been a process in which the planning effort has followed or has it been haphazardly formed?

The second level necessary is the consistency between the plan policies, recommendations, and neighboring plans. One of the most important aspects of the development of a comprehensive plan is the inherent consistency within the plan elements themselves. If the community inventory and resource information, the public input and other elements within the plan are not reflected within the community goals, objectives and plan recommendations, the plan is inadequate and inconsistent. The "Single Family Density Standards" and "Levels of Service for Commercial and Industrial Development" matrices developed through the Land Use Advisory Committee and staff recommendations should be used as guidelines for the areas within urban service areas. If a community is presently lacking specific levels of service in reference to the matrices, the plan should recognize this issue and identify intended actions in response to the discrepancy. If a plan identifies certain resolutions to the discrepancy, but the community fails to follow through with the recommendations, the plan will be considered inconsistent and inadequate.

Communities should strive for consistency in proposed transportation networks, development areas, and other influencing aspects with the plans of neighboring communities. A community should attempt to identify and foster working relationships with neighboring communities to help provide consistency between comprehensive plans. A plan will not be considered inconsistent if there are no apparent solutions to discrepancies in the comprehensive plans. However, if the discrepancy between the communities' plans involves sewer service considerations or other service improvements, the plan will be considered inconsistent for regional planning purposes.

State Statutes provide the best guidance available regarding consistency issues between communities. According to Wisconsin State Statute 59.97(1), a county board "may plan for the physical development and zoning of territory within the county as set forth in this section and shall incorporate therein the master plan adopted under section 62.23(2) or (3) and the official map of any city or village in the county adopted under section 62.23(6)."

However, Section 62.23(2) states it is a function of the municipal planning commission to make and adopt a plan for the physical development of the city and areas outside of the city in which have been judged to "bear relation to the development of the city provided, however, that in any county where a regional planning department has been established, areas outside of the boundaries of the city may not be included in the master plan without the consent of the county board of supervisors."

The last level of consistency in a comprehensive plan is the hierarchy of consistency with county and regional plans and state policies. There are various types of plans in which a community's comprehensive plan should review and, when possible, incorporate those recommendations into the goals, objectives and recommendations of it's plan. Some of these plans include regional and county-wide plans (i.e.: transportation, farmland preservation, greenways/open space, overlay districts, sewer service area, etc.). State policies can include environmental regulations, transportation network policies, etc. Instances of inconsistencies within a comprehensive plan will be reviewed on a case by case scenario.

Plan Elements

This section lists suggested guidelines for elements of a comprehensive plan. These elements are discussed at a basic level and should become more specialized with the consideration of a community's goals and objectives.

1. Population
Useful population information for a community to examine includes past and projected trends in population growth; and present and changing demographic characteristics such as age distribution, educational attainment, income and employment characteristics.

2. Housing

Useful housing information for a community to examine includes the age, structural, value, and occupancy characteristics of its present housing stock, and current and projected housing demand.

3. Land Use

Land use information should include percentage of land in specific uses such as residential, commercial, industrial, ROW, etc. Maps showing current land uses, productive agricultural soils (where appropriate), soil limitations for building site development (i.e.: for basement construction), floodplains, wetlands and other environmentally sensitive lands, and community's proposed future land use development pattern (including general residential densities [Note: “mixed-density” plans which meet the overall density requirements spelled out in Exhibits 2, 3, and 4 are acceptable]) should also be included in the plan. The land use development plan should map such items as transportation network improvements, and environmentally sensitive areas which are to be protected from development.

4. Transportation

The transportation element of the plan should include current infrastructure provisions for automobile, bicycle, and pedestrian traffic and pertinent mass transit and shipping facilities such as bus lines and shelters, para-transit service, airports, ports, and rails. It should also identify present and future infrastructure and traffic needs and make recommendations for addressing those needs. A map of the transportation network would be useful.

5. Public Facilities

The community should identify current and future needs for sanitary sewer service, potable water, solid waste disposal, recycling, park and open space improvements, stormwater management, and aquifer recharge, public/municipal buildings, and land acquisitions. The land use development plan should include a map of short and long-term public facilities service/expansion areas (See Exhibit 5).

6. Parks and Recreation

An inventory of current facilities should be compiled, and current and future needs and opportunities should be identified. This element can also include parkland dual uses such as municipal stormwater management practices including safety consideration of this use where appropriate.

7. Conservation and Open Space

This element should identify and provide for the conservation and effective management of natural resources such as groundwater, productive agricultural soils (where appropriate to the community), environmentally sensitive lands, stream corridor protection, floodplains, wetlands, and wildlife and habitat areas. Mapping these specific areas on a land use plan map is essential in recognizing their significance in the plan effort.

8. Public Services

The community should discuss current and future needs for police and fire protection, ambulance service, library service, schools, and other government services. The level and provision of these services should be provided for in the community's short range plan.

9. Other
Depending on the nature and characteristics of your community, you may want to include other elements such as urban design/community character, historic preservation, urban redevelopment, neighborhood preservation, economic development, and/or farmland preservation. Short range plans such as CIP’s and service plans should be incorporated into the context of the long range plan. The more specialized a plan is, the more prepared a community is to make sound land use and planning decisions.

**Comprehensive Plan Review and Certification Process**

All communities are advised to prepare comprehensive plans but are not "required" to do so. Communities that are within the sewer service planning area will be required, prior to the Year 2002 (Fox Cities/Oshkosh) or 2005 (Fond du Lac) Sewer Service Area Plan update, to submit a plan only if the community wants additional service area allocations. (See below discussion regarding the timeframe for how the plan will be incorporated into the sewer service planning process.) East Central Wisconsin Regional Planning Commission Staff will, upon submittal, review officially adopted comprehensive plans, determine the adequacy of the plan and recommend that the Community Facilities Committee (RDC) certify the plan. This process will include a request for the review of the community’s plan by all adjacent communities and those with extra-territorial review jurisdiction with comments submitted to East Central as deemed appropriate. Below are the specific criteria in which staff will review the plans:

1. **Staff will recommend approval of a comprehensive plan to the RDC based on above elements only if it is consistent with other local, regional, and state plans.** After staff recommends the approval, a general reporting process to the Commission of staff and RDC action(s) will commence. The plan will be considered adequate for regional planning purposes.

2. **If a comprehensive plan is incompatible with other plans or is inadequate in its plan elements, then staff will first attempt to work with the community to correct the inconsistency (ies). If the problems are rectified and changed to make the plan consistent, then staff will recommend approval of the plan to the RDC; and there will be a general reporting process of staff action to the Commission. The plan will be considered adequate for regional planning purposes.**

3. **If the inconsistencies and/or inadequacies cannot be settled at a staff level, a community can then submit the comprehensive plan to the Community Facilities Committee for action.** If the plan is deemed adequate and consistent by the Community Facilities Committee, the plan will be approved and a general reporting process to the Commission will commence. The plan will be considered adequate for regional planning purposes.

4. **If the Community Facilities Committee deems a plan to be inconsistent and/or inadequate based on above elements, a community has the option to submit the comprehensive plan to the full Commission for action.** The Commission may then approve or not approve the plan. If the plan is approved by the Commission, the plan will be considered adequate for regional planning purposes. If the plan is not accepted by the full Commission, an issuance of a letter of non-conformity will be sent to the community and appropriate state agencies stating the specific incompatibilities and inadequacies of the plan.

5. **A community holds the right to adopt any plan it so chooses, however, the Commission reserves advisory status in which the plan can be deemed adequate and consistent with other local, regional, and state plans.**

6. **If a community revises or updates a plan after East Central has reviewed the plan, the community should submit the revisions and updated versions to East Central in order for a plan to continue its consistency and adequacy status.**
Comprehensive Plan Advisory Status Relating to Future Sewer Service Area Updates

After the 1995-1996 sewer service area update adoption, approved comprehensive plans will be required prior to any amendment approval by the Community Facilities Committee or the Commission.

Adequate comprehensive plans that have been through the above review process are a requirement for the Year 2002 (Fox Cities and Oshkosh) and 2005 (Fond du Lac), or subsequent, Sewer Service Area updates in order to be considered for expanded growth allocations. If a community fails to submit a comprehensive plan, the community will not receive expanded sewer service area or receive approval for any amendment request. If a community's plan is incompatible with other plans, the communities involved will not receive expanded sewer service area or receive approval of any amendment request for the area in contention.

If a community adopts elements within the comprehensive plan such as service level improvements (in reference to the Residential Density Standards and Levels of Service for Commercial and Industrial Matrices), but fails to follow through with implementation, the community will be not be considered for expanded growth allocations or receive approval for any amendment request for the Year 2002 (Fox Cities and Oshkosh) and 2005 (Fond du Lac), or subsequent Sewer Service Area Plan updates.

Exhibit 5 – Example Land Use Plan Map of Urban Service Boundaries

Town of Winnebago - 2020 Land Use Plan
Appendix C - SSA Demographic and Acreage Projection Tables
## Table 1-1: Neenah/ Menasha SSA - 2005-2030 MCD Base-Level Population Projections

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### Table 1-2: Estimated Population for NMSSA Sanitary Districts, 2005

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<th>Sanitary District</th>
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<th>2004/05 Population Est.</th>
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</table>

**Notes:**

1. PPHH figure is same as that used for each MCD.
2. Includes 23 existing permits scheduled for completion in 2004 per S.D.
3. Town of Menasha Utility District west of the Fox River is part of the Grand Chute/Menasha West SSA Plan.
4. Data provided by the City of Appleton Utility Dept., 2004.

**Source:** NMSSA Sanitary & Utility Districts and ECWRPC, Sept/Oct. 2004

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**XLVII**
Table 1-3: Neenah-Menasha SSA - 2005-2030 Population Projections

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Menasha (Calumet Co. pt.)</td>
<td>1,225</td>
<td>1,661</td>
<td>2,133</td>
<td>2,655</td>
<td>3,208</td>
<td>3,789</td>
<td>2,563</td>
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<tr>
<td>C. Menasha (Winnebago Co. pt.)</td>
<td>15,763</td>
<td>15,782</td>
<td>15,779</td>
<td>15,805</td>
<td>15,882</td>
<td>15,887</td>
<td>124</td>
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<tr>
<td>Waverly Sanitary District</td>
<td>3,997</td>
<td>4,797</td>
<td>5,641</td>
<td>6,563</td>
<td>7,521</td>
<td>8,506</td>
<td>4,509</td>
</tr>
<tr>
<td>T. Menasha Utility District (east of Fox R. only)</td>
<td>7,161</td>
<td>7,475</td>
<td>7,796</td>
<td>8,150</td>
<td>8,553</td>
<td>8,942</td>
<td>1,781</td>
</tr>
<tr>
<td>C. Neenah</td>
<td>25,439</td>
<td>25,845</td>
<td>26,121</td>
<td>26,695</td>
<td>27,271</td>
<td>27,754</td>
<td>2,315</td>
</tr>
<tr>
<td>T. Neenah S.D. #2</td>
<td>7,223</td>
<td>7,338</td>
<td>7,449</td>
<td>7,579</td>
<td>7,743</td>
<td>7,880</td>
<td>657</td>
</tr>
<tr>
<td><strong>Total of NMSSA</strong></td>
<td><strong>60,807</strong></td>
<td><strong>62,898</strong></td>
<td><strong>64,919</strong></td>
<td><strong>67,447</strong></td>
<td><strong>70,178</strong></td>
<td><strong>72,758</strong></td>
<td><strong>11,951</strong></td>
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<tr>
<td>+10% of 'x-'05' Increase for SSA Planning</td>
<td>n/a</td>
<td>63,107</td>
<td>65,330</td>
<td>68,110</td>
<td>71,115</td>
<td>73,953</td>
<td>13,146</td>
</tr>
</tbody>
</table>

Notes:
1 - Sanitary District projections based on Table 1-2 estimates, increased over time at the same rate as the primary MCD with the exception of Waverly S.D. (see note 2)

Source: EWRPC, 2004
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Menasha (Calumet Co. pt.)</td>
<td>430</td>
<td>2.85</td>
<td>594</td>
<td>2.79</td>
<td>778</td>
<td>2.74</td>
<td>981</td>
<td>2.70</td>
<td>1,200</td>
<td>2.67</td>
<td>997</td>
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<tr>
<td>C. Menasha (Winnebago Co. pt.)</td>
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<td>6,970</td>
<td>2.26</td>
<td>7,071</td>
<td>2.23</td>
<td>7,169</td>
<td>2.20</td>
<td>7,204</td>
<td>2.20</td>
<td>475</td>
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<tr>
<td>T. Harrison (Waverly S.D. portion only)</td>
<td>1,395</td>
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<td>1,702</td>
<td>n/a</td>
<td>2,035</td>
<td>n/a</td>
<td>2,395</td>
<td>n/a</td>
<td>2,772</td>
<td>n/a</td>
<td>1,762</td>
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<td>T. Menasha (portion east of Fox River only)</td>
<td>2,672</td>
<td>2.41</td>
<td>2,838</td>
<td>n/a</td>
<td>3,000</td>
<td>n/a</td>
<td>3,170</td>
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<td>3,327</td>
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<td>843</td>
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<td>C. Neenah</td>
<td>10,289</td>
<td>2.45</td>
<td>10,589</td>
<td>2.41</td>
<td>10,851</td>
<td>2.39</td>
<td>11,116</td>
<td>2.38</td>
<td>11,356</td>
<td>2.38</td>
<td>1,301</td>
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<tr>
<td>T. Neenah (S.D. #2 portion only)</td>
<td>638</td>
<td>2.75</td>
<td>656</td>
<td>n/a</td>
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<td>n/a</td>
<td>693</td>
<td>n/a</td>
<td>712</td>
<td>n/a</td>
<td>93</td>
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<td><strong>Total of Neenah/ Menasha SSA</strong></td>
<td>22,263</td>
<td>2.60</td>
<td>23,348</td>
<td></td>
<td>24,409</td>
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<td>25,524</td>
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<td>26,570</td>
<td>2.40</td>
<td><strong>5,471</strong></td>
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Notes:
Table 1-5: Neenah/Menasha SSA - Building Permits, 2000-2003

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<thead>
<tr>
<th>Place</th>
<th>County</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
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<tbody>
<tr>
<td>T HARRISON</td>
<td>CALUMET</td>
<td>2000</td>
<td>208</td>
<td>14</td>
<td>0</td>
<td>222</td>
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<tr>
<td></td>
<td>CALUMET</td>
<td>2001</td>
<td>304</td>
<td>10</td>
<td>0</td>
<td>314</td>
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<tr>
<td></td>
<td>CALUMET</td>
<td>2002</td>
<td>335</td>
<td>0</td>
<td>0</td>
<td>335</td>
</tr>
<tr>
<td></td>
<td>CALUMET</td>
<td>2003</td>
<td>243</td>
<td>2</td>
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<td>245</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1090</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>0</td>
<td>1116</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>97.7%</td>
<td>2.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>C MENASHA</td>
<td>CALUMET</td>
<td>2000</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>CALUMET</td>
<td>2001</td>
<td>88</td>
<td>0</td>
<td>0</td>
<td>88</td>
</tr>
<tr>
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<td>CALUMET</td>
<td>2002</td>
<td>62</td>
<td>0</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td></td>
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<td>2003</td>
<td>104</td>
<td>0</td>
<td>0</td>
<td>104</td>
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<tr>
<td></td>
<td>WINNEBAGO</td>
<td>2000</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>8</td>
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<tr>
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<td>2</td>
<td>0</td>
<td>27</td>
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<tr>
<td></td>
<td>WINNEBAGO</td>
<td>2002</td>
<td>15</td>
<td>2</td>
<td>0</td>
<td>17</td>
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<tr>
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<td>80.2%</td>
<td>0.9%</td>
<td>18.9%</td>
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<td></td>
<td></td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>T NEENAH</td>
<td>WINNEBAGO</td>
<td>2000</td>
<td>7</td>
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<td>0.0%</td>
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<td></td>
<td></td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>C NEENAH</td>
<td>WINNEBAGO</td>
<td>2000</td>
<td>60</td>
<td>2</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td></td>
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<td>54</td>
<td>4</td>
<td>96</td>
<td>154</td>
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<td>293</td>
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<td></td>
<td></td>
<td>36.3%</td>
<td>4.4%</td>
<td>59.3%</td>
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<td></td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
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<td>NMSSA COMMUNITIES</td>
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<td>16</td>
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<td></td>
<td>2001</td>
<td>485</td>
<td>16</td>
<td>96</td>
<td>597</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>456</td>
<td>6</td>
<td>256</td>
<td>718</td>
<td></td>
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<td></td>
<td>2003</td>
<td>501</td>
<td>22</td>
<td>140</td>
<td>663</td>
<td></td>
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<td></td>
<td></td>
<td>1764</td>
<td>60</td>
<td>492</td>
<td>2316</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.2%</td>
<td>2.6%</td>
<td>21.2%</td>
<td>100.0%</td>
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</tr>
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</table>

Source: WDOA & ECWRPC, 2000-2003
<table>
<thead>
<tr>
<th>Geography</th>
<th>Housing units: Total</th>
<th>Housing units: 1; detached units in structure</th>
<th>Housing units: 1; attached units in structure</th>
<th>Housing units: 2 units in structure</th>
<th>Housing units: 3 or 4 units in structure</th>
<th>Housing units: 5 to 9 units in structure</th>
<th>Housing units: 10 to 19 units in structure</th>
<th>Housing units: 20 to 49 units in structure</th>
<th>Housing units: 50 or more units in structure</th>
<th>Housing units: Mobile home</th>
<th>Housing units: Boat; RV; van; etc.</th>
<th>Occupied housing units: Total</th>
<th>Percent Occupied in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harrison town, Calumet County</td>
<td>2,144</td>
<td>1,890</td>
<td>119</td>
<td>57</td>
<td>0</td>
<td>9</td>
<td>51</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>2,046</td>
<td>95.43%</td>
</tr>
<tr>
<td>Menasha city, Calumet County</td>
<td>295</td>
<td>222</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>58</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>229</td>
<td>77.63%</td>
</tr>
<tr>
<td>Appleton city, Winnebago County</td>
<td>416</td>
<td>35</td>
<td>32</td>
<td>37</td>
<td>25</td>
<td>36</td>
<td>38</td>
<td>47</td>
<td>119</td>
<td>0</td>
<td>0</td>
<td>375</td>
<td>90.14%</td>
</tr>
<tr>
<td>Menasha town, Winnebago County</td>
<td>7,057</td>
<td>3,979</td>
<td>205</td>
<td>969</td>
<td>250</td>
<td>558</td>
<td>218</td>
<td>508</td>
<td>142</td>
<td>227</td>
<td>0</td>
<td>6,747</td>
<td>95.61%</td>
</tr>
<tr>
<td>Neenah city, Winnebago County</td>
<td>6,484</td>
<td>4,026</td>
<td>308</td>
<td>348</td>
<td>195</td>
<td>606</td>
<td>505</td>
<td>134</td>
<td>19</td>
<td>343</td>
<td>0</td>
<td>6,289</td>
<td>96.99%</td>
</tr>
<tr>
<td>Neenah town, Winnebago County</td>
<td>10,173</td>
<td>7,119</td>
<td>339</td>
<td>854</td>
<td>542</td>
<td>439</td>
<td>393</td>
<td>319</td>
<td>157</td>
<td>11</td>
<td>0</td>
<td>9,798</td>
<td>96.31%</td>
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<tr>
<td>Total</td>
<td>27,604</td>
<td>18,262</td>
<td>1,005</td>
<td>2,313</td>
<td>1,014</td>
<td>1,696</td>
<td>1,263</td>
<td>1,008</td>
<td>437</td>
<td>0</td>
<td>606</td>
<td>26,487</td>
<td>96.91%</td>
</tr>
</tbody>
</table>

**Percentage by Housing Type**

<table>
<thead>
<tr>
<th>(Total/ Percent of Total)</th>
<th>Single Family</th>
<th>Duplex</th>
<th>Multi-Family</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19,873</td>
<td>2,313</td>
<td>5,418</td>
</tr>
<tr>
<td></td>
<td>72.0%</td>
<td>8.4%</td>
<td>19.6%</td>
</tr>
</tbody>
</table>
### Table 1-7: Neenah/Menasha SSA - Proposed Residential Densities (per net acre)

<table>
<thead>
<tr>
<th>Community</th>
<th>Units per Net Acre</th>
<th>Sources / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SF</td>
<td>DUPLEX</td>
</tr>
<tr>
<td>T. Harrison (Waverly S.D.)</td>
<td>2.30</td>
<td>4.60</td>
</tr>
<tr>
<td>T. Menasha</td>
<td>4.00</td>
<td>8.00</td>
</tr>
<tr>
<td>T. Neenah</td>
<td>2.00</td>
<td>4.00</td>
</tr>
<tr>
<td>C. Neenah</td>
<td>2.75</td>
<td>5.50</td>
</tr>
<tr>
<td>C. Menasha</td>
<td>6.05</td>
<td>6.05</td>
</tr>
<tr>
<td>C. Appleton</td>
<td>2.73</td>
<td>5.45</td>
</tr>
<tr>
<td><strong>NMSSA Average</strong></td>
<td><strong>3.30</strong></td>
<td><strong>5.60</strong></td>
</tr>
</tbody>
</table>

Source: Community plans and ECWRPC, December-2004
Table 1-8: Neenah-Menasha SSA Plan - Residential Acreage Projection Methodology (Year 2030)

**FORMULA:**
1) Total Dwelling Units Needed x Percentage Split of Unit Type (based on 2000 U.S. Census) = Projected Units by Type

- 6,018 x 72.0% = 4,332 Single Family Units
- 6,018 x 8.4% = 504 Duplex Units
- 6,018 x 19.6% = 1,181 Multi-Family Units

2) Projected Units by Type x Projected Development Densities = SSA Acreage Needs for Residential Uses

- 4,332 Single Family Units / 3.30 units/net acre = 1,311.0 Acres
- 504 Duplex Units / 5.60 units/net acre = 90.0 Acres
- 1,181 Multi-Family Units / 11.36 units/net acre = 104.0 Acres

\[ \text{Total Acreage} = 1,505.0 \]  

3) Application of 15% Infrastructure Factor = Gross Acreage Needs for Residential Uses

- 1,311.0 Single Family Acres x 1.15 = 1,507.7 Gross Acres
- 90.0 Duplex Acres x 1.15 = 103.5 Gross Acres
- 104.0 Multi-Family Acres x 1.15 = 119.6 Gross Acres

\[ \text{Total Gross Acreage} = 1,730.8 \]  

4) Application of 20% Market Factor = Adjusted Gross Acreage Needs for Residential Uses

- 1,507.7 Single Family Acres x 1.20 = 1,809.2 Adjusted Gross Acres
- 103.5 Duplex Acres x 1.20 = 124.2 Adjusted Gross Acres
- 119.6 Multi-Family Acres x 1.20 = 143.5 Adjusted Gross Acres

\[ \text{Total Adjusted Gross Acreage} = 2,077.0 \]

Source: ECWRPC - November, 2004
Table 1-9 - Neenah/Menasha SSA, Existing (2005) Land Use w/ in 2020 SSA and DMA Priority Acreage Requests

<table>
<thead>
<tr>
<th>Existing SSA Planning Area (control total)</th>
<th>Total Acres</th>
<th>Community</th>
<th>Sanitary Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19403.22</td>
<td>C. Appleton</td>
<td>C. Menasha</td>
</tr>
<tr>
<td></td>
<td>268.48</td>
<td>C. Neenah</td>
<td>T. Harrison</td>
</tr>
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<td></td>
<td>3791.90</td>
<td>C. Neenah</td>
<td>T. Neenah</td>
</tr>
<tr>
<td></td>
<td>5509.36</td>
<td>C. Neenah</td>
<td>T. Vinland</td>
</tr>
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<td></td>
<td>2345.59</td>
<td>Menasha</td>
<td>Neenah S.D. #1</td>
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<tr>
<td></td>
<td>4418.16</td>
<td>Menasha</td>
<td>Neenah S.D. #2</td>
</tr>
<tr>
<td></td>
<td>990.31</td>
<td>Menasha</td>
<td>Neenah S.D. #3</td>
</tr>
<tr>
<td></td>
<td>2791.72</td>
<td>Menasha</td>
<td>Waverly S.D.</td>
</tr>
<tr>
<td></td>
<td>32.96</td>
<td>Menasha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1852.98</td>
<td>Menasha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75.39</td>
<td>Menasha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1861.46</td>
<td>Menasha</td>
<td></td>
</tr>
</tbody>
</table>

| Single Family Residential (including mobile homes) | 4976.45 | 43.47 | 1259.87 | 1052.76 | 39.51 | 509.88 | 6.00 | 903.81 | 45.46 | 531.08 | 0.00 | 484.82 |
| Duplex Residential | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Multi-Family Residential | 305.20 | 33.52 | 90.51 | 124.33 | 0.00 | 0.01 | 0.00 | 159.51 | 0.00 | 4.53 | 0.00 | 4.94 |
| Commercial | 715.27 | 71.66 | 168.41 | 344.53 | 35.51 | 33.56 | 0.00 | 224.38 | 0.00 | 77.72 | 0.00 | 44.08 |
| Industrial | 948.83 | 2.50 | 280.10 | 486.31 | 35.51 | 33.56 | 0.00 | 224.38 | 0.00 | 77.72 | 0.00 | 44.08 |
| Public/institutional (includes park & recreation) | 1135.77 | 4.91 | 289.19 | 569.47 | 102.40 | 38.35 | 0.00 | 238.16 | 0.00 | 39.24 | 0.00 | 101.83 |
| Utilities | 78.34 | 0.00 | 60.85 | 9.07 | 0.03 | 5.77 | 0.00 | 11.94 | 0.00 | 5.07 | 0.00 | 5.07 |
| Transportation/Roads/Railroads | 2720.19 | 46.01 | 685.11 | 1141.77 | 242.71 | 233.41 | 0.65 | 596.95 | 7.50 | 226.93 | 0.00 | 262.09 |
| Existing/Planned Stormwater Detention Ponds | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vacant/Undevelopable (see notes) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vacant (woodlands, agriculture, open space, or undeveloped) | 3149.28 | 63.05 | 564.38 | 685.64 | 534.91 | 1150.15 | 4.20 | 402.74 | 0.00 | 39.24 | 0.00 | 101.83 |
| ESA - Stream Buffer | 101.12 | 0.86 | 36.20 | 11.40 | 25.62 | 21.10 | 0.00 | 9.93 | 0.00 | 9.03 | 0.00 | 36.86 |
| ESA - Wetland | 423.10 | 114.08 | 221.05 | 34.53 | 221.05 | 34.53 | 0.00 | 45.53 | 0.00 | 45.53 | 0.00 | 45.53 |
| Open Water | 56.72 | 2.61 | 27.34 | 5.87 | 3.97 | 4.15 | 0.00 | 5.77 | 0.00 | 5.77 | 0.00 | 5.77 |
| Total Existing SSA Developed Acres | 10880.05 | 201.93 | 2834.04 | 4628.24 | 793.57 | 958.05 | 6.65 | 2307.86 | 32.96 | 934.12 | 0.00 | 889.11 |
| Percent of Existing SSA Developed | 73.9% | 75.2% | 79.1% | 84.0% | 57.0% | 42.1% | 55.9% | 82.7% | 100.0% | 56.3% | 0.0% | 54.4% |
| Total Existing SSA ESA/Water Acres | 685.26 | 3.47 | 185.76 | 194.50 | 64.12 | 165.49 | 1.04 | 81.12 | 0.00 | 92.92 | 0.00 | 151.99 |
| Percent of Existing SSA ESA | 4.7% | 1.3% | 5.2% | 8.4% | 4.6% | 7.3% | 8.7% | 2.9% | 0.0% | 5.6% | 0.0% | 9.3% |
| Percent of Existing SSA Vacant (see line 13 for acres) | 21.4% | 23.5% | 15.7% | 12.4% | 38.4% | 50.6% | 35.3% | 14.4% | 0.0% | 38.1% | 0.0% | 36.3% |

Source: ECWRPC - Dec., 2004
Table 2-1: GCMW SSA - 2005 to 2030 MCD Base-Level Population Projections

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>ECWRPC 2005</th>
<th>ECWRPC 2010</th>
<th>ECWRPC 2015</th>
<th>ECWRPC 2020</th>
<th>ECWRPC 2025</th>
<th>ECWRPC 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Grand Chute</td>
<td>20,228</td>
<td>22,136</td>
<td>24,124</td>
<td>26,208</td>
<td>28,272</td>
<td>30,344</td>
</tr>
<tr>
<td>T. Greenville</td>
<td>7,896</td>
<td>8,987</td>
<td>10,145</td>
<td>11,377</td>
<td>12,632</td>
<td>13,918</td>
</tr>
<tr>
<td>T. Menasha</td>
<td>16,950</td>
<td>17,693</td>
<td>18,452</td>
<td>19,290</td>
<td>20,245</td>
<td>21,166</td>
</tr>
<tr>
<td>Total</td>
<td>45,073</td>
<td>48,816</td>
<td>52,721</td>
<td>56,875</td>
<td>61,149</td>
<td>65,428</td>
</tr>
</tbody>
</table>

Source: ECWRPC, October, 2004
TABLE 2-2: Estimated Population for GCMW Sanitary Districts, 2005

<table>
<thead>
<tr>
<th>Sanitary District</th>
<th>Total Residential Hookups</th>
<th>2005 PPH</th>
<th>Estimated 2005 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Grand Chute S.D. #2 (includes portion of the C. Appleton)</td>
<td>7,509</td>
<td>2.34</td>
<td>17,557</td>
</tr>
<tr>
<td>T. Greenville S.D. #1</td>
<td>1,678</td>
<td>2.94</td>
<td>4,936</td>
</tr>
<tr>
<td>T. Menasha Utility District (west of Fox R. only)</td>
<td>3,351</td>
<td>2.44</td>
<td>8,188</td>
</tr>
<tr>
<td>T. Neenah S.D. #3 (included w/ T. Menasha Utility Dist.)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Totals / Average</td>
<td>12,538</td>
<td>2.57</td>
<td>30,681</td>
</tr>
</tbody>
</table>

Source: Sanitary & Utility Districts and ECWRPC, 2004
Table 2-3: Grand Chute/ Menasha West SSA DMAs: 2005-2030 Population Estimate & Projections

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Grand Chute S.D. #2</td>
<td>17,557</td>
<td>19,070</td>
<td>20,642</td>
<td>22,283</td>
<td>23,910</td>
<td>25,543</td>
<td>7,986</td>
</tr>
<tr>
<td>T. Greenville S.D. #1</td>
<td>4,936</td>
<td>5,535</td>
<td>6,167</td>
<td>6,835</td>
<td>7,514</td>
<td>8,208</td>
<td>3,272</td>
</tr>
<tr>
<td>T. Menasha Utility District (west of Fox R. only)</td>
<td>8,188</td>
<td>8,532</td>
<td>8,883</td>
<td>9,269</td>
<td>9,707</td>
<td>10,129</td>
<td>1,940</td>
</tr>
<tr>
<td>T. Neenah S.D. #3 (included w/ T. Menasha Utility Dist.)</td>
<td>n/a</td>
<td>na/</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>GCMW SSA Total</td>
<td>30,681</td>
<td>33,137</td>
<td>35,692</td>
<td>38,387</td>
<td>41,130</td>
<td>43,879</td>
<td>13,199</td>
</tr>
<tr>
<td>GCMW SSA Total + 10% of ’05-’x increase for SSA Planning</td>
<td>n/ a</td>
<td>33,383</td>
<td>36,193</td>
<td>39,158</td>
<td>42,175</td>
<td>45,199</td>
<td>14,519</td>
</tr>
</tbody>
</table>

Notes:
Based on Sept. 2004 residential connection data provided by Sanitary and Utility Districts
2010-2030 projections based on MCD rate of population change applied to 2004 base population

Source: ECWRPC, 2005
# Table 2-4: Grand Chute/Menasha West SSA - Estimated Households by MCD, 2005 to 2030

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
</tr>
<tr>
<td>T. Grand Chute</td>
<td>8,503</td>
<td>2.34</td>
<td>9,557</td>
<td>2.28</td>
<td>10,651</td>
<td>2.23</td>
</tr>
<tr>
<td>T. Greenville</td>
<td>2,677</td>
<td>2.94</td>
<td>3,098</td>
<td>2.89</td>
<td>3,545</td>
<td>2.85</td>
</tr>
<tr>
<td>T. Menasha</td>
<td>6,816</td>
<td>2.44</td>
<td>7,239</td>
<td>2.40</td>
<td>7,653</td>
<td>2.37</td>
</tr>
<tr>
<td>Totals / Average</td>
<td>17,996</td>
<td>2.57</td>
<td>19,894</td>
<td>2.52</td>
<td>21,849</td>
<td>2.48</td>
</tr>
</tbody>
</table>

Source: U.S. Census 2000; EWRPC, 2004
Table 2-5: Grand Chute/ Menasha West SSA DMAs: 2005-2030 Household Projections

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
</tr>
<tr>
<td>T. Grand Chute S.D. #2</td>
<td>7,509</td>
<td>2.34</td>
<td>8,337</td>
<td>2.28</td>
<td>9,193</td>
<td>2.23</td>
<td>10,088</td>
</tr>
<tr>
<td>T. Greenville S.D. #1</td>
<td>1,678</td>
<td>2.94</td>
<td>1,906</td>
<td>2.89</td>
<td>2,146</td>
<td>2.85</td>
<td>2,400</td>
</tr>
<tr>
<td>T. Menasha Utility District (west of Fox R. only)</td>
<td>3,351</td>
<td>2.44</td>
<td>3,807</td>
<td>2.40</td>
<td>4,286</td>
<td>2.37</td>
<td>4,793</td>
</tr>
<tr>
<td>T. Neenah S.D. #3 (included w/ T. Menasha Utility Dist.)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>GCMW SSA Total</td>
<td>12,538</td>
<td>n/a</td>
<td>14,050</td>
<td>n/a</td>
<td>15,626</td>
<td>n/a</td>
<td>17,282</td>
</tr>
<tr>
<td>GCMW SSA Total + 10% of '05-'x increase for SSA Planning</td>
<td>n/a</td>
<td>14,201</td>
<td>15,784</td>
<td>17,447</td>
<td>19,068</td>
<td>20,771</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes:
Based on Sept. 2004 residential connection data provided by Sanitary and Utility Districts
2010-2030 projections based on MCD rate of household change applied to 2005 base households
### Table 2-6: Grand Chute/ Menasha West SSA - Building Permits, 2000-2003

<table>
<thead>
<tr>
<th>Place</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
<th>Percentage of Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>T ELLINGTON</td>
<td>2000</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>26</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Units</td>
<td>96</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>96</td>
<td>100.0%</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| T GRAND CHUTE  | 2000 | 66                 | 14     | 180       | 260         | 100.0%                    |
|                | 2001 | 71                 | 14     | 88        | 173         | 100.0%                    |
|                | 2002 | 107                | 28     | 269       | 404         | 100.0%                    |
|                | 2003 | 130                | 4      | 0         | 134         | 100.0%                    |
| Total Units    | 374  | 60                 | 537    | 971       | 100.0%      |                           |
| Percentage of Total Units | 38.5% | 6.2% | 55.3% | 100.0% |

| T GREENVILLE   | 2000 | 93                 | 9      | 0         | 102         | 100.0%                    |
|                | 2001 | 115                | 8      | 3         | 126         | 100.0%                    |
|                | 2002 | 100                | 7      | 0         | 107         | 100.0%                    |
|                | 2003 | 97                 | 9      | 0         | 106         | 100.0%                    |
| Total Units    | 405  | 33                 | 3      | 441       | 100.0%      |                           |
| Percentage of Total Units | 91.8% | 7.5% | 0.7% | 100.0% |

| T MENASHA      | 2000 | 37                 | 2      | 190       | 229         | 100.0%                    |
|                | 2001 | 80                 | 4      | 79        | 163         | 100.0%                    |
|                | 2002 | 111                | 22     | 107       | 240         | 100.0%                    |
|                | 2003 | 167                | 2      | 40        | 209         | 100.0%                    |
| Total Units    | 395  | 30                 | 416    | 841       | 100.0%      |                           |
| Percentage of Total Units | 47.0% | 3.6% | 49.5% | 100.0% |

| T NEENAH       | 2000 | 7                  | 0      | 0         | 7           | 100.0%                    |
|                | 2001 | 14                 | 0      | 0         | 14          | 100.0%                    |
|                | 2002 | 11                 | 0      | 0         | 11          | 100.0%                    |
|                | 2003 | 22                 | 0      | 0         | 22          | 100.0%                    |
| Total Units    | 54   | 0                  | 0      | 54        | 100.0%      |                           |
| Percentage of Total Units | 100.0% | 0.0% | 0.0% | 100.0% |

<table>
<thead>
<tr>
<th>Place</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCMW SSA COMMUNITIES</td>
<td>2000</td>
<td>220</td>
<td>25</td>
<td>370</td>
<td>615</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>304</td>
<td>26</td>
<td>176</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>358</td>
<td>57</td>
<td>376</td>
<td>791</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>442</td>
<td>15</td>
<td>40</td>
<td>497</td>
</tr>
<tr>
<td>Total Units</td>
<td>1324</td>
<td>123</td>
<td>956</td>
<td>2403</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: WDQA & ECWRPC, 2000-2003
Table 2-7: Grand Chute / Menasha West SSA - Units in Structure, 2000

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Housing units: Total</th>
<th>Housing units: 1; detached units in structure</th>
<th>Housing units: 1; attached units in structure</th>
<th>Housing units: Mobile home</th>
<th>Housing units: 2 units in structure</th>
<th>Housing units: 3 or 4 units in structure</th>
<th>Housing units: 5 to 9 units in structure</th>
<th>Housing units: 10 to 19 units in structure</th>
<th>Housing units: 20 to 49 units in structure</th>
<th>Housing units: 50 or more units in structure</th>
<th>Occupied housing units: Total</th>
<th>Percent Occupied in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harrison town, Calumet County</td>
<td>2,144</td>
<td>1,890</td>
<td>119</td>
<td>18</td>
<td>57</td>
<td>9</td>
<td>51</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,046</td>
<td>95.4%</td>
</tr>
<tr>
<td>Buchanan town, Outagamie County</td>
<td>1,854</td>
<td>1,506</td>
<td>204</td>
<td>0</td>
<td>122</td>
<td>0</td>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,840</td>
<td>99.2%</td>
</tr>
<tr>
<td>Kaukauna city, Outagamie County</td>
<td>5,138</td>
<td>3,618</td>
<td>201</td>
<td>12</td>
<td>624</td>
<td>134</td>
<td>155</td>
<td>119</td>
<td>148</td>
<td>127</td>
<td>4,968</td>
<td>96.7%</td>
</tr>
<tr>
<td>Kimberly village, Outagamie County</td>
<td>2,591</td>
<td>1,838</td>
<td>130</td>
<td>2</td>
<td>220</td>
<td>80</td>
<td>132</td>
<td>52</td>
<td>64</td>
<td>73</td>
<td>2,499</td>
<td>96.4%</td>
</tr>
<tr>
<td>Little Chute village, Outagamie County</td>
<td>3,955</td>
<td>2,566</td>
<td>308</td>
<td>217</td>
<td>449</td>
<td>66</td>
<td>92</td>
<td>130</td>
<td>127</td>
<td>0</td>
<td>3,874</td>
<td>98.0%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>15,682</strong></td>
<td><strong>11,418</strong></td>
<td><strong>962</strong></td>
<td><strong>249</strong></td>
<td><strong>1,472</strong></td>
<td><strong>280</strong></td>
<td><strong>410</strong></td>
<td><strong>352</strong></td>
<td><strong>339</strong></td>
<td><strong>200</strong></td>
<td><strong>15,227</strong></td>
<td><strong>97.2%</strong></td>
</tr>
</tbody>
</table>

**Unit Type**

- Single Family: 12,629
- Duplex: 1,472
- Multi-Family: 1,581

**Percentage Split**

- Single Family: 82.9%
- Duplex: 9.7%
- Multi-Family: 10.4%

Source: U.S. Census Bureau, 2000; and ECWRPC, 2004
Table 2-8: Grand Chute/ Menasha West SSA - Assumed Residential Densities (per net acre)

<table>
<thead>
<tr>
<th>Community</th>
<th>Proposed Density per Net Acre</th>
<th>Source / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SF</td>
<td>DUPLEX</td>
</tr>
<tr>
<td>T. Grand Chute</td>
<td>2.00</td>
<td>4.00</td>
</tr>
<tr>
<td>C. Appleton</td>
<td>2.73</td>
<td>5.45</td>
</tr>
<tr>
<td>T. Greenville</td>
<td>1.67</td>
<td>3.34</td>
</tr>
<tr>
<td>T. Clayton</td>
<td>2.00</td>
<td>4.00</td>
</tr>
<tr>
<td>T. Menasha</td>
<td>4.00</td>
<td>8.00</td>
</tr>
<tr>
<td>T. Neenah</td>
<td>2.00</td>
<td>4.00</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>2.40</strong></td>
<td><strong>4.80</strong></td>
</tr>
</tbody>
</table>
### Table 2-9: Grand Chute/ Menasha West SSA Plan - Residential Acreage Projection Methodology (Year 2030)

**FORMULA:**

1) **Total Dwelling Units Needed x Percentage Split of Unit Type (based on 2000 Census) = Projected Units by Type**

<table>
<thead>
<tr>
<th>Dwelling Units</th>
<th>Percentage</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>82.9%</td>
<td>$8,870 \times 0.829$</td>
<td>5,982</td>
</tr>
<tr>
<td>Duplex Units</td>
<td>9.7%</td>
<td>$8,870 \times 0.097$</td>
<td>1,193</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>10.4%</td>
<td>$8,870 \times 0.104$</td>
<td>2,143</td>
</tr>
</tbody>
</table>

2) **Projected Units by Type x Development Densities (based on Table 2-7) = SSA Acreage Needs for Residential Uses**

<table>
<thead>
<tr>
<th>Single Family Units</th>
<th>Development Density</th>
<th>SSA Acreage Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,982</td>
<td>2.40 units/acre</td>
<td>2,493.1 Acre</td>
</tr>
<tr>
<td>1,193</td>
<td>4.80 units/acre</td>
<td>248.5 Acre</td>
</tr>
<tr>
<td>2,143</td>
<td>8.83 units/acre</td>
<td>242.6 Acre</td>
</tr>
</tbody>
</table>

3) **Application of 15% Infrastructure Factor = Gross Acreage Needs for Residential Uses**

<table>
<thead>
<tr>
<th>SSA Acreage Needs</th>
<th>Infrastructure Factor</th>
<th>Gross Acreage Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,493.1 Acre</td>
<td>1.15</td>
<td>2,867.0 Acre</td>
</tr>
<tr>
<td>248.5 Acre</td>
<td>1.15</td>
<td>285.8 Acre</td>
</tr>
<tr>
<td>242.6 Acre</td>
<td>1.15</td>
<td>279.0 Acre</td>
</tr>
</tbody>
</table>

4) **Application of 20% Market Factor = Adjusted Gross Acreage Needs for Residential Uses**

<table>
<thead>
<tr>
<th>Gross Acreage Needs</th>
<th>Market Factor</th>
<th>Adjusted Gross Acreage Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,867.0 Acre</td>
<td>1.20</td>
<td>3,440.4 Adjusted Gross Acre</td>
</tr>
<tr>
<td>285.8 Acre</td>
<td>1.20</td>
<td>334.8 Adjusted Gross Acre</td>
</tr>
<tr>
<td>279.0 Acre</td>
<td>1.20</td>
<td>343.0 Adjusted Gross Acre</td>
</tr>
</tbody>
</table>

**TOTAL ADJUSTED GROSS ACRES:** 4,118.2

Source: ECWRPC - March, 2005
Table 3-1: Appleton SSA 2005-2030 Population Projections

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Appleton (Calumet Co.)*</td>
<td>11,522</td>
<td>12,323</td>
<td>12,982</td>
<td>13,656</td>
<td>14,258</td>
<td>14,788</td>
<td>3,265</td>
</tr>
<tr>
<td>C. Appleton (Outagamie Co.)</td>
<td>60,472</td>
<td>62,014</td>
<td>63,368</td>
<td>64,571</td>
<td>65,352</td>
<td>65,816</td>
<td>5,344</td>
</tr>
<tr>
<td>T. Grand Chute (portion provided sewer by C. Appleton)**</td>
<td>320</td>
<td>312</td>
<td>305</td>
<td>332</td>
<td>295</td>
<td>290</td>
<td>-30</td>
</tr>
<tr>
<td><strong>Appleton SSA Total</strong></td>
<td>72,314</td>
<td>74,337</td>
<td>76,350</td>
<td>78,227</td>
<td>79,610</td>
<td>80,603</td>
<td>8,289</td>
</tr>
<tr>
<td><strong>+ 10% of '05-'x' increase for SSA Purposes</strong></td>
<td>n/a</td>
<td>74,539</td>
<td>76,754</td>
<td>78,818</td>
<td>80,339</td>
<td>81,432</td>
<td>9,118</td>
</tr>
</tbody>
</table>

Notes:
* 66 persons in the Calumet Co. portion of C. Appleton are served by the Waverly S.D. (NMSSA) and therefore have been subtracted from the base (2005) population.
** 137 sewer connections within the T. Grand Chute are provided by the C. Appleton.

Table 3-2: Appleton SSA Estimated Households & Persons Per Household, 2005 to 2030

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
</tr>
<tr>
<td>C. Appleton (Cal. pt.)</td>
<td>3,872</td>
<td>2.83</td>
<td>4,096</td>
<td>2.83</td>
<td>4,411</td>
<td>2.79</td>
<td>4,707</td>
</tr>
<tr>
<td>C. Appleton (Out. pt.)</td>
<td>22,609</td>
<td>2.47</td>
<td>23,824</td>
<td>2.44</td>
<td>24,706</td>
<td>2.40</td>
<td>25,594</td>
</tr>
<tr>
<td>T. Grand Chute</td>
<td>7,586</td>
<td>2.39</td>
<td>8,503</td>
<td>2.34</td>
<td>9,557</td>
<td>2.28</td>
<td>10,651</td>
</tr>
</tbody>
</table>

Table 3-3: Appleton SSA Estimated Households by MCD, 2005 to 2030

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
<td>Persons per HH</td>
<td>No. HH</td>
</tr>
<tr>
<td>C. Appleton (Calumet Co.)</td>
<td>4,096</td>
<td>2.83</td>
<td>4,411</td>
<td>2.79</td>
<td>4,707</td>
<td>2.76</td>
<td>4,988</td>
</tr>
<tr>
<td>C. Appleton (Outagamie Co.)</td>
<td>23,824</td>
<td>2.44</td>
<td>24,786</td>
<td>2.40</td>
<td>25,594</td>
<td>2.38</td>
<td>26,287</td>
</tr>
<tr>
<td>T. Grand Chute (portion provided sewer by C. Appleton)</td>
<td>137</td>
<td>2.34</td>
<td>137</td>
<td>2.28</td>
<td>137</td>
<td>2.23</td>
<td>137</td>
</tr>
<tr>
<td>Appleton SSA Total / Avg.</td>
<td>28,058</td>
<td>2.53</td>
<td>29,334</td>
<td>2.49</td>
<td>30,438</td>
<td>2.45</td>
<td>31,412</td>
</tr>
<tr>
<td>Appleton SSA Total +10% of ’05-’x’ increase for SSA Planning</td>
<td>n/a</td>
<td></td>
<td>29,461</td>
<td></td>
<td>30,676</td>
<td></td>
<td>31,747</td>
</tr>
</tbody>
</table>

Source: U.S. Census 2000; EWRPC Projections, Oct., 2004
<table>
<thead>
<tr>
<th>Place</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Appleton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calumet Co.</td>
<td>2000</td>
<td>48</td>
<td>2</td>
<td>48</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>34</td>
<td>4</td>
<td>8</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>140</td>
<td>6</td>
<td>56</td>
<td>202</td>
</tr>
<tr>
<td>Outagamie Co.</td>
<td>2000</td>
<td>152</td>
<td>10</td>
<td>128</td>
<td>290</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>132</td>
<td>8</td>
<td>119</td>
<td>259</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>148</td>
<td>18</td>
<td>144</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>189</td>
<td>20</td>
<td>13</td>
<td>222</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>621</td>
<td>56</td>
<td>404</td>
<td>1081</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>761</td>
<td>62</td>
<td>460</td>
<td>1283</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td></td>
<td>59.3%</td>
<td>4.8%</td>
<td>35.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: WDOA & ECWRPC, 2000-2003
### Table 3-5: Appleton SSA, Units in Structure, 2000

<table>
<thead>
<tr>
<th>Community</th>
<th>Housing units: Total</th>
<th>Housing units: 1; detached units in structure</th>
<th>Housing units: 1; attached units in structure</th>
<th>Housing units: Mobile home</th>
<th>Housing units: 2 or 4 units in structure</th>
<th>Housing units: 3 or 4 units in structure</th>
<th>Housing units: 5 to 9 units in structure</th>
<th>Housing units: 10 to 19 units in structure</th>
<th>Housing units: 20 to 49 units in structure</th>
<th>Housing units: 50 or more units in structure</th>
<th>Occupied housing units: Total</th>
<th>Percent Occupied in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Appleton (Cal. Co. portion)</td>
<td>3,917</td>
<td>2,806</td>
<td>163</td>
<td>73</td>
<td>231</td>
<td>52</td>
<td>305</td>
<td>228</td>
<td>59</td>
<td>0</td>
<td>3,840</td>
<td>98.03%</td>
</tr>
<tr>
<td>C. Appleton (Out. Co. portion)</td>
<td>23,342</td>
<td>15,899</td>
<td>881</td>
<td>49</td>
<td>2,605</td>
<td>824</td>
<td>938</td>
<td>762</td>
<td>611</td>
<td>773</td>
<td>22,565</td>
<td>96.67%</td>
</tr>
<tr>
<td>Appleton SSA Total</td>
<td>27,259</td>
<td>18,705</td>
<td>1,044</td>
<td>122</td>
<td>2,836</td>
<td>876</td>
<td>1,243</td>
<td>990</td>
<td>670</td>
<td>773</td>
<td>26,405</td>
<td>96.87%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000; and ECWRPC, 2004

<table>
<thead>
<tr>
<th>Type</th>
<th>Single Family</th>
<th>Duplex</th>
<th>Multi-Family</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19,871</td>
<td>2,836</td>
<td>4,552</td>
</tr>
<tr>
<td>Percent</td>
<td>72.9%</td>
<td>10.4%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>
Table 3-6: Appleton SSA, Planned Residential Densities (per net acre)

<table>
<thead>
<tr>
<th>Community</th>
<th>Proposed Density per Net Acre</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SF*</td>
<td>DUPLEX**</td>
</tr>
<tr>
<td>C. Appleton</td>
<td>2.73</td>
<td>5.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.00</td>
</tr>
</tbody>
</table>

Notes:
* from Table 3-5
** 2 x SF

Source: Listed communities and ECWRPC - December, 2004
### Table 3-7: Appleton SSA Plan - Residential Acreage Projection Methodology (Year 2030)

**FORMULA:**

1) **Total Dwelling Units Needed x Percentage Split of Unit Type (based on 2000 U.S. Census) = Projected Units by Type**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4,936</td>
<td>x</td>
<td>72.9%</td>
</tr>
<tr>
<td>4,936</td>
<td>x</td>
<td>10.4%</td>
</tr>
<tr>
<td>4,936</td>
<td>x</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

- 4,936 x 72.9% = 3,598 Single Family Units
- 4,936 x 10.4% = 514 Duplex Units
- 4,936 x 16.7% = 824 Multi-Family Units

2) **Projected Units by Type x Projected Development Densities = Net Acreage Needs for Residential Uses**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3,598</td>
<td>/</td>
<td>2.73</td>
</tr>
<tr>
<td>514</td>
<td>/</td>
<td>5.45</td>
</tr>
<tr>
<td>824</td>
<td>/</td>
<td>10.00</td>
</tr>
</tbody>
</table>

- 3,598 Single Family Units / 2.73 units/net acre = 1,319.5 Net Acres
- 514 Duplex Units / 5.45 units/net acre = 94.2 Net Acres
- 824 Multi-Family Units / 10.00 units/net acre = 82.4 Net Acres

**1,496.1 TOTAL NET ACRES**

3) **Application of 15% Infrastructure Factor = Gross Acreage Needs for Residential Uses**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1,319.5</td>
<td>x</td>
<td>1.15</td>
</tr>
<tr>
<td>94.2</td>
<td>x</td>
<td>1.15</td>
</tr>
<tr>
<td>82.4</td>
<td>x</td>
<td>1.15</td>
</tr>
</tbody>
</table>

- 1,319.5 Single Family Acres x 1.15 = 1,517.5 Gross Acres
- 94.2 Duplex Acres x 1.15 = 108.3 Gross Acres
- 82.4 Multi-Family Acres x 1.15 = 94.8 Gross Acres

**1,720.5 TOTAL GROSS ACRES**

4) **Application of 20% Market Factor = Adjusted Gross Acreage Needs for Residential Uses**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1,517.5</td>
<td>x</td>
<td>1.20</td>
</tr>
<tr>
<td>108.3</td>
<td>x</td>
<td>1.20</td>
</tr>
<tr>
<td>94.8</td>
<td>x</td>
<td>1.20</td>
</tr>
</tbody>
</table>

- 1,517.5 Single Family Acres x 1.20 = 1,820.9 Adjusted Gross Acres
- 108.3 Duplex Acres x 1.20 = 129.9 Adjusted Gross Acres
- 94.8 Multi-Family Acres x 1.20 = 113.8 Adjusted Gross Acres

**2,064.6 TOTAL ADJUSTED GROSS ACRES**

**Source:** ECWRPC, 2004
Heart of the Valley SSA – Detailed Population, Development, and Acreage Calculation Tables
Table 4-1: Heart of the Valley SSA 2005-2030 Population Projections

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Kaukauna (Calumet pt.)</td>
<td>n/a</td>
<td>n/a</td>
<td>9</td>
<td>59</td>
<td>115</td>
<td>177</td>
<td>245</td>
<td>289</td>
<td>318</td>
<td>280</td>
<td>309</td>
<td>349</td>
</tr>
<tr>
<td>C. Kaukauna (Outagamie pt.)</td>
<td>12,983</td>
<td>13,926</td>
<td>14,104</td>
<td>15,051</td>
<td>15,975</td>
<td>16,880</td>
<td>17,750</td>
<td>18,520</td>
<td>19,017</td>
<td>4,638</td>
<td>4,832</td>
<td>13,559</td>
</tr>
<tr>
<td>V. Combined Locks</td>
<td>2,422</td>
<td>2,659</td>
<td>2,708</td>
<td>2,862</td>
<td>3,017</td>
<td>3,174</td>
<td>3,320</td>
<td>3,401</td>
<td>3,459</td>
<td>695</td>
<td>751</td>
<td>4,334</td>
</tr>
<tr>
<td>V. Kimberly</td>
<td>6,146</td>
<td>6,362</td>
<td>6,436</td>
<td>6,576</td>
<td>6,694</td>
<td>6,784</td>
<td>6,846</td>
<td>6,869</td>
<td>6,869</td>
<td>420</td>
<td>427</td>
<td>6,506</td>
</tr>
<tr>
<td>V. Little Chute</td>
<td>10,579</td>
<td>10,775</td>
<td>10,952</td>
<td>11,467</td>
<td>11,972</td>
<td>12,475</td>
<td>12,922</td>
<td>13,167</td>
<td>13,331</td>
<td>2,215</td>
<td>2,379</td>
<td>13,569</td>
</tr>
<tr>
<td>T. Buchanan (Darboy S.D. portion only)*</td>
<td>5,908</td>
<td>6,184</td>
<td>6,414</td>
<td>6,420</td>
<td>7,130</td>
<td>7,641</td>
<td>7,641</td>
<td>7,641</td>
<td>10,027</td>
<td>1,027</td>
<td>1,027</td>
<td>7,744</td>
</tr>
<tr>
<td>T. Buchanan (other than Darboy) **</td>
<td>2,29</td>
<td>331</td>
<td>356</td>
<td>1,649</td>
<td>2,093</td>
<td>2,823</td>
<td>4,095</td>
<td>4,881</td>
<td>5,405</td>
<td>4,525</td>
<td>5,049</td>
<td>9,510</td>
</tr>
<tr>
<td>T. Harrison (Darboy S.D. portion only)***</td>
<td>3,977</td>
<td>5,471</td>
<td>5,672</td>
<td>6,947</td>
<td>8,169</td>
<td>9,563</td>
<td>10,890</td>
<td>11,746</td>
<td>12,317</td>
<td>6,274</td>
<td>6,845</td>
<td>13,002</td>
</tr>
<tr>
<td>T. Kaukauna</td>
<td>1,116</td>
<td>1,202</td>
<td>1,226</td>
<td>1,306</td>
<td>1,387</td>
<td>1,471</td>
<td>1,550</td>
<td>1,606</td>
<td>1,628</td>
<td>570</td>
<td>400</td>
<td>1,666</td>
</tr>
<tr>
<td>T. Vandenbroek</td>
<td>1,361</td>
<td>1,317</td>
<td>1,322</td>
<td>1,294</td>
<td>1,258</td>
<td>1,208</td>
<td>1,149</td>
<td>1,104</td>
<td>1,073</td>
<td>222</td>
<td>-251</td>
<td>1,046</td>
</tr>
<tr>
<td>Total of All MCDs</td>
<td>44,298</td>
<td>48,427</td>
<td>49,291</td>
<td>53,652</td>
<td>57,808</td>
<td>62,156</td>
<td>66,404</td>
<td>68,928</td>
<td>70,610</td>
<td>19,637</td>
<td>21,319</td>
<td>72,742</td>
</tr>
<tr>
<td>Total of HOVSSA (***)</td>
<td>41,831</td>
<td>45,908</td>
<td>46,743</td>
<td>51,052</td>
<td>55,165</td>
<td>59,477</td>
<td>63,709</td>
<td>66,232</td>
<td>67,913</td>
<td>19,489</td>
<td>21,170</td>
<td>70,030</td>
</tr>
<tr>
<td>HOVSSA Total + 10% of '05-'x increase for SSA Planning</td>
<td>n/a</td>
<td>n/a</td>
<td>46,743</td>
<td>51,052</td>
<td>55,165</td>
<td>59,477</td>
<td>63,709</td>
<td>66,232</td>
<td>67,913</td>
<td>19,489</td>
<td>21,170</td>
<td>70,030</td>
</tr>
</tbody>
</table>


** Assumes that additional growth will occur beyond Darboy S.D. boundary and will be serviced via a new sanitary district or the City of Kaukauna using the 30" Kankapot Creek interceptor sewer. This figure derived by subtracting Darboy S.D. portion from


**** Assumes that no sewered development will take place in T. Kaukauna and T. Vandenbroek and therefore they are not included in HOVSSA totals.

Source: U.S. Census 2000; ECWRPC Projections (10/30/04)
### TABLE 4-2: Estimated Population for Darboy Sanitary District, 2004

<table>
<thead>
<tr>
<th>Town</th>
<th>DOA est. 2004</th>
<th>2000 pphh</th>
<th>Total Hookups to date (Oct., 2004)*</th>
<th>Darboy Sanitary District Estimated 2004/05 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Buchanan</td>
<td>6,715</td>
<td>3.13</td>
<td>2,113 149 5</td>
<td>6,614</td>
</tr>
<tr>
<td>T. Harrison</td>
<td>7,917</td>
<td>2.88</td>
<td>1,900 56 1</td>
<td>5,472</td>
</tr>
<tr>
<td>Total</td>
<td>14,632</td>
<td>4,013 205 6</td>
<td></td>
<td>12,086</td>
</tr>
</tbody>
</table>

Note: 69.1% of T. Harrison population allocated to Darboy S.D. for SSA Planning purposes based on 2004 ratios.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Kaukauna (Calumet pt.)</td>
<td>24</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>-0.15</td>
<td>-0.16</td>
<td>147.00</td>
<td>147.00</td>
</tr>
<tr>
<td>C. Kaukauna (Outagamie pt.)</td>
<td>5,516</td>
<td>5,973</td>
<td>6,426</td>
<td>6,885</td>
<td>7,294</td>
<td>7,549</td>
<td>7,712</td>
<td>2.196</td>
<td>2.196</td>
<td>7,932.00</td>
<td>2,416.00</td>
</tr>
<tr>
<td>V. Combined Locks</td>
<td>1,002</td>
<td>1,096</td>
<td>1,190</td>
<td>1,286</td>
<td>1,375</td>
<td>1,430</td>
<td>1,466</td>
<td>-0.82</td>
<td>-0.82</td>
<td>1,512.00</td>
<td>510.00</td>
</tr>
<tr>
<td>V. Kimberly</td>
<td>2,670</td>
<td>2,814</td>
<td>2,945</td>
<td>3,069</td>
<td>3,162</td>
<td>3,214</td>
<td>3,268</td>
<td>-0.28</td>
<td>-0.28</td>
<td>3,306.00</td>
<td>636.00</td>
</tr>
<tr>
<td>V. Little Chute</td>
<td>4,110</td>
<td>4,409</td>
<td>4,698</td>
<td>4,981</td>
<td>5,234</td>
<td>5,383</td>
<td>5,482</td>
<td>-0.28</td>
<td>-0.28</td>
<td>5,619.00</td>
<td>1,509.00</td>
</tr>
<tr>
<td>T. Harrison (Darboy S.D. portion only)</td>
<td>2,013</td>
<td>2,455</td>
<td>2,938</td>
<td>3,456</td>
<td>4,000</td>
<td>4,332</td>
<td>4,514</td>
<td>2.543</td>
<td>2.543</td>
<td>4,609.00</td>
<td>2,796.00</td>
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<tr>
<td>T. Buchanan (Darboy Sanitary District portion only)</td>
<td>2,114</td>
<td>2,088</td>
<td>2,351</td>
<td>2,549</td>
<td>2,975</td>
<td>2,975</td>
<td>2,975</td>
<td>-0.18</td>
<td>-0.18</td>
<td>2,636.00</td>
<td>521.00</td>
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<tr>
<td>T. Buchanan (Other than Darboy S.D)</td>
<td>114</td>
<td>534</td>
<td>690</td>
<td>942</td>
<td>1,375</td>
<td>1,375</td>
<td>1,375</td>
<td>1.71</td>
<td>1.71</td>
<td>2,000.00</td>
<td>1,889.00</td>
</tr>
<tr>
<td>V. Kaukauna</td>
<td>411</td>
<td>455</td>
<td>493</td>
<td>531</td>
<td>575</td>
<td>599</td>
<td>599</td>
<td>-0.29</td>
<td>-0.29</td>
<td>629.00</td>
<td>218.00</td>
</tr>
<tr>
<td>V. Vandenbroek</td>
<td>452</td>
<td>455</td>
<td>453</td>
<td>447</td>
<td>434</td>
<td>424</td>
<td>417</td>
<td>-0.32</td>
<td>-0.32</td>
<td>414.00</td>
<td>(30)</td>
</tr>
<tr>
<td>Total of All MCDs / Avg. of PPH</td>
<td>18,406</td>
<td>20,298</td>
<td>22,220</td>
<td>24,224</td>
<td>26,115</td>
<td>27,171</td>
<td>28,041</td>
<td>2.24</td>
<td>2.24</td>
<td>29,005.00</td>
<td>10,599.00</td>
</tr>
<tr>
<td>Total of HOVSSA / Avg. of PPH (excludes T. Kauk &amp; T. Vand.)</td>
<td>17,543</td>
<td>19,393</td>
<td>21,283</td>
<td>23,246</td>
<td>25,111</td>
<td>26,253</td>
<td>27,015</td>
<td>2.24</td>
<td>2.24</td>
<td>27,963.00</td>
<td>10,420.00</td>
</tr>
</tbody>
</table>

* Reflects only Darboy S.D. portion of future growth based on population projection distribution.
** Includes only remaining portion of Darboy Sanitary District consistent with population projection distribution.
*** Assumed that no sewered development will take place in these communities and therefore are not included in HOVSSA totals.

### Table 4-4: Heart of the Valley SSA - Building Permits, 2000-2003

<table>
<thead>
<tr>
<th>Place</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>T HARRISON</td>
<td>2000</td>
<td>208</td>
<td>14</td>
<td>0</td>
<td>222</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>304</td>
<td>10</td>
<td>0</td>
<td>314</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>335</td>
<td>0</td>
<td>0</td>
<td>335</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>243</td>
<td>2</td>
<td>0</td>
<td>245</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>1090</td>
<td>26</td>
<td>0</td>
<td>1116</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td>97.7%</td>
<td>2.3%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>T BUCHANAN</td>
<td>2000</td>
<td>108</td>
<td>52</td>
<td>32</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>82</td>
<td>24</td>
<td>72</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>34</td>
<td>8</td>
<td>64</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>4</td>
<td>0</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>228</td>
<td>84</td>
<td>200</td>
<td>512</td>
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<tr>
<td>Percentage of Total Units</td>
<td>44.5%</td>
<td>16.4%</td>
<td>39.1%</td>
<td>100.0%</td>
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</tr>
<tr>
<td>V COMBINED LOCKS</td>
<td>2000</td>
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<td>0</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>47</td>
<td>3</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
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<tr>
<td>Total Units</td>
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<td>159</td>
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<td>Percentage of Total Units</td>
<td>89.3%</td>
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<td></td>
</tr>
<tr>
<td>V KIMBERLY</td>
<td>2000</td>
<td>17</td>
<td>22</td>
<td>4</td>
<td>43</td>
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<td></td>
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<td>9</td>
<td>14</td>
<td>0</td>
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<tr>
<td></td>
<td>2002</td>
<td>23</td>
<td>50</td>
<td>52</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>18</td>
<td>18</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>67</td>
<td>104</td>
<td>56</td>
<td>227</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td>29.5%</td>
<td>45.8%</td>
<td>24.7%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>V LITTLE CHUTE</td>
<td>2000</td>
<td>42</td>
<td>16</td>
<td>0</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>21</td>
<td>22</td>
<td>81</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>9</td>
<td>20</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>23</td>
<td>6</td>
<td>27</td>
<td>56</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>95</td>
<td>64</td>
<td>108</td>
<td>267</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td>35.6%</td>
<td>24.0%</td>
<td>40.4%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>C KAUKAUNA</td>
<td>2000</td>
<td>61</td>
<td>22</td>
<td>0</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>69</td>
<td>34</td>
<td>248</td>
<td>351</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>88</td>
<td>34</td>
<td>108</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>169</td>
<td>16</td>
<td>0</td>
<td>185</td>
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<td>356</td>
<td>849</td>
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<tr>
<td>Percentage of Total Units</td>
<td>45.6%</td>
<td>12.5%</td>
<td>41.9%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

### HOVSSA TOTALS/ AVERAGES

<table>
<thead>
<tr>
<th>Place</th>
<th>Year</th>
<th>SFR (incl. mobile)</th>
<th>Duplex</th>
<th>3 or more</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>469</td>
<td>130</td>
<td>36</td>
<td>635</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>532</td>
<td>107</td>
<td>401</td>
<td>1040</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>520</td>
<td>122</td>
<td>224</td>
<td>866</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>488</td>
<td>42</td>
<td>59</td>
<td>589</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>2009</td>
<td>401</td>
<td>720</td>
<td>3130</td>
</tr>
<tr>
<td>Percentage of Total Units</td>
<td>64.2%</td>
<td>12.8%</td>
<td>23.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: WDOA & ECWRPC, 2000-2003

Sept. 8, 2004
### Table 4-5: Heart of the Valley SSA - Units in Structure, 2000

<table>
<thead>
<tr>
<th>Community</th>
<th>Housing units: Total</th>
<th>Housing units: 1; detached units in structure</th>
<th>Housing units: 1; attached units in structure</th>
<th>Housing units: Mobile home</th>
<th>Housing units: 2 units in structure</th>
<th>Housing units: 3 or 4 units in structure</th>
<th>Housing units: 5 to 9 units in structure</th>
<th>Housing units: 10 to 19 units in structure</th>
<th>Housing units: 20 to 49 units in structure</th>
<th>Housing units: 50 or more units in structure</th>
<th>Occupied housing units: Total</th>
<th>Percent Occupied in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Kaukauna</td>
<td>5,138</td>
<td>3,618</td>
<td>201</td>
<td>12</td>
<td>624</td>
<td>134</td>
<td>155</td>
<td>119</td>
<td>148</td>
<td>127</td>
<td>4,968</td>
<td>96.7%</td>
</tr>
<tr>
<td>Village of Combined Locks</td>
<td>912</td>
<td>838</td>
<td>16</td>
<td>0</td>
<td>51</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>893</td>
<td>97.9%</td>
</tr>
<tr>
<td>Village of Little Chute</td>
<td>3,955</td>
<td>2,566</td>
<td>308</td>
<td>217</td>
<td>449</td>
<td>66</td>
<td>92</td>
<td>130</td>
<td>127</td>
<td>0</td>
<td>3,874</td>
<td>98.0%</td>
</tr>
<tr>
<td>Village of Kimberly</td>
<td>2,591</td>
<td>1,830</td>
<td>130</td>
<td>2</td>
<td>220</td>
<td>80</td>
<td>132</td>
<td>52</td>
<td>64</td>
<td>73</td>
<td>2,499</td>
<td>96.4%</td>
</tr>
<tr>
<td>Town of Buchanan</td>
<td>1,854</td>
<td>1,506</td>
<td>204</td>
<td>0</td>
<td>122</td>
<td>0</td>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,840</td>
<td>99.2%</td>
</tr>
<tr>
<td>Town of Harrison</td>
<td>2,144</td>
<td>1,890</td>
<td>119</td>
<td>18</td>
<td>57</td>
<td>0</td>
<td>9</td>
<td>51</td>
<td>0</td>
<td>0</td>
<td>2,046</td>
<td>95.4%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>12,596</td>
<td>8,860</td>
<td>655</td>
<td>231</td>
<td>1,344</td>
<td>287</td>
<td>379</td>
<td>301</td>
<td>339</td>
<td>200</td>
<td>12,234</td>
<td>97.3%</td>
</tr>
</tbody>
</table>

**Percentage by Housing Type**

<table>
<thead>
<tr>
<th>Type</th>
<th>Total</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>9,746</td>
<td>77.4%</td>
</tr>
<tr>
<td>Duplex</td>
<td>1,344</td>
<td>10.7%</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>1,506</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000; and ECWRPC, 2004
Table 4-6: Heart of the Valley SSA - Proposed Residential Densities (per net acre)

<table>
<thead>
<tr>
<th>Community</th>
<th>Units per Net Acre</th>
<th>Sources / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. Kimberly</td>
<td>2.54</td>
<td>1996-2004 Sub. Plat Average / X 2 / 1997 SSA Plan</td>
</tr>
<tr>
<td><strong>HOVSSA Average</strong></td>
<td><strong>2.53</strong></td>
<td><strong>12.08</strong></td>
</tr>
</tbody>
</table>

Table 4-7: Heart of the Valley SSA Plan - Residential Acreage Projection Methodology (Year 2030)

FORMULA:

1) Total Dwelling Units Needed x Percentage Split of Unit Type (based on 2000 U.S. Census) = Projected Units by Type

\[
\begin{align*}
10,420 \times 77.4\% &= 8,062 \text{ Single Family Units} \\
10,420 \times 10.7\% &= 1,112 \text{ Duplex Units} \\
10,420 \times 12.0\% &= 1,246 \text{ Multi-Family Units}
\end{align*}
\]

2) Projected Units by Type x Projected Development Densities = SSA Acreage Needs for Residential Uses

\[
\begin{align*}
\frac{8,062 \text{ Single Family Units}}{2.53 \text{ units/net acre}} &= 3,182.4 \text{ Acres} \\
\frac{1,112 \text{ Duplex Units}}{5.07 \text{ units/net acre}} &= 219.4 \text{ Acres} \\
\frac{1,246 \text{ Multi-Family Units}}{12.08 \text{ units/net acre}} &= 103.1 \text{ Acres}
\end{align*}
\]

\[
\sum \text{TOTAL ACRES} = 3,505.0
\]

3) Application of 15% Infrastructure Factor = Gross Acreage Needs for Residential Uses

\[
\begin{align*}
8,062 \text{ Single Family Acres} \times 1.15 &= 9,256.3 \text{ Gross Acres} \\
1,112 \text{ Duplex Acres} \times 1.15 &= 1,275.8 \text{ Gross Acres} \\
1,246 \text{ Multi-Family Acres} \times 1.15 &= 1,420.9 \text{ Gross Acres}
\end{align*}
\]

\[
\sum \text{TOTAL GROSS ACRES} = 4,030.7
\]

4) Application of 20% Market Factor = Adjusted Gross Acreage Needs for Residential Uses

\[
\text{NOTE: NO MARKET FACTOR GIVEN FOR THIS SSA DUE TO PARALLELL TIMING OF SSA UPDATE AND NR-110 FACILITIES PLAN}
\]

Source: ECWRPC - November, 2004
Summary of Existing Stormwater Runoff Rules

Federal Storm Water Requirements

The Federal Water Pollution Control Act, also known as the Clean Water Act, was the federal government’s response to concerns regarding water contamination in 1972. The National Pollutant Discharge Elimination System (NPDES) is a product of the Clean Water Act (CWA) and functions as the primary documentation of prohibitions regarding the discharge of pollution to water systems.

The Clean Water Act was amended in 1987 resulting in the establishment of Phase 1 of the NPDES Storm Water Program in 1990. Phase 1 of the NPDES Storm Water Program requires an NPDES permit to be issued for point sources of water pollution. The permit specifically monitors storm water discharges from industrial activities and large municipal separate storm sewer systems (MS4s). Permits are required for industrial activities affecting five or more acres of land and MS4s in locations with populations of 100,000 people or more. The Phase 1 permits allow the EPA to analyze the amount and type of pollution occurring in an area with respect to the levels of pollution that can be managed by natural processes in a given location.

As population and construction activities grew, more permits were being distributed and monitoring these influences to water contamination through the issuing of NPDES permits became an overwhelming task to be handled at the national level. Therefore, the Environmental Protection Agency (EPA) divided the responsibility of monitoring water contamination to the state level in order to achieve better management and more effective regulation of water contamination activities.

Phase 1 effectively managed the initial concerns for water contamination from point sources, yet water systems were now being more affected by non-point sources of pollution. The EPA responded with Phase II of the NPDES Storm Water Program in 1999. Phase II requires NPDES permits for storm water discharges from even more specific activities than Phase I and addresses non-point issues more closely. The Phase II permits are needed for certain small MS4s and construction activities that disturb one to five acres of land.

State Storm Water Regulation

Authority for storm water regulation was given to the state of Wisconsin by the federal government, along with all other states, as the regulation of the NPDES Storm Water Program became overwhelming to be handled at the national level. In Wisconsin the Storm Water Program is regulated by the Wisconsin Department of Natural Resources (DNR). The Wisconsin Pollutant Discharge Elimination System (WPDES) is a part of the National Pollutant Discharge Elimination System (NPDES) that was developed to meet the Clean Water Act requirements set forth by the government. The WPDES Storm Water Program regulates storm water discharge that occurs within the state from industrial, municipal, and construction sources in order to prevent contamination of Wisconsin’s water systems.

NPDES permits are issued by the DNR for industrial, municipal, and construction activities that pollute storm water through non-point runoff, requiring treatment of storm water runoff before it is discharged into a water system. Provisions to 1997 Wisconsin Act 27 and 1999 Wisconsin Act 9 required the Department of Natural Resources (DNR) to establish performance standards to control non-point source pollution, a threat to Wisconsin’s water resources. The performance standards have been proven to control non-point source contamination of storm water discharge and are monitored by the Standards Oversight Council (SOC). The standards list the actions and precautions that need to be taken regarding specific activities known to contaminate runoff. Best management practices have been introduced to help control storm water factors that increase water contamination, such as controlling the rates of storm water runoff.

As of October 1, 2002 Wisconsin’s Runoff Management Rules are encompassed in Wisconsin Administrative Codes NR 120, 151, 152, 153, 154, 155, 216, and 243 and are briefly summarized as follows:
NR 120 administrative rule established by the DNR pertains to the Priority Watershed and Priority Lake Program. This rule involves administration of cost share and local assistance grants for urban municipalities in priority watershed projects and are covered in detail under NR 153 and NR 155. NR 120 also administers rural local assistance grants through the Department of Agriculture, Trade, and Consumer Protection (DATEP) under ATCP50.

NR-151, created by the WDNR establishes runoff pollution performance standards and prohibitions. The standards and prohibitions are divided into three categories relating to agricultural, non-agricultural, and transportation practices in Subchapters II, III, and IV of NR151. Subchapter III of NR 151 provides performance standards for construction and post construction of development and redevelopment sites. Construction sites are required to control erosion and sediment through Best Management Practices (BMPs). They must design a plan providing an 80 percent reduction of sediment load if the construction disturbs one or more acres of land. Effective October 1, 2004, post-construction sites must follow standards to control runoff from sites of completed construction, but in most cases will be exempt if the site has less than 10 percent impervious surface. Subchapter IV of NR151 contains some of the same regulations as construction sites under Subchapter III but regulates transportation facility construction sites and is administered by the Department of Transportation (DOT).

NR 152 provides model ordinances for storm water management and construction erosion control. Use of the models is voluntary, but they have been established with hopes to encourage uniformity of regulations that affect municipalities.

NR 153 pertains to the Targeted Runoff Management (TRM) Grant Program which provides financial support to governmental units. The grants are used to implement activities to decrease the impact storm water runoff has on ground and surface water. TRM grants may cover the following:

- 70% of technical assistance activities
- 70% of BMP costs
- 70% for rural easement costs
- 50% for urban easement costs
- 50% for all property acquisitions

Grant recipients must install all Best Management Practices as was agreed upon when the grant was accepted. The recipients are required to maintain the runoff control activities for at least ten years.

NR 154 (Runoff Management Rule) identifies Best Management Practices, cost share conditions, and technical standards as applied in NR 153 and NR 155. A total of 37 BMPs are listed in NR 154, including technical standards for their implementation.

NR 155 was established in order to achieve water quality standards, minimize flooding, protect groundwater, coordinate urban non-point source management activities with regulations with the municipal storm water discharge permit program and implement performance standards of NR 151 pertaining to non-agricultural non-point sources. NR 155 grants are awarded to commercial land use areas, industrial land use areas, and urban areas with population densities of at least 1000 persons per square meter. The grants can be used for practices to control point and non-point sources of storm water runoff from these urban areas. The cost shares of the storm water discharge management program are generally applied as follows:

- 70% of planning costs
- 50% for urban easements
- 50% for property acquisition
- 50% of construction costs
NR 216 regulates the issuance of stormwater discharge permits for municipalities as well as from private industry and construction sites. NR216 and the proposed Chapter NR151 of the Wisconsin Administrative Code establish runoff pollution performance standards for new development, existing urban areas, transportation facilities and agricultural operations.

NR 243 regulates and addresses water quality impacts associated with animal feeding operations, including larger-scale operations know as Concentrated Animal Feeding Operations (CAFOs). The DNR is currently (spring, 2005) making these changes to this code primarily to respond to revised federal requirements for livestock operations overseen by the Environmental Protection Agency.

Governmental Entities Who Must Obtain a Stormwater Discharge Permit under EPA Phase 2 Regulations

(C) = City   (V) = Village   (T) = Town

Shaded entities are located within Fox Cities SSA
