




RIVER FALLS

**Sewer
Service
Area
Water
Quality
Management
Plan**

2000-2020

- City of River Falls
- Towns of Troy, Kinnickinnic, River Falls, and Clifton
- Counties of St. Croix & Pierce
- State of Wisconsin

ACKNOWLEDGMENTS



MAYOR: Katie Chaffee (seated) **COUNCIL MEMBERS:** Harris Kittelson, Gene Mulhollam, Lorin Frey, Sharon Graham, Bob Ebert, Tom O'Connell, Wayne Beebe

CITY ADMINISTRATOR: Bernard Van Osdale

PROJECT PLANNER: Mariano "Buddy" Lucero, Planning Director

SEWER SERVICE AREA COMMITTEE

Katie Chaffee, Mayor; Tom O'Connell, City Council; Mariano "Buddy" Lucero, Planning Director; Jim Dieck, River Falls Utilities Commission; Dean Albert, Chairman, Town of Troy; Charles Andrea, Chairman, Town of Kinnickinnic; Leroy Peterson, Chairman, Town of Clifton; Louis Campbell, Chairman, Town of River Falls; David Fodroczi, Director, St. Croix County Planning Department; Mark Schroeder, Pierce County Administrator; Dan Simonson, DNR Water Quality Planning Director

CITY PLANNING COMMISSION

Katie Chaffee, Mayor; Bob Ebert, Councilor; Merton Timmerman; Warren J. Tracy; Ellen Smith; Mike Keenan; Marilynne Felderman-Baldwin; Tom Parent; Reid Wronski, City Engineer; Hal Watson

SEWER SERVICE AREA TECHNICAL ADVISORY COMMITTEE

Tony Steiner, City Planner; Michael Kornmann, City Planner; Todd Hepworth, Engineer; Victor Marma, General Manager, River Falls Municipal Utilities; Ellen Denzer, Planner, St. Croix County Planning Department; Dan Koich, Water Regulation and Zoning DNR; Steve Thon, Wastewater Engineer DNR; Lisa Helmuth, Water Quality Planning DNR; Robin Schrank, Typing

GIS MAPPING BY CITY STAFF AND BRW

EDITING: Nancy C. Ford Editing and Indexing

*City of River Falls
Planning Department
715-425-0900*





SEWER SERVICE AREA COMMITTEE

RESOLUTION NO. 2000 -1

A RESOLUTION ADOPTING THE RIVER FALLS SEWER SERVICE AREA WATER QUALITY MANAGEMENT PLAN 2000-2020

WHEREAS, Federal Clean Water Act legislation and State Administrative Code NR 121 require sewer service area planning to protect water quality; and

WHEREAS, the Sewer Service Area Committee (SSAC) consisting of members of the City of River Falls, Counties of St. Croix and Pierce, Towns of Troy, Kinnickinnic, River Falls, and Clifton, and the Wisconsin Department of Natural Resources, have undertaken the necessary planning process to prepare the *River Falls Sewer Service Area Water Quality Management Plan, 2000 -2020*; and

WHEREAS, through City, Towns, and SSAC meetings and public review, information was provided, analyzed, and considered for inclusion into the Plan; and

WHEREAS, the Plan identifies environmentally sensitive areas and proposes environmentally sound sewer service extension themes, and guiding and implementation policies that will protect water quality within the sewer service area boundary; and

WHEREAS, the Plan provides land use classifications and a future land use diagram that will guide and shape the future land use for the area within the sewer service area boundary; and

WHEREAS, the Plan also identifies policies and procedures to make amendments.

NOW, THEREFORE, BE IT RESOLVED that the SSAC, having considered the input provided by the Sewer Service Area Planning Technical Advisory Committee and comments heard at public meetings, hereby adopts the *River Falls Sewer Service Area Water Quality Management Plan, 2000-2020*.

PASSED, APPROVED, AND ADOPTED THIS 26TH DAY OF OCTOBER, 2000.

Louis Campbell, Chairman
Sewer Service Area Committee

Attest: Julie Bergstrom, City Clerk



RESOLUTION 2000-CC 3685

**A RESOLUTION ADOPTING THE RIVER FALLS SEWER SERVICE AREA
WATER QUALITY MANAGEMENT PLAN, 2000-2020**

WHEREAS, Federal Clean Water Act legislation and State Administrative Code NR 121 require sewer service area planning to protect water quality; and

WHEREAS, the Sewer Service Area Committee (SSAC) consisting of members of the City of River Falls, Counties of St. Croix and Pierce, Towns of Troy, Kinnickinnic, River Falls, and Clifton, and the Wisconsin Department of Natural Resources, have undertaken the necessary planning process to prepare the *River Falls Sewer Service Area Water Quality Management Plan, 2000 -2020*; and

WHEREAS, through City, Towns, and SSAC meetings and public review, information was provided, analyzed, and considered for inclusion into the Plan; and

WHEREAS, the Plan identifies environmentally sensitive areas and proposes environmentally sound sewer service extension themes, and guiding and implementation policies that will protect water quality within the sewer service area boundary; and

WHEREAS, the Plan provides land use classifications and a future land use diagram that will guide and shape the future land use for the area within the sewer service area boundary; and

WHEREAS, the Plan also identifies policies and procedures to make amendments.

NOW, THEREFORE, BE IT RESOLVED that the Mayor and Council of the City of River Falls, having considered the input provided by the Towns, SSAC, Planning Commission, city staff, and comments heard at public meetings, hereby adopt the *River Falls Sewer Service Area Water Quality Management Plan, 2000-2020*.

PASSED, APPROVED, AND ADOPTED THIS 24 DAY OF OCTOBER, 2000



Katie Chaffee, Mayor



Attest: Julie Bergstrom, City Clerk



RESOLUTION 2000-PC 001283

**A RESOLUTION ADOPTING THE RIVER FALLS SEWER SERVICE AREA
WATER QUALITY MANAGEMENT PLAN, 2000-2020**

WHEREAS, Federal Clean Water Act legislation and State Administrative Code NR 121 require sewer service area planning to protect water quality; and

WHEREAS, the Sewer Service Area Committee (SSAC) consisting of members of the City of River Falls, Counties of St. Croix and Pierce, Towns of Troy, Kinnickinnic, River Falls, and Clifton, and the Wisconsin Department of Natural Resources, have undertaken the necessary planning process to prepare the *River Falls Sewer Service Area Water Quality Management Plan, 2000 -2020*; and

WHEREAS, through City, Towns, and SSAC meetings and public review, information was provided, analyzed, and considered for inclusion into the Plan; and

WHEREAS, the Plan identifies environmentally sensitive areas and proposes environmentally sound sewer service extension themes, and guiding and implementation policies that will protect water quality within the sewer service area boundary; and

WHEREAS, the Plan provides land use classifications and a future land use diagram that will guide and shape the future land use for the area within the sewer service area boundary; and

WHEREAS, the Plan also identifies policies and procedures to make amendments.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission, having considered the input provided by the Towns, SSAC, city staff, and comments heard at public meetings, hereby forwards the *River Falls Sewer Service Area Water Quality Management Plan, 2000-2020* to the City Council for public hearing with the recommendation of adoption.

PASSED, APPROVED, AND ADOPTED THIS 3RD DAY OF OCTOBER, 2000

A handwritten signature in blue ink, appearing to read "Katie Chaffee".

Katie Chaffee, Mayor

A handwritten signature in blue ink, appearing to read "Julie Bergström".

Attest: Julie Bergström, City Clerk



RESOLUTION NO. 475

ADOPTING THE RIVER FALLS SEWER SERVICE AREA
WATER QUALITY MANAGEMENT PLAN, 2000-2020

WHEREAS, Federal Clean Water Act legislation and State Administrative Code N.R. 121 require sewer service area planning to protect water quality; and

WHEREAS, the Sewer Service Area Committee (SSAC) consisting of members of the City of River Falls, Counties of St. Croix and Pierce, Towns of Troy, Kinnickinnic, River Falls, and Clifton, and the Wisconsin Department of Natural Resources, have undertaken the necessary planning process to prepare the *River Falls Sewer Service Area Water Quality Management Plan 2000 -2020*; and

WHEREAS, through City, Towns and SSAC meetings and public review, information was provided, analyzed, and considered for inclusion into the Plan; and

WHEREAS, the Plan identifies environmentally sensitive areas and proposes environmentally sound sewer service extension themes, guiding and implementation policies that will protect water quality within the sewer service area boundary; and


WHEREAS, the Plan provides land use classifications and a future land use diagram that will guide and shape the future land use for the area within the sewer service area boundary; and

WHEREAS, the Plan also identifies policies and procedures to make amendments.

NOW, THEREFORE, BE IT RESOLVED that the City of River Falls Utility Commission, having considered the input provided by the Towns, SSAC, city staff and comments heard at public meetings, hereby forwards the *River Falls Sewer Service Area Water Quality Management Plan, 2000-2020* to the City Council with the recommendation of adoption.

Dated this 23rd day of October, 2000.

ATTEST:



John Hill, President



Julie Bergstrom, City Clerk

TOWN OF RIVER FALLS

Resolution 2000-J

City of River Falls Sewer Service Area Water Quality Management Plan, 2000-2020

The Town Board, Planning Commission and the Land Use Ad Hoc Committee for the Town of River Falls in Pierce County, Wisconsin do hereby Ordain and Resolve as follows:

WHEREAS, the Federal Clean Water Act legislation and the State Administrative Code N. R. 121 require sewer service area planning to protect water quality, and

WHEREAS, such a plan should serve as the community Statement of Direction for physical development, conservation, capital improvements, annexation, and planning for extension of services.

NOW THEREFORE BE IT RESOLVED, that the following resolutions are made in reference to the boundary map on Figure 4-8 of the City of River Falls Sewer Service Area Water Quality Management Plan as indicated in the September 2000 working draft, and

BE IT FURTHER RESOLVED, that the boundary map not be changed unless areas outside the map are brought into the sewer service area, and

BE IT FURTHER RESOLVED, that it be recommended that only those areas within the boundaries of this map be allowed to be annexed to the City of River Falls, and

BE IT FURTHER RESOLVED, that the Town of River Falls continue to retain its jurisdiction, as allowed in the Wisconsin State Statutes, over land use planning, zoning and subdivision platting, public improvements, and utilities inside and outside the area of the Sewer Service boundary, and

BE IT FURTHER RESOLVED, that the Town refuse to accept that part of the Sewer Service Area Plan which would allow the City of River Falls to assess and collect impact fees, on Town residents and property located in the Town, regardless of whether the property is located inside or outside the area of the Sewer Service boundary until such time as the land is annexed, and

BE IT FURTHER RESOLVED, that the area in the ETZ be updated with a Town and City plan and zoning ordinance to reflect the Sewer Service Area Plan, and

BE IT FURTHER RESOLVED, that the Town retain the authority to protect Town residents and businesses so they will not be burdened with costs associated with new development, and

BE IT FURTHER RESOLVED, that because the Plan has gone from being a sewer service area plan to a more comprehensive land use plan, it be consistent with the Town of River Falls Master Plan, which was adopted on April 3, 2000, and


BE IT FURTHER RESOLVED, that it be requested that this Resolution become a part of the City of River Falls Sewer Service Area Water Quality Management Plan, and


BE IT FURTHER RESOLVED, that this Resolution be sent to the Department of Natural Resource to register our concerns,

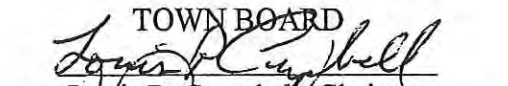
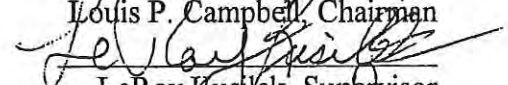
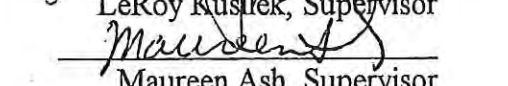
AND BE IT FURTHER RESOLVED, that the Town of River Falls Town Board, Plan Commission and Land Use Ad Hoc Committee hereby adopt the preceding resolution.

Adopted this 16th day of October, 2000.

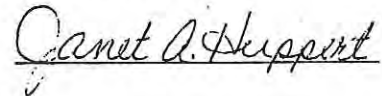
TOWN OF RIVER FALLS

PLAN COMMISSION

Louis P. Campbell, Chairman

LAND USE AD HOC COMMITTEE

John Kucinski, Chairman

TOWN BOARD

Louis P. Campbell, Chairman

LeRoy Kusilek, Supervisor

Maureen Ash, Supervisor

I, Janet A. Huppert, clerk for the Town of River Falls, do hereby certify that the preceding Resolution was passed by the Town Board at a legal meeting held on October 16, 2000.



Posted: _____

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LIST OF ACRONYMS

ACOE	Army Corps of Engineers
BOD/day	pounds of biochemical oxygen demand per day
Candidate 1	Federal Candidate Species, Category 1
Candidate 2	Federal Candidate Species, Category 2
CIP	Capital Improvement Program
DPA	Designated Planning Agency
ELF-EMF	Electric and Magnetic Fields
EMF	Electromagnetic Field
EMF-RAPID Program	Electric and Magnetic Field Research and Public Information Dissemination Program
ENN	Early Neighborhood Notification
EPA	Environmental Protection Agency
ETZ	Extraterritorial Zone
FAR	Floor Area Ratio
FTE	Full-time Equivalent
GIS	Geographic Information System
gpd	gallons per day
gpm	gallons per minutes
HC	head count
kV	Kilovolt
LOS	Level of Service
mgd	million gallons per day
NIEHS	National Institute of Environmental Health Science
RPA	Resource Protection Area
SRA	Sensitive Resource Area
SSAP or the plan	<i>River Falls Sewer Service Area Water Quality Management Plan</i>
STH	State Trunk Highway
USGS	U.S. Geological Survey
UWRF or the University	University of Wisconsin-River Falls
WDNR	Wisconsin Department of Natural Resources
WPPI	Wisconsin Public Power Incorporated

1
INTRODUCTION



1. INTRODUCTION

The City of River Falls and its surrounding towns, Troy, Kinnickinnic, River Falls, and Clifton, along with the counties of St. Croix and Pierce face many pressing planning challenges ranging from protecting a rich heritage and a magnificent physical setting, to meeting the demands for protecting surface and ground water. This document, *The River Falls Sewer Service Area Water Quality Management Plan* (SSAP), shall serve as the community Statement of Direction for physical development, conservation, and planning for extension of services in an environmentally sound manner.

1.1 SCOPE AND PURPOSE

The SSAP is a comprehensive, long-term plan for the physical development, conservation, and extension of services, it lies at the heart of community decision making. It provides guidance for development proposals, capital improvements, annexation, and the extension of services. This plan will:

- Outline a vision, through the plan themes, that will reflect the aspirations of the community;
- Establish a basis for judging whether development proposals and public projects are consistent with the plan themes;
- Provide information that will enhance the character of the community, preserve critical environmental resources, and minimize hazards;
- Provide the basis for establishing and setting priorities and for implementing programs and regulations;
- Provide the basis for nurturing a vital community and reaching out to all segments of the population;
- Provide a plan that meets the requirements of the Federal Clean Water Act and Wisconsin Department of Natural Resources (WDNR) Chapter NR 121, Wisconsin Administrative Code;
- Outline areas where redevelopment proposals can offset negative new development; and
- Review environmental issues that can or do have a negative effect.

To ensure that a variety of community actions are consistent with this SSAP, regular ongoing use of the plan is essential. Because this plan is both general and long-term, there will be circumstances and instances when detailed studies are necessary to implement it. This plan represents the goals and desires of the community as a whole and should be recognized as the community's foremost public statement about the future.

The purpose is to plan for sewer line extensions in an environmentally sound manner that protects surface and ground water from point and non-point sources of pollution and that meets the requirement of the Federal Clean Water Act and State Administrative Code NR 121. Identification and mapping of environmentally sensitive areas, preparation and enforcement of erosion control plans, planning for sewer growth and development within a sewer service area boundary, and identifying administrative responsibilities for implementing policies are the major component of this plan.

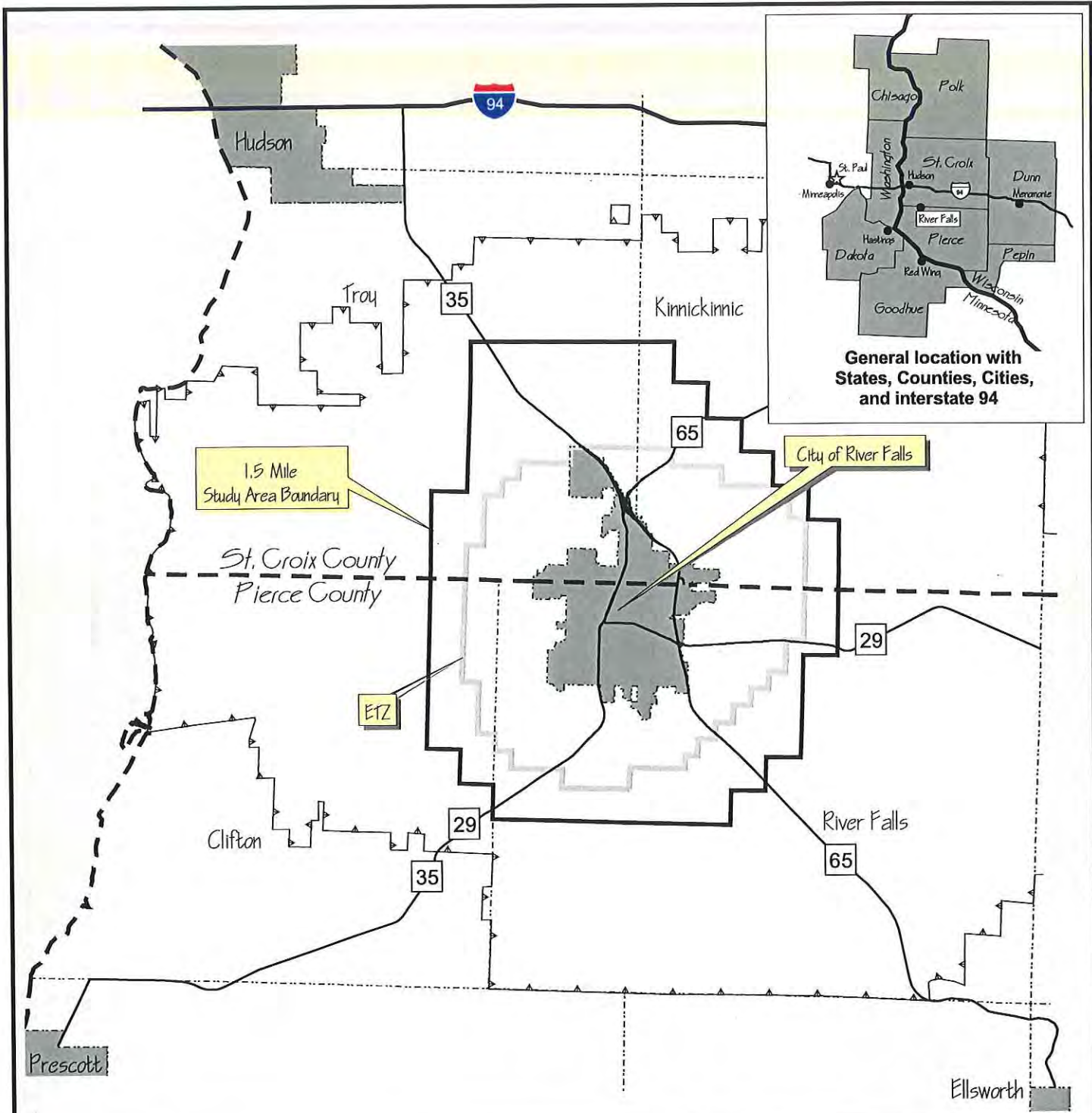
1.2 PLANNING AREA BOUNDARIES

Figure 1–1 depicts the regional location of the planning area, and Figure 1–2 depicts the study planning area and existing boundaries that include:








- All land within the current City of River Falls city limits
- Extraterritorial Zone (ETZ) boundary
- St. Croix County boundary
- Pierce County boundary
- Town boundaries
- School District boundary
- The study area, which is all of the land 1.5 mile from existing city limits, including:
 - Town of Troy, to the north
 - Town of Kinnickinnic, to the east
 - Town of River Falls, to the south
 - Town of Clifton, to the west

1.3 PLAN ORGANIZATION

- **Themes.** The policies within this plan reflect ten overall themes, which will closely track with public comments and adopted plans. The themes are representative of the community's concerns and lay the foundation for the guiding and implementing policies.
- **Guiding Policies.** Guiding policies are at the beginning of some chapters and state the community's goals and philosophy. The guiding policies describe the ways or methods that the themes listed in chapters can be achieved.
- **Implementation Policies.** Implementation policies are at the end of certain chapters and represent commitment to specific actions. They may refer to existing programs or call for the establishment of new ones.
- **Standards.** Standards are set out in certain chapters and represent policies that can be mapped or measured. Together themes, guiding and implementation policies, and standards articulate the vision for the community.
- **Policy and Number System.** Policies in this plan are organized using a numbering system tied to sections, with a letter designation to distinguish guiding policies from implementation policies. For example, the first guiding policy in Section 4.4 is number 4–4–G–1, and the first implementation policy is 4–4–I–1. Each policy in this plan has a discreet number.
- **Explanatory Material or Commentary.** Explanatory material or commentary, set in *italics*, accompanies some policies. This explanatory material provides background information or guides plan implementation.



Regional Location

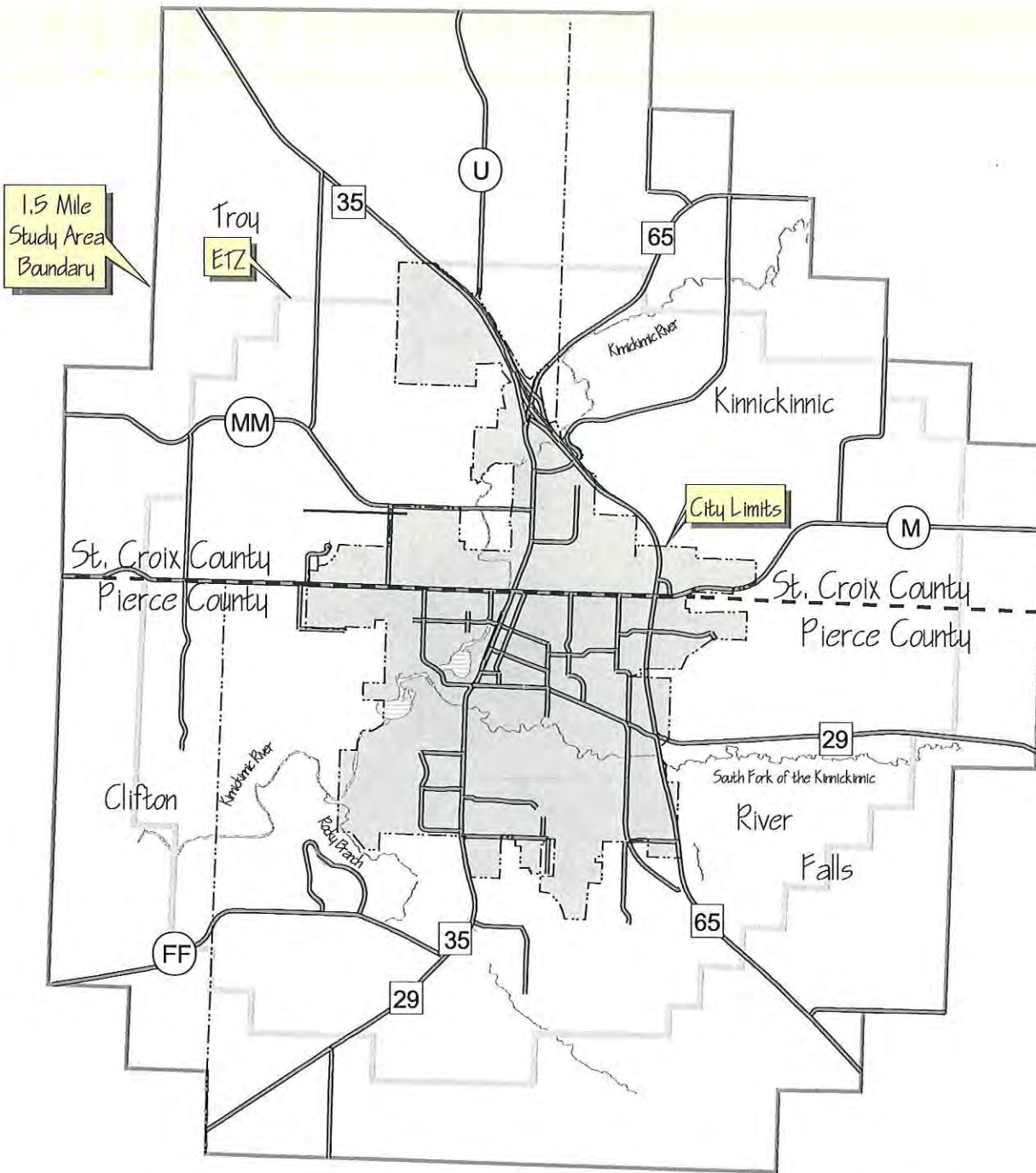
- | | | | |
|---|-----------------------------|---|--|
|  | Major Roadways |  | City or Village |
|  | River Falls School District |  | Study Area |
|  | County Boundary |  | ETZ - Extraterritorial Zoning Boundary |
|  | Town Boundaries | | |

Chapter 1
Introduction








City of River Falls
Sewer Service Plan



Figure 1-1



Boundaries Map

- | | | | |
|---|--|---|---------------------|
|  | Extraterritorial Zoning (ETZ) Boundary |  | Major Roadways |
|  | County Boundary |  | Lakes & Rivers |
|  | Town Boundary |  | City of River Falls |
|  | Study Area Boundary | | |

Chapter 1 Introduction

City of River Falls Sewer Service Plan



Figure 1-2

1.4 PLANNING PROCESS

The planning process included development of the SSAP, implementation programs, and sewer service area boundary. This plan also outlines the need for more detailed planning for water line extensions, streets, paths, land use designations, and other special plans. An annual sewer service area report will provide an overview of the status of the SSAP and its implementation programs.

Sewer Service Area Plan

In order to protect sensitive environmental resources, this plan shall require sewer line extensions to occur in an environmentally sound manner that protects surface and ground water from point and non-point sources of pollution and meets the requirement of the Federal Clean Water and State Administrative Code NR 121. This plan shall map the location of environmentally sensitive areas, outline the preparation and enforcement of erosion control plans, plan for sewer growth and development within the sewer service area boundary, and identify the administrative responsibilities for implementing and monitoring policies.

Amendments to the Sewer Service Area Plan

This plan is the heart of the planning process. It is intended to be a living plan and, as such, will be subject to more site-specific and comprehensive amendments over time. Amendments also may be needed from time to time to conform to state and federal laws passed since adoption and to eliminate and modify policies that may have become obsolete or unrealistic because of changed conditions (such as completion of a task or project, development on a site, or adoption of an ordinance or plan). This plan may also incorporate by reference other detailed studies and plans that may be prepared. While the SSAP should be flexible enough to respond to changing conditions and can be amended over time to keep it current, it should not be amended so frequently as to diminish its authority. Amendments to this plan should be limited to once a year, although each amendment may include more than one change.

Semiannual Sewer Service Area Plan Report

A semiannual progress report shall be prepared that focuses on the implementation of this plan. This report shall be prepared by the City of River Falls staff and submitted to the city, towns, counties, and WDNR. The Semiannual Report shall include a summary of all amendments adopted during preceding years, an outline of upcoming projects and planning issues to be addressed in the coming years, along with work programs and budgets. Public review and comment on the Annual Report shall be heard by the planning commissions, city council, and town boards at regularly scheduled public hearings.

Five-Year Review

The city will undertake a comprehensive review of this plan every five years after adoption. The Five-Year Review will include:

- Comprehensive evaluation of the plan policies;
- Analysis the effectiveness of the implementation programs and the strategies initiated to carry out the plan;
- Review of the five-year growth trends and reassessment of future land needs in light of the carrying capacity of the area and availability of land inventory; and
- Systematic assessment of the resource-based thresholds, environmental standards, resource management plans, and utility plans.

The focus of the Five-Year Review will be to determine how well this plan has performed, whether policies related to development and environmental conservation within the sewer service area have been effective. A report summarizing staff's findings and recommendations will be circulated for public comment and then presented to the planning commissions of the city and towns. The planning commissions will study the Five-Year Review and make recommendations to the city council, towns, counties, and WDNR. Public review and comment on the Five-Year Review will be heard by the planning commissions, city council, and towns at regularly scheduled public hearings.

1.5 BACKGROUND STUDIES

A comprehensive analysis of existing conditions and major planning options for the counties, city, towns, and the ETZ was performed prior to the preparation of this plan. Major documents that have been reviewed are included in Appendix A.

1.6 PUBLIC PARTICIPATION

Throughout the preparation of this plan, there has been an ongoing commitment to active public outreach and participation. The plan policies have been shaped by comments made in public meetings and adopted plans. Public participation included the following:

- **River Falls Sewer Service Area Committee.** The River Falls Sewer Service Area Committee (Appendix B) was the policy-making body responsible for overseeing the development of the SSAP. This committee is made up of representatives from the City of River Falls and each of the towns surrounding the city, WDNR, St. Croix County, and Pierce County.
- **Sewer Service Area Technical Advisory Committee.** The Sewer Service Area Technical Advisory Committee was responsible for reviewing and drafting this plan using existing and updated information. This committee consisted of representatives from the professional staff of the city; adjacent Towns of Troy, Kinnickinnic, River Falls, and Clifton; the St. Croix County Planning Department; Pierce County; and WDNR. Technical Advisory Committee representatives consisted of people with backgrounds in sewer service area planning and environmental issues (Appendix C).

Sewer Service Plan

- **Community Meetings.** At the outset of the SSAP process, public meetings were held to educate the public about the need for a plan. Public meetings were held in the City of River Falls and in each of the adjacent Towns of Troy, Kinnickinnic, River Falls, and Clifton.
- **Meetings.** All meetings and workshops with the River Falls Sewer Service Area Committee were open to the public.
- **Updates.** The city, counties, towns, and WDNR were updated periodically by memorandum or by presentation from their representatives on the Technical Advisory Committee or the Sewer Service Area Committee on the issues and progress of this plan while it was being developed.
- **Reports.** Quarterly progress reports were provided to the Sewer Service Area Committee, city, counties, towns, and WDNR.
- **Draft Plans.** The draft plans were the subject of public reviews and public hearings. Copies were provided for review and comment to the general public, city, counties, towns, and WDNR.
- **Postings.** For the public participation, the staff worked with the city and towns on posting notice of meetings; presented information and updates; documented the meetings; provided quarterly reports; mailed out information; printed ads, color maps, and draft plans.

1.7 SEWER SERVICE AREA PLAN THEMES

The policies of this plan reflect ten overall themes that track with the results of the public participation and adopted plans. These themes are followed by discussion in *italics*. For the purpose of this section, the themes are equally weighted. However, the themes may be prioritized and amended, either with specific cases or as a matter of general policy.

1.7.1 Quality of Life

Enhance the quality of life of the community and ensure provision of community services for residents.

This plan seeks to promote the interests of the community-at-large over private ones. Tools are provided for the public to be meaningfully involved in ongoing planning and decision making.

1.7.2 Sustainable Growth

Ensure that development is sustainable and that growth, conservation, redevelopment, and natural resource protection are balanced.

There is a clear consensus that growth should not diminish the quality and diversity of natural resources. Sensitive resources that require protection shall be mapped in the plan, and resource-based development standards and project review procedures shall be established.

1.7.3 Character

Maintain and respect River Falls' unique personality, sense of place, and character.

Increased travel and communication have diminished the remoteness that the community once afforded. The over 150 years of regional history of the city and towns today face the prospect of being overwhelmed by run-of-the-mill late twentieth century development. Residents have unequivocally stated that new growth should not erode the qualities that contributed to the communities' unique characters. This plan delineates a sewer service area boundary that calls for strong urban/rural edges. This plan shall also call for detailed land use and urban design standards and guidelines for new and infill development throughout the community.

1.7.4 Urban Form

Promote a compact urban form that encourages sensitive/compatible infill development.

Promotion of a compact urban form shall be the primary criteria in selecting new growth areas. Growth and reintensification areas shall be selected to minimize the distance between different parts of the city and between job centers and residential areas. Incentives shall be provided to promote infill development.

1.7.5 Community-Oriented Development

Orient new development to the community; foster public life, vitality and community spirit.

Plan policy shall call for new development to be directed to establish neighborhoods, to form urban contexts for pedestrians, and to promote active street and outdoor life. Plans shall call for detailed urban design standards that shall prevent neighborhoods from being isolated from each other and that shall maintain a continuum of urban fabric, particularly regarding public access and vehicular/pedestrian circulation. Parks, conservation areas, open space, and neighborhood services shall be located within neighborhoods.

1.7.6 Water Quality

Meet the requirements of the Federal Clean Water Act and WDNR Chapter NR 121, Wisconsin Administrative Code.

Growth is likely to increase reliance on services and require active steps to increase the availability of supply. This plan shall provide a comprehensive strategy to promote conservation, water quality policies, and goals to regulate sewer development within an environmentally sensitive area and within a defined sewer service growth boundary. Existing residents and businesses shall not bear the cost of additional services beyond what is required for infrastructure improvements that benefit the entire community.

1.7.7 Regional Perspective

Maintain a regional growth management perspective and work with other private and governmental entities towards that goal.

The future of the city and the surrounding areas are intertwined. This plan encourages city and other local towns and counties as well as state and federal agencies to work together on policies that are mutually supportive and to maintain consistent standards in the areas surrounding the city. This plan will outline a structure for anticipatory long-range planning and for the phasing of growth to minimize infrastructure costs.

1.7.8 Housing

Participate actively in the creation of housing.

Opportunities are provided for housing all income segments of the population in all areas of the community, while restricting the supply of large-lot housing, which belongs in rural areas outside the city and not inside it. Active efforts to increase the supply of housing are outlined in the City of River Falls Housing Needs Assessment Report (1999).

1.7.9 Review Process

Streamline the planning and development review process.

Greater certainty in the planning process will benefit residents and project proponents and permit long-range capital improvement planning. This plan calls for preparation of thresholds and procedures for detailed environmental and infrastructure impact analyses. Thresholds will be prepared to ensure that small-scale developments and businesses are not impacted. This will ensure that the approval process for routine or small-scale developments will be streamlined by going through administrative tracks rather than public hearings. Neighborhood participation is essential at all planning levels, and the planning process outlined

in this plan calls for the city's Geographic Information System (GIS) data base to be used in conducting project level analysis and design.

1.7.10 Implementation

Ensure consistency between this plan and implementing ordinances (including zoning and possible impact fees) and a Capital Improvement Program (CIP). To help implement this plan detailed studies, plans, and ordinances will need to be prepared, reviewed and approved. With this plan, the community is committing itself to consistency between existing plans, implementation programs, and regulations, including zoning, subdivision regulations, and the CIP.

2

CHARACTER AND DEVELOPMENT



November 2000

2. CHARACTER AND DEVELOPMENT

River Falls is a picturesque community located in southern St. Croix and northern Pierce Counties in west-central Wisconsin. River Falls lies about seven miles south of Interstate 94, along State Trunk Highway 65/35. There are many environmental features to be protected, enhanced, and enjoyed for years to come. River Falls is surrounded by many scenic vistas of bluffs, coulees, and valleys, and the Kinnickinnic River (a Class 1 Trout Stream) bisects the community from the northeast to the southwest. The University of Wisconsin-River Falls (UWRF) campus and the Chippewa Valley Technical College are located in the southeastern part of the City of River Falls. The southern branch of the Kinnickinnic River (South Fork) splits the UWRF campus. The Kinnickinnic and its tributaries are valuable trout streams representing a major natural amenity of the community. Four towns surround the city with the Town of Troy to the north, the Town of Kinnickinnic to the east, the Town of River Falls to the south, and the Town of Clifton to the west. The city and adjacent towns are undergoing rapid growth and development. The population trends of River Falls and the surrounding towns and counties have taken a consistent upward turn. In the early 1990s State Trunk Highway belt (STH 65/35) was completed. A new four-lane connector from Interstate 94 south to the City of River Falls will be completed in the year 2000. St. Croix and Pierce Counties are designated as part of the Twin City Metropolitan Planning Area. Over the past decades, employment has risen steadily in the community, but a higher percentage of the residents of this area are commuting to the Minneapolis/St. Paul area. The growth of the area's population and employment can be attributed to several factors: proximity to the Minneapolis/St. Paul metropolitan area, an aggressive economic development program, a high quality of life, the location of a University and a Technical College, proximity to transportation infrastructure, and natural resources.

It is the intent of *The River Falls Sewer Service Area Water Quality Management Plan (SSAP)* to provide the community with a statement of direction for physical development and conservation and a plan for extension of sewer service in an environmentally sound manner that would assist in guiding growth. This chapter provides a context for the existing character and development conditions of the City of River Falls and the surrounding towns and counties within a 1.5-mile study area from the city limits.

The following themes apply to this chapter.

THEMES

- ❑ **Quality of Life** - Enhance the quality of life of the community and ensure provision of community services for residents.
- ❑ **Sustainable Growth** - Ensure that development is sustainable and that growth, conservation, redevelopment, and natural resource protection are balanced.
- ❑ **Character** - Maintain and respect River Falls' unique personality, sense of place, and character.
- ❑ **Urban Form** - Promote a compact urban form and encourage sensitive/compatible infill development.

- ❑ **Community-Oriented Development** – Orient new development to the community; foster public life, vitality, and community spirit.
- ❑ **Regional Perspective** - Maintain a regional growth management perspective and work with other private and governmental entities towards that goal.
- ❑ **Housing** - Actively participate in the creation of housing.

2.1 EVOLUTION OF THE LAND USE PATTERN

Prior to the early settlement of River Falls and the surrounding region, Chippewa and Sioux Native Americans occupied the area. In 1837, the Chippewa ceded to the United States all of the land east of the Mississippi River extending north to the source of the Mississippi River. Despite the opening of the territory, settlement was rather slow until the mid-nineteenth century. St. Croix County was created in 1840, and in 1853, the State of Wisconsin divided it into three separate counties, each with its own seat. The southern section became Pierce County, the northern third was named Polk County, and the mid part remained St. Croix County. The plat of River Falls straddles the boundary between St. Croix County and Pierce County. The town is situated along the Kinnickinnic River, which flows west into Lake St. Croix. The Kinnickinnic River and its branch the South Fork, played a significant role in the settlement and growth of the community.

At the time of initial settlement, approximately three-fourths of Greenwood Town (later River Falls Town) in which River Falls is located was covered by prairie with black sandy loam soil. The remaining land was covered with timber. Some 2000 acres of land were under cultivation by 1856, and the prospects for agriculture were considered to be “first-rate.” To the north, the Town of Troy was organized in 1851 and was first called Malone by the Perrine brothers who were settlers from New York.

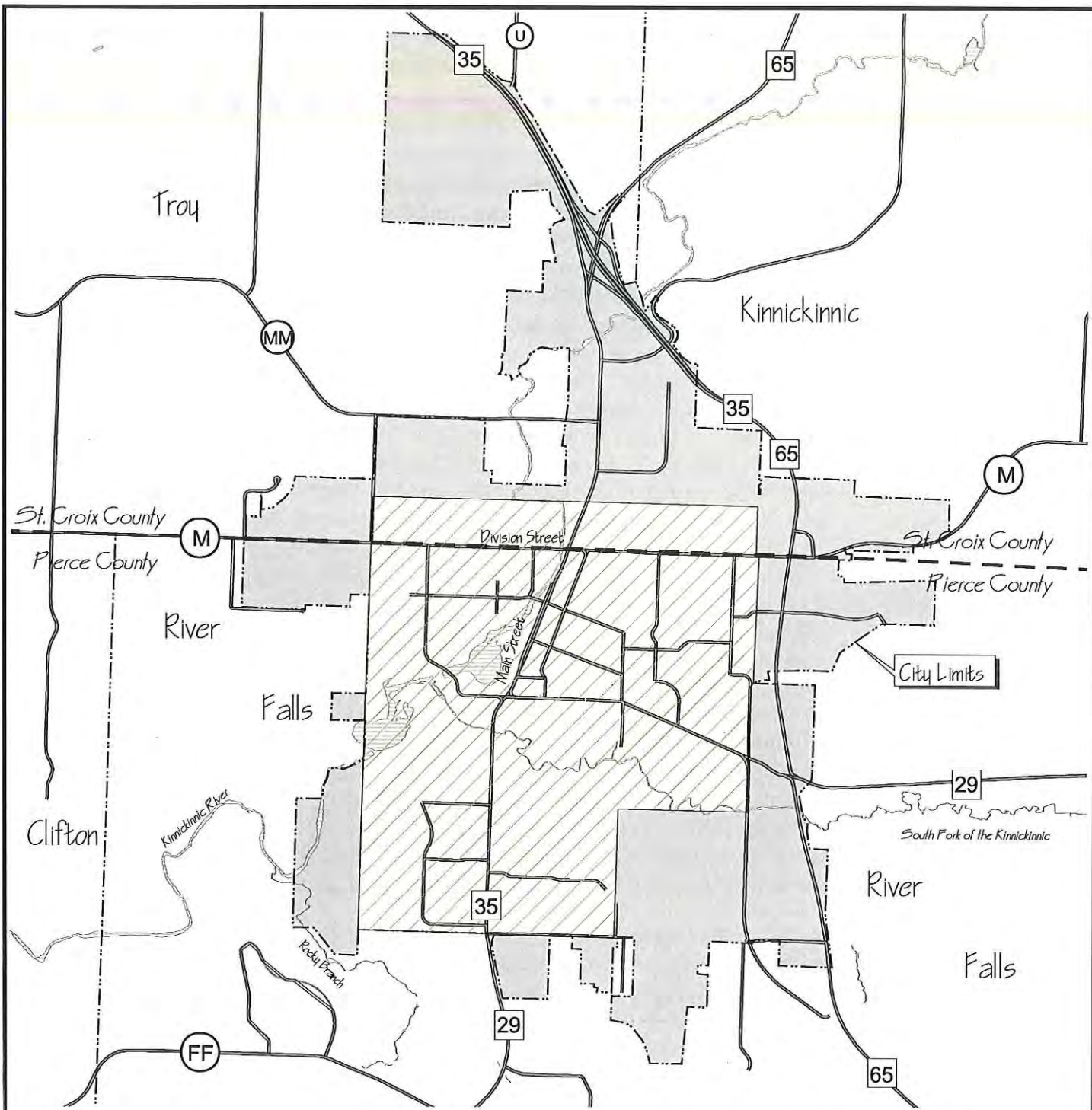


Bird's-eye view of River Falls, Wisconsin, circa 1880.








Arriving in the fall of 1848, Joel Foster was the first person to settle in what would soon be officially known as River Falls. He was followed by Duncan McGregor and his wife and Nathaniel and Oliver Powell. The Powell brothers built a sawmill in 1852, constructed the first frame dwelling, which later became a store, and in 1854, laid out a 60-acre plat on the east side of the river for the Village of Kinnickinnic. Although the original plat of River Falls is tilted so that Main Street and other streets are oriented to the Kinnickinnic River, the plat conforms to a common Midwestern form consisting of square blocks set on a grid of streets intersecting at right angles. Later plats followed survey lines and compass points thereby creating the familiar rectilinear grid. Early development was focused along the river. The Powells built their sawmill on the east bank, south of where the first flourmill would be constructed in 1854. The population increased from 312 in 1860 to 1,191 in 1870, and by the late 1870s four more flourmills had been constructed, which collectively produced 150,000 barrels of flour annually. Contributing to the growth and development of the village were the Fourth State Normal School, which was built in 1874, and the arrival of the Hudson and River Falls Railroad, which opened in 1878. The railroad significantly impacted development and growth in the River Falls area. By the late 1870s, River Falls had emerged as a local, if not regional, trade center. In spite of these developments, the city's early period of rapid growth ended, and the population expanded only 26% from 1870 to 1880 (1,191 to 1,499). Over the next decade, however, the number of residents increased by 975 (65%). As wheat production began to decline in the late 1890s, output from the local flourmills decreased considerably, largely because the Junction Mill, the city's most productive mill, closed in 1891. Compounding the problem were three consecutive years of crop failure due to drought and the chinch bug. The amount of wheat sold in 1889 was the lowest on record, less than 25% of the 1880 total. These changes had a profound impact on the city's growth between 1890 and 1910, nearly 500 residents moved away. Other industries such as a starch factory and creamery were established, although they remained rather small-scale operations that were primarily oriented to local and area markets.

The Village of River Falls was incorporated in April of 1885 as a city by action of the State Legislature. Its Charter outlined the city boundaries, governmental structure, election procedure, city officers and duties, and Common Council powers. In January 1922, on the basis of the Charter, River Falls was declared a 4th Class City by the State of Wisconsin. River Falls has experienced tremendous growth since the 1900s. Most of the growth has occurred since 1940. With a population count of 11,696 in 1999, River Falls has experienced approximately a 450% increase since 1940. While much of River Falls' growth has been incremental in nature, the city's form was fairly compact. Over the last three decades, large tracts have been annexed and developed to the north and to the southeast (Figure 2-1 Growth of City from 1965 to 2000).

Over this same period of time, development in the towns was agricultural in development. Rising housing prices and population growth in the region have prompted a more defuse sprawl and nontraditional land use form of development. This type of development has ignored the long history of agricultural preservation.



Growth of City from 1965 to 2000

- | | | | |
|--|-----------------------|---|-------------------|
|  | Corporate Limits 1965 |  | County Boundaries |
|  | Corporate Limits 2000 |  | Town Boundaries |
|  | Lakes & Rivers |  | Major Roadways |
|  | City of River Falls | | |

Chapter 2 Character and Development

City of River Falls Sewer Service Plan



not to scale



Figure 2-1



Troy Burne Golf Village located within the Troy Town was created out of 500 acres of the Ruemmel Farm.

According to 1999 statistics, the county populations are increasing twice as fast as in previous years and are setting new records. In 1999, St. Croix County issued 488 sanitary permits for new houses, approved 594 lots for new construction, and approved rezoning for 766 acres of land. Pierce County issued 202 sanitary permits for new houses, approved 176 lots of less than 15 acres for new construction, and rezoned 539 acres in new land, compared to 62 acres in 1998.

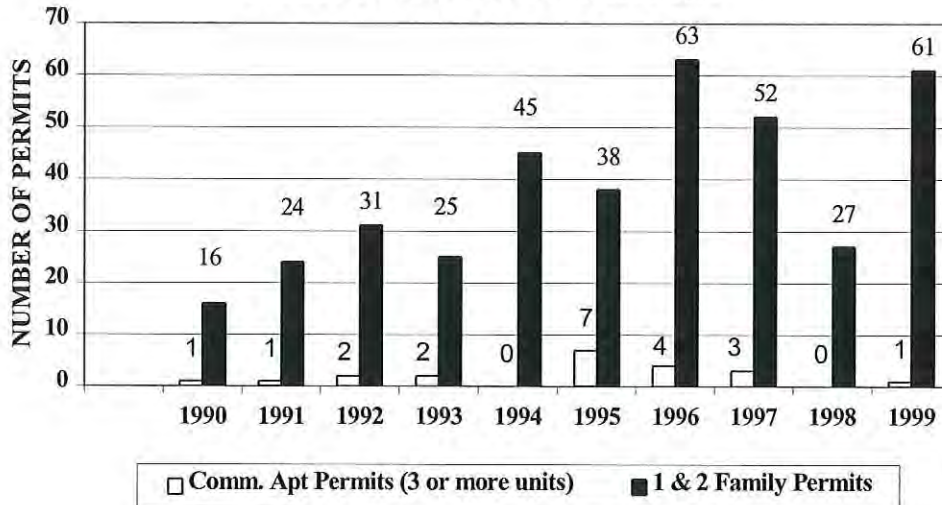
2.2 CURRENT LAND USE PATTERNS

2.2.1 Magnitude of Uses

According to a 1985 Land Use Inventory, 52% of the developed land in the City of River Falls is devoted to single and multifamily residential use, 11% for parks, 29% for public/semipublic, and 8% for commercial office and industrial uses. Presently in the City of River Falls, there are 3,214 acres (5 square miles) with a 1999 population of approximately 11,696. There are approximately 2.8 persons per dwelling unit. The average number of single and twin family permits in 1990 to 1999 was 38.2 and multifamily 2.1 (Table 2.1). The four towns are approximately 156 square miles with a 1990 total population of approximately 7,052.

Table 2.1

COMPARISON OF 1 & 2 FAMILY PERMITS TO MULTIFAMILY PERMITS, 1990-1999



2.2.2 Distribution of Uses

The River Falls’ street system and the location of jobs and commercial activities reinforce the rectilinear grid development pattern of the city. Baring some relatively new infrastructure improvements such as the Division Street Bridge improvement at the intersection of Main and Wasson Lane, and the Highway 65/35 beltline along the eastern edge of the city, virtually all major roads lead to Main Street. Main Street and the adjoining UWRf campus along with the business district are home to a majority of wage and salary jobs in the city. This pattern of development has contributed to Main Street’s vitality and, despite some parking and congestion problems, it remains a sought after business area. To the east of Main Street are generally older, moderately dense residential areas with a mix of housing sizes and types. To the west of Main Street are lower density residential areas. The residents of River Falls work in a variety of occupations. Professional services makes up the largest share (40%); second is wholesale/retail trade (26%), and third is manufacturing (15%). According to the 1990 census, out of a total workforce of 5,781, 2,787 report working in the area of residence, while 2,994 report working outside the area of residence. Most River Falls residents report driving to work alone. Although not as great as the national percentage of nearly 73%, it still shows that driving alone is a dominant form of commuting. Mean travel time to work was 18.6 minutes in 1990, 53.3% of workers reported traveling 45 or more minutes. This increasing distance between jobs and residences has also forced an ever-increasing number of commuters onto the same streets.

2.3 GENERAL PLAN LAND USE FRAMEWORK

The City of River Falls Master Plan focuses initially on present land uses. The Master Plan states that through an inventory of such uses, a true community profile can be seen. Such an inventory indicates the conditions of each of the areas, the general economic conditions, and a sense of historic development of the community. Land uses are slow to change, and therefore the present land use is seen as a baseline for future growth. Economic change can also be seen through evidence of land use conflict. For example, a downtown typically grows by land use intrusion into adjoining neighborhoods, and some neighborhood areas may experience increased traffic flow to and from employer/commercial areas, thereby causing a deterioration of property values and a conversion to alternative uses (rental, office).

In the 1960s, the City of River Falls adopted an Extraterritorial Zone (ETZ), a zoning district consisting of that area lying outside the city but within 1.5 mile of the city limits. The purpose of the extraterritorial district is to provide for proper zoning and control over the area and allow for orderly growth and development.

The counties of St. Croix and Pierce and the towns of Troy and River Falls have adopted land use plans. These plans consist of maps and policies that are intended to represent the communities' goals and objectives.

2.4 LAND USE CLASSIFICATIONS

This section describes the land use classifications as outlined in the Municipal Code and designated on the official City of River Falls Zoning Map (Figure 2-2) and the Extraterritorial and Town Zoning Map from September 25, 1974 (Figure 2-3). The land use parcels were classified by the following categories:

2.4.1 The City of River Falls Zoning Categories

- **Single Family (low density) Residential (R1).** The R1 District is intended to provide a quiet, pleasant, and relatively spacious living area protected from traffic hazards and intrusions of incompatible land uses. (One to three units per gross acre.)
- **Multifamily (medium density) Residential (R2).** The R2 District is intended to provide a limited or medium density (multifamily living area) that is compatible with existing single family dwellings. (One to eight units per gross acre.)
- **Multifamily (high density) Residential (R3).** The R3 District is intended to provide a district of higher density housing in multifamily structures and related complimentary uses. (1-14 units per gross acre.)

- **General Commercial (B1).** The B District is intended to provide for a business or shopping district enhanced by a central location, ease of access, and the proximity to other businesses.
- **Limited Commercial (B2).** The B2 District is intended to provide a transition zone between General Commercial (B1) and residential uses by allowing limited commercial uses which are compatible with commercial on one side and residential on the other while preserving the scale and character of existing neighborhoods.
- **Highway Commercial (B3).** The B3 District is intended to provide for service oriented enterprises and for quasi-industrial and commercial enterprises that have considerable contact with and dependence upon transit trade and traffic.
- **Industrial (I1).** The I1 District is intended to provide an area for light industrial uses that do not detract from adjacent areas or less intense land use or become a blight influence to the area.
- **Heavy Industrial (I2).** The I2 District is intended to provide for heavy industrial and manufacturing uses in an area generally separated from other sections of the city.
- **Agricultural (A).** The A District is intended to provide suitable areas for exclusive agricultural uses, to conserve good farming areas, to prevent the uncontrolled spread of development, and to secure the economical provision of public services.
- **Conservancy (C).** The C District is intended to preserve the natural state of scenic areas, to prevent the uneconomical spread of development, and to discourage development of land, which, if developed, might create a hazard to public and private property.
- **University (U).** The U District is intended to provide an orderly process whereby institutions of higher education can develop needed facilities yet exist and function in a manner compatible with surrounding land uses and the community as a whole.
- **Mobile Home Parks (MHP).** The MHP District is intended to enforce minimum standards for mobile home parks and to promote public health, safety and welfare. The zone establishes requirements for the design, construction, alteration, extension, and maintenance of mobile home parks and related facilities and utilities, authorizes issuance of permits for construction, alteration, and extension of mobile home parks. The zone also authorizes the licensing of operators of mobile home parks, authorizes the inspection of mobile home parks, regulates the location of mobile homes, and affixes penalties for violations.
- **Planned Unit Development (PUD).** The PUD special use is intended to provide a regulatory framework to encourage, promote, and improve environmental design in the city by allowing for greater freedom, imagination, and flexibility in the development of land.

Chapter 2
Character and Development

City of River Falls
Sewer Service Plan

City of River Falls Zoning Map

-  Single Family Low Density Residential
-  Multiple Family Medium Density Residential
-  Multiple Family High Density Residential
-  Mobile Home Park
-  Agriculture
-  Limited Commercial
-  General Commercial
-  Highway Commercial
-  Conservancy
-  Industrial
-  Heavy Industrial
-  University
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers

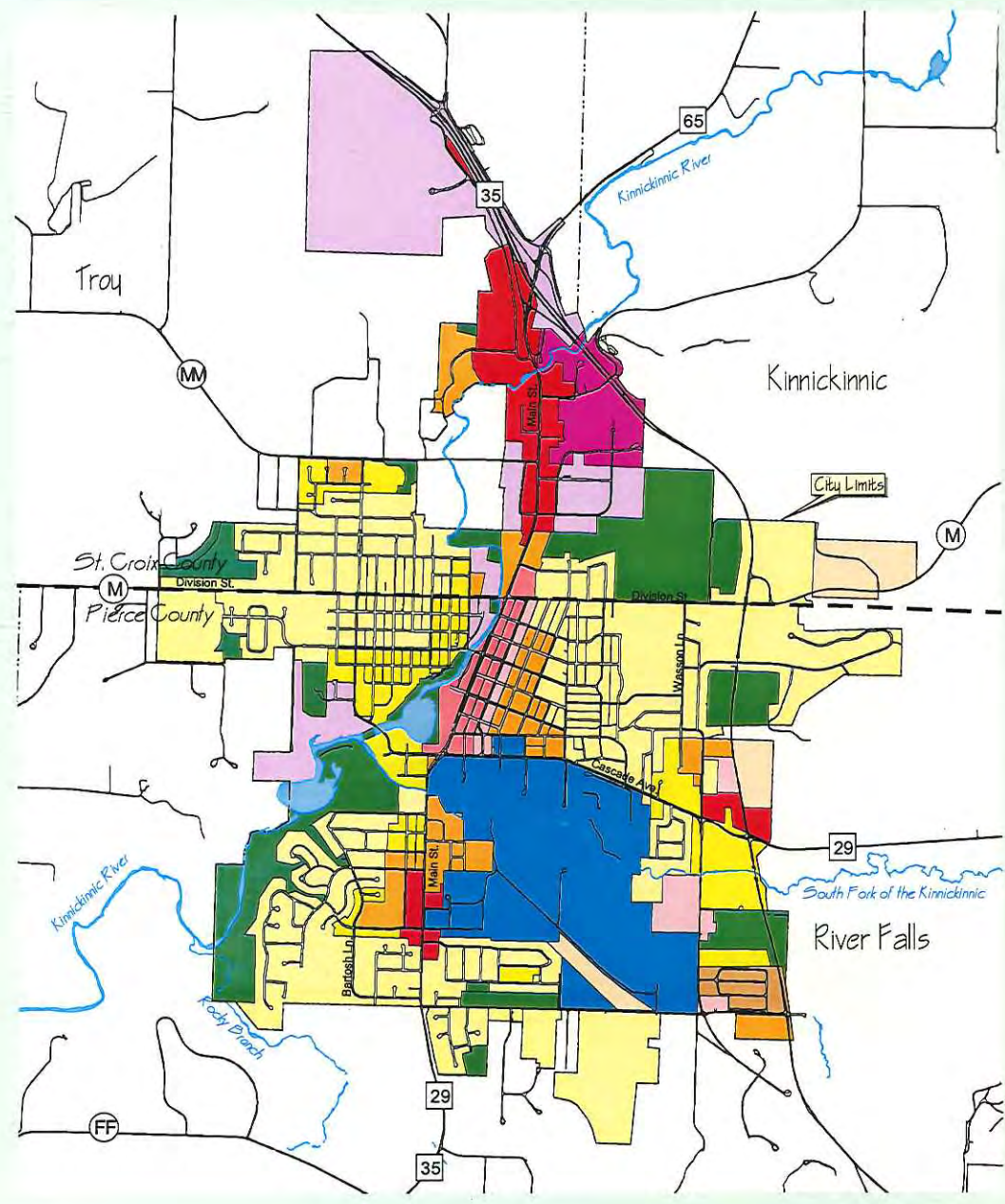















Figure 2-2

Chapter 2
Character and Development

City of River Falls
Sewer Service Plan

Extraterritorial and Town
Zoning Map

-  Single Low Density Residential
-  Multiple Medium Density Residential
-  Single Suburban
-  Agriculture
-  Exclusive Agriculture
-  Conservancy
-  Industrial
-  Commercial
-  Lakes & Rivers
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Extraterritorial Zoning (ETZ) Boundary

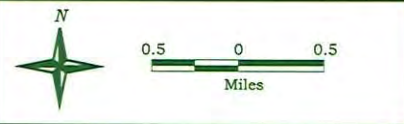
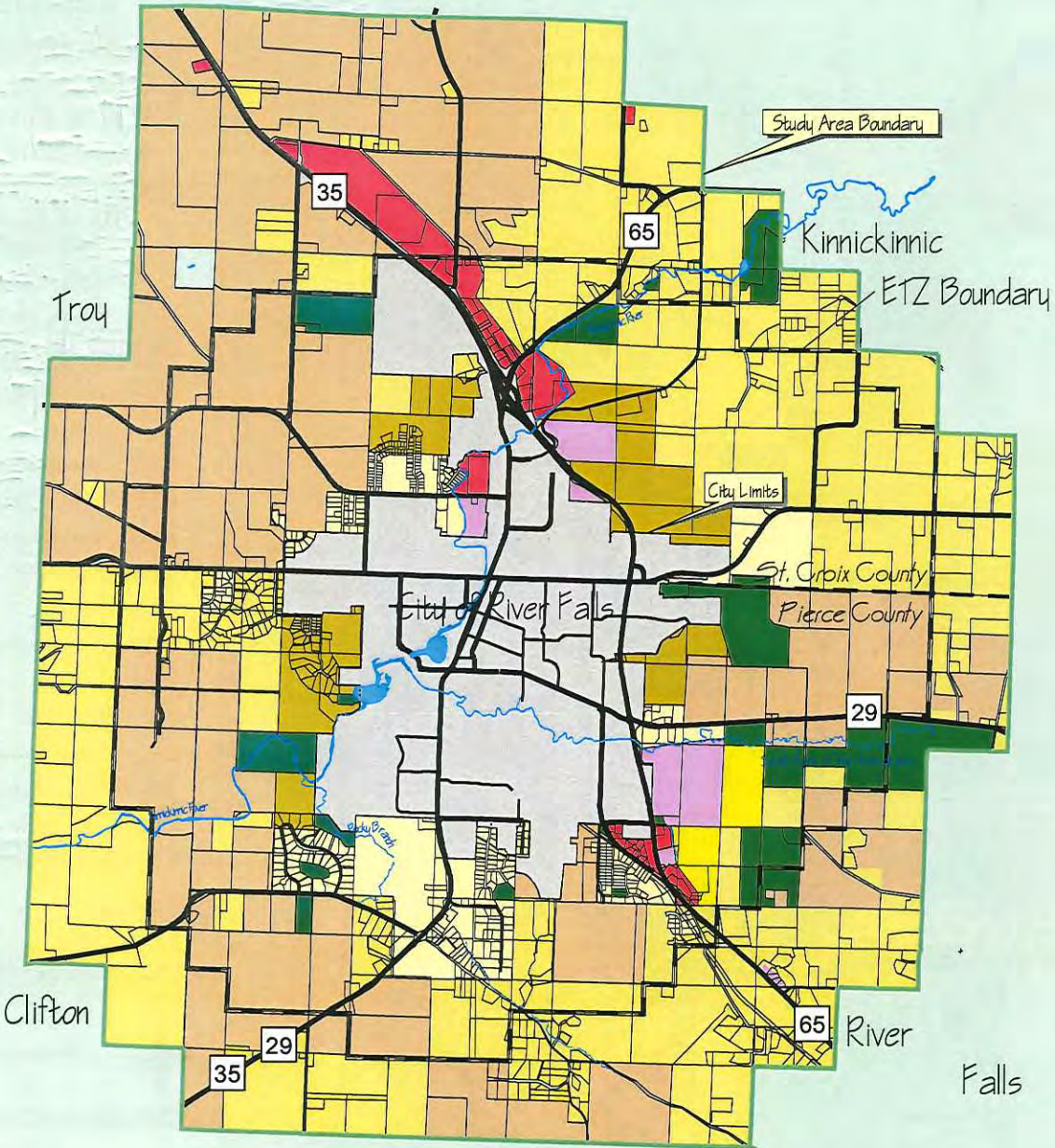


Figure 2-3

2.4.2 Extraterritorial Zoning Categories

- **Single Family Suburban Residential District (RS).** The RS District is intended to provide a pleasant and spacious living area. The large lot sizes encourage preservation of wooded areas and other green space yet enable development.
- **Single Family (low density) Residential (R1).** The R1 District is intended to provide a quiet, pleasant, and relatively spacious living area protected from traffic hazards and intrusion of incompatible land uses.
- **Multifamily (medium density) Residential (R2).** The R2 District is intended to provide a living area that is pleasant but not as spacious as the R1 District.
- **Highway Commercial (C).** The C District is intended to provide for commercial activity related to vehicular traffic along the highways.
- **Industrial (I).** The I District is intended to provide for industrial and manufacturing uses in an area separated from other sections of the city.
- **Agricultural (A).** The A District provides exclusively for agricultural uses. The intent is to help conserve good farming areas and to prevent uncontrolled, uneconomical spread of residential development that results in excessive cost to the community for premature provision of essential public improvements and services (sewer and water lines).
- **Exclusive Agricultural (A1).** The A1 District provides exclusively for agricultural uses. The intent is to preserve and protective agricultural soils, to maintain agricultural as a permanent, viable land use and economic activity. The zone controls untimely and uneconomical expansion of urban facilities and services, avoids conflicting land uses, and complies with the provisions of the farmland preservation law that permits eligible land owners to receive tax credits, per Wisconsin Statutes.
- **Conservancy Zone (W).** The W District is intended to prevent uncontrolled, uneconomical spread of development and to help discourage intensive development of marginal land so as to prevent potential hazards to the public and private property.

The Municipal Code of the City of River Falls, Chapters 20 and 21, provides detailed information regarding the above land use classifications.

2.5 NATURAL RESOURCE AREAS

Throughout the public participation process, open space, bluffs, coulees, rivers, and environmental resources were frequently sited as some of the communities' major assets. The preservation, enhancement, and restoration of the community's character and resources are pivotal issues that have shaped this plan.

Mapping of existing environmental resources, conditions and constraints provides the basis for resource conservation and management policies. It is resource conservation and management policies that help determine a sewer service area while protecting and preserving valuable areas from development. To do this, resource protection areas are delineated, and growth is prohibited or limited from occurring in these areas. Two classifications are defined in detail in Chapter 4 that protect habitat that is sensitive and declining or that represents valuable, biological resources in the community. In general, these two classifications are Resource Protection Areas (RPAs) and Sensitive Resource Areas (SRAs). The RPAs contain the most sensitive and valuable habitat and require protection. The SRAs shall be investigated with particular attention to sites that include habitat for sensitive species of plants and animals. The natural resource management and conservation issues are addressed in this chapter.

2.5.1 Habitat

Habitat is a term used for a set of natural conditions including climate, elevation, solar aspect, water, wind, soil, geology, and other elements combined. Plants are most often used to characterize biotic communities, which form habitat for animals and other plants. The Department of Natural Resources for the State of Wisconsin (WDNR) has developed a rare, threatened, and endangered species and natural communities list for St. Croix and Pierce Counties. A detailed vegetation study that maps River Falls biotic communities has not been performed. Such a study would help locate and designate critical habitat for threatened and endangered species and for species of concern. Future detailed study and mapping should be developed that locates habitats for these species.

As stated above, many scenic vistas of bluffs, coulees, valleys, and the Kinnickinnic River surround the community. The community is located in the northern part of the Coulee Region of southwestern Wisconsin. Most of the land within the community of River Falls is fairly level to gently sloping, except for the steep, rock bluffs along the Kinnickinnic River and the South Fork. Within the city, there are few steep slopes with a grade of 10% or more. Within the study area, there are lands that are quite hilly with many steep slopes and sharply defined bluffs and watercourses. The most sensitive and important of these biotic communities is the riparian area which provides prime food, water, and nesting habitat for migrant as well as resident species. Since most of the biotic community in the River Falls area occurs over a wide range of southwestern Wisconsin, few of the biotic communities are rare or unique, but many of them provide habitat for rare, threatened, or endangered species of both plants and animals.

2.5.2 Endangered Resources

The range of biological communities in the regional area and surrounding the city provides suitable environments for animals and plant species that are considered threatened, endangered, or of concern and are subject to protection under the Federal Endangered Species Act and the Wisconsin Endangered Plant and Animal Act. All site plan reviews for development should include the consideration of these endangered resources. These resources primarily occur within the bluffs and riparian corridors and other specific areas. Many of the animal species are migratory and are present

infrequently. In some cases, such as that of the endangered Crystal Darter fish or Higgins' Eye mussels, it is possible to enhance or restore habitat for a species to increase the possibility of its occurrence. Unlike the migrating animals, several of the rare plants that may occur within the area may be uprooted and destroyed as a result of construction and development.

The WDNR, Bureau of Endangered Resources conducts data searches for natural areas and endangered plants and animals. The Bureau urges that special care be taken to protect any and all endangered resources from development. The exact locations of the endangered resources can only be used for analysis and review purposes; therefore, they will not be used here for the environmental corridors. The following sections provide information and a list of those endangered plants and animals within the St. Croix and Pierce County area.

2.5.3 Plants

There are approximately 2,000 species of native and naturalized seed plants in the State of Wisconsin. Within the St. Croix and Pierce Counties, there are approximately 54 rare, threatened, and endangered plant species. Some of these endangered species consist of the following: Brook Grass, Carolina Anemone, Dotted Blazing Star, Ground Plum, Rough Rattlesnake-Root, Small Skullcap, Louisiana Broomrape, and Prairie Bush-Clover.

2.5.4 Woodlands

Woodlands provide habitat for a variety of plants and animals as well as adding scenic beauty to the landscaping. Woodlands exist near river and creek streams, wetlands, steep slopes, landscaped yards, and forest cropland. They are essential for erosion control, wildlife habitat, and the aesthetic environment. Retention of a maximum acceptable percentage of woodland cover in developable areas will greatly contribute to the environment and the value of the residential, commercial, and industrial development. Existing woodland cover provides an aesthetic area for group gathering and recreation. These areas should be reserved for those purposes through the planning and development process. The City of River Falls has an existing urban forestry program that revegetates and maintains woodlands for future generations.

2.5.5 Wildlife

Within St. Croix and Pierce Counties, there are approximately 61 rare, threatened, or endangered animal species. Approximately 17 of these animal species are endangered. They are as follows: Four birds—American Peregrine Falcon, Great Egret, Loggerhead Shrike, and Red-Necked Grebe. One butterfly—Regal Fritillary. Four fish—Crystal Darter, Goldeye, Skipjack Herring, and Pallid Shiner. Eight mussels—Butterfly, Ebony Shell, Elephant Ear, Purple Wartyback, Snuffbox, Spectacle Case, Winged Mapleleaf, and Higgins' Eye.

2.5.6 Riparian Corridors

The riparian areas in the River Falls area provide valuable habitat as well as corridors for wildlife movement. These areas include the Kinnickinnic and the South Fork of the Kinnickinnic River. The riparian corridors and wetlands include marshes, bogs, swamps, wet meadows, potholes, sloughs, and river over-flow lands. The significance of wetlands is that they provide habitat for wildlife and fish; reduce flood peaks; maintain water quality; and serve as groundwater recharge zones, open space, and educational areas.

Protection of these valuable resources from intrusion and filling due to development is important to assist in maintaining a balance between nature and manmade development.

Historically, wetlands have not been viewed as important and have been filled in for “convenience” and “progress.” Updates in city codes have assisted in minimizing the effect of development on these areas.

2.5.7 Wetlands

Wetlands are defined by State Statute as areas where water is at, near, or above the surface long enough to support hydrophytic vegetation or water-loving plants with soils indicative of wet conditions. Wetlands may be seasonal or permanent and are commonly referred to as swamps, marshes, or bogs. These areas serve as groundwater recharge zones and also as a habitat for a variety of plants and animals. Wetlands act as a sieve, filtering out silt before it can enter streams and lakes. Particular attention must be given wetlands within lakes to assure that they are protected from development. The federal government and the WDNR restrict development in wetlands through Section 404 of the Clean Water Act and NR 103, respectively. Wetlands can be damaged, resulting in costs, fines, and/or restrictions. The WDNR has an inventory of wetlands of two acres and larger. All wetlands, no matter how small, which meet the state definition are subject to WDNR regulations. Even if state regulations do not apply, federal regulations may, making it necessary to review all wetlands against these regulations before they are disturbed. Particular attention must be given wetlands within shorelands to ensure protection from development. Site investigation is required to ensure compliance with federal and state regulations. The Wisconsin Wetland Inventory Map, along with aerial photographs, was used to assist in delineating all regulated wetlands within the planning area.

2.5.8 Floodplains

Floodplains primarily occur along the Kinnickinnic River, South Fork of the Kinnickinnic River, and along streambeds that serve as tributaries. Except north of the city, floodplains do not extend to any great distance beyond the shoreline of the Kinnickinnic River due to the steepness of the slopes. The South Fork of the Kinnickinnic River has a floodplain of approximately one-eighth to one-quarter mile because of the shallow flow and nearly level stream terrace. There are, however, tributary areas of the city that experience periodic flooding. Floodplain zoning is required and implemented by counties, cities, and towns by Wisconsin State Statute

87.30(1). The purpose of the Wisconsin Administrative Code NR 116, Floodplain Management Program is the protection of property and public investment from the effects of flooding. Federal Emergency Management Agency's 100-Year Floodplain Maps were used to delineate flood hazard areas within the planning area. Flood hazard areas are prevalent throughout the planning area. Variations in the width of the flood hazard zone are due to topography and water volumes, as noted above. In the sewer service area, there is minimal development within the 100-year floodplain. Enforcement of local floodplain ordinances has reduced the amount of development within the 100-year floodplain.

2.5.9 Shorelands

Lands within 1,000 feet of the ordinary high water mark of a lake or pond and 300 feet past the ordinary high water mark or landward edge of the floodplain, whichever is greater, of a river or stream are designated shorelands. Shorelands are usually considered prime development areas because of their scenic beauty. It is these shorelands that provide valuable habitat for both aquatic and terrestrial animal and vegetation. Shorelands also provide a buffer and serve to protect water quality. The State of Wisconsin requires communities to protect and prevent the loss and erosion of these valuable resources by adopting and enforcing a shoreland ordinance. The authority to enact and enforce this provision comes from Chapter 59.97 of the Wisconsin Statutes. Wisconsin Administrative Code NR 115 outlines the shoreland management program. Community ordinances can be more stringent but must not be less stringent than the Wisconsin Administrative Code. The City of River Falls and the surrounding towns have adopted the St. Croix and Pierce Counties' shoreland zoning provisions. These shoreland zoning provisions remain in effect with any land annexed into the city.









2.5.10 Steep Slopes

Steep slopes are characterized by stony land with soils that are shallow over bedrock. Along the River Falls area and along the Kinnickinnic River several areas exist with steep slopes. Steep slopes are any areas where the gradient of the land is 12% or greater (each percent of slope is measured as one unit in elevation for every hundred horizontal units). One category of steep slopes is 12% to less than 20% slope and consists of any soil type. It has been demonstrated that 12% slopes are a threshold at which impact from development becomes apparent. To allow development on these slopes, one should consider direct runoff into streams or rivers, follow state approved construction site erosion control standards, and institute best management practices, monitoring, and maintenance to control on-site runoff and pollution. Steep slopes of 20% or greater are subject to erosion impact, even from slight land cover disturbance. Development on these slopes results in high construction costs and severe erosion with resultant negative impacts to surface waters. Therefore, development on slopes 20% or greater should be prohibited (roads and right-of-way easements shall be limited with guidelines). Both 12% to less than 20%, and 20% or greater slopes are shown on Figure 2-4 Natural Resource Areas.

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City of River Falls Sewer Service Plan

Natural Resource Areas

-  Slopes 12 - 20%
-  Slopes > 20%
-  500 Year Floodplain
-  Wisconsin Wetland Inventory
(Supplied by the Wisconsin DNR)
-  300 foot Shoreline Buffer
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers
-  Study Area
-  City of River Falls

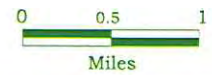
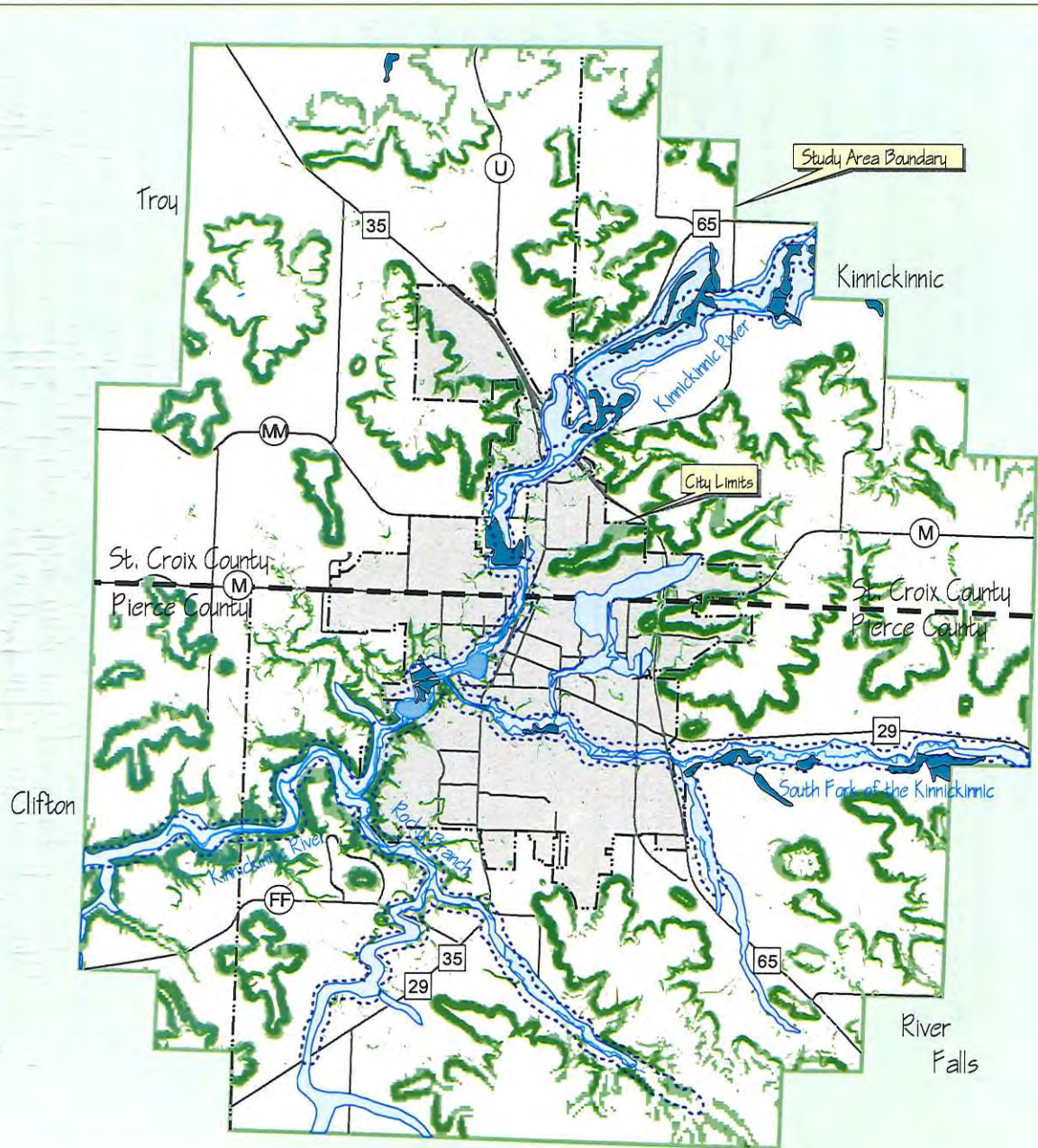


Figure 2-4



2.5.11 Natural Landscapes and Landmarks

Two areas of existing unique environmental features have been identified in the River Falls area. The first, a limestone outcrop north of the city, called the River Falls Monument, is visible from State Highway 65 during the fall, winter, and early spring. The second, called the Devil's Den, is southwest of the City of River Falls and is a unique geological depression along the Kinnickinnic River.

2.5.12 Prime Farmland

Prime farmland is the land that is best suited to food, feed, forage, fiber, and oil seed crops and may be cultivated land, pasture land, or other land, but it is not existing urban and built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil to produce a sustained high yield of crops in an economic manner. Prime farmland produces the highest yield with minimal input of energy and economic resources, and farming it results in the least damage to the environment. Soils that fall into Class I, II, and III of the Soil Conservation Service (presently National Resource Conservation Service) capability unit classification system are considered prime agricultural land. The value of these lands is associated with not only their soil class but also with their size, present use, and any regulatory framework for their protection. The Land Evaluation Site Assessment system presents the opportunity to define agricultural lands that have the most productive potential. In 1980, St. Croix County and in 1982, Pierce County adopted farmland preservation plans. Both counties have exclusive agricultural zoning, farmland preservation areas within the county that are designated and managed by zones which conform to the Wisconsin Administrative Code. The ETZ also provides zoning classifications for agricultural lands. Low density, rural residential housing may be allowed in agricultural areas, depending upon

individual town policies and the ETZ. Rural housing is intended to be located and designed so as to have minimal adverse effects on surrounding farm operations and to blend into the rural character of the area. Housing sites should avoid prime agricultural land, be located where appropriate services can be provided, not conflict with neighboring uses, and protect natural resources.

2.5.13 Soils

City of River Falls

The 1965 *City of River Falls Comprehensive Plan* provides a detailed description and map of specific soil conditions, characteristics, and suitability of urban and rural uses in the River Falls area. This information was provided for the plan from the U.S. Department of Agriculture, National Resource Conservation Service. The plan states that soil productivity in the Towns of Troy, Kinnickinnic, and River Falls generally are below average compared to productivity in other parts of St. Croix and Pierce Counties. In some areas around River Falls, some of the best farmland has been gullied as a result of water and wind erosion. However, contour plowing and other soil conservation and

Sewer Service Plan

erosion control measures have been employed in most of the planning area. The plan states that soils in the River Falls area may be placed generally into nine major groups based upon their suitability for agricultural or urban uses. The nine major groups listed were: engineering conditions related to construction and maintenance, maintenance of roads, airports, pipelines, building foundations, water storage facilities, drainage systems, sewage disposal systems, and erosion control structures. The 1965 plan provided a summary of the suitability and limitations for the different uses and a list of the soils for the major groups.

St. Croix and Pierce Counties

As noted above soil, properties are an important factor in how land is used. The type of soils in an area often dictates the best use of land. Soil suitability interpretations for specific urban and rural land uses are essential for physical development, planning, and determining the best use of the soil on a site. The 1996 *Pierce County Land Management Plan* references the U.S. Department of Agriculture, National Resource Conservation Service map for the locations of important farmlands. This map indicates the general location of the best farmland in the county and towns. The 1996 *St. Croix County Development Management Plan* states that the County entered into an agreement with the National Resource Conservation Service to produce a digital soil survey. The soil survey has resulted in a detailed soil map for the County at a scale of one inch equaling 1,000 feet. The survey produced information on the physical, chemical, and biological properties of the soil and provided soil property interpretation for agricultural, engineering, planning, and resource conservation activities. The digital soil survey was used extensively for county planning efforts.

River Falls Town

The 1982 land use plan for the Town of River Falls also addresses soils capability and provides a soil class map. It states that the Soil Conservation Service (presently National Resource Conservation Service) considers the majority of land in River Falls Town a Class II-type soil and it is concentrated in the central and southern sections of the town. Class I, II, and III type soils are considered prime agricultural land and comprise 74% of the land in the town, however, only 3% is Class I. The area immediately south of and along County Highway 29 contains the highest portions of soils not suitable for farming. Depending on slope and the amount of wooded acreage, these areas are primarily used for grazing or pasture land, woodlands, and/or wildlife cover.

Troy Town

The 1992 *Town of Troy Growth Management Plan* also provides information on geology and soils, along with soil limitation maps. The plan states that the most fundamental criteria for development are the nature of the soils. A soil is defined (Hole et al.1953) as a distinctive portion of the top-most mineral layer of the earth, containing air, water, plants, and small animals mixed in a variable amount. The plan states that agricultural capabilities Class I and II might be called the town's prime agricultural land. Much of this land is presently under cultivation, but much of it is suitable for septic systems,

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which has resulted in the present subdivision of many five-acre parcels in the area. The plan delineates the agricultural capabilities into eight classes provided by the Soil Conservation Service (presently National Resource Conservation Service) capability unit classification system.

Those classes are as follows:

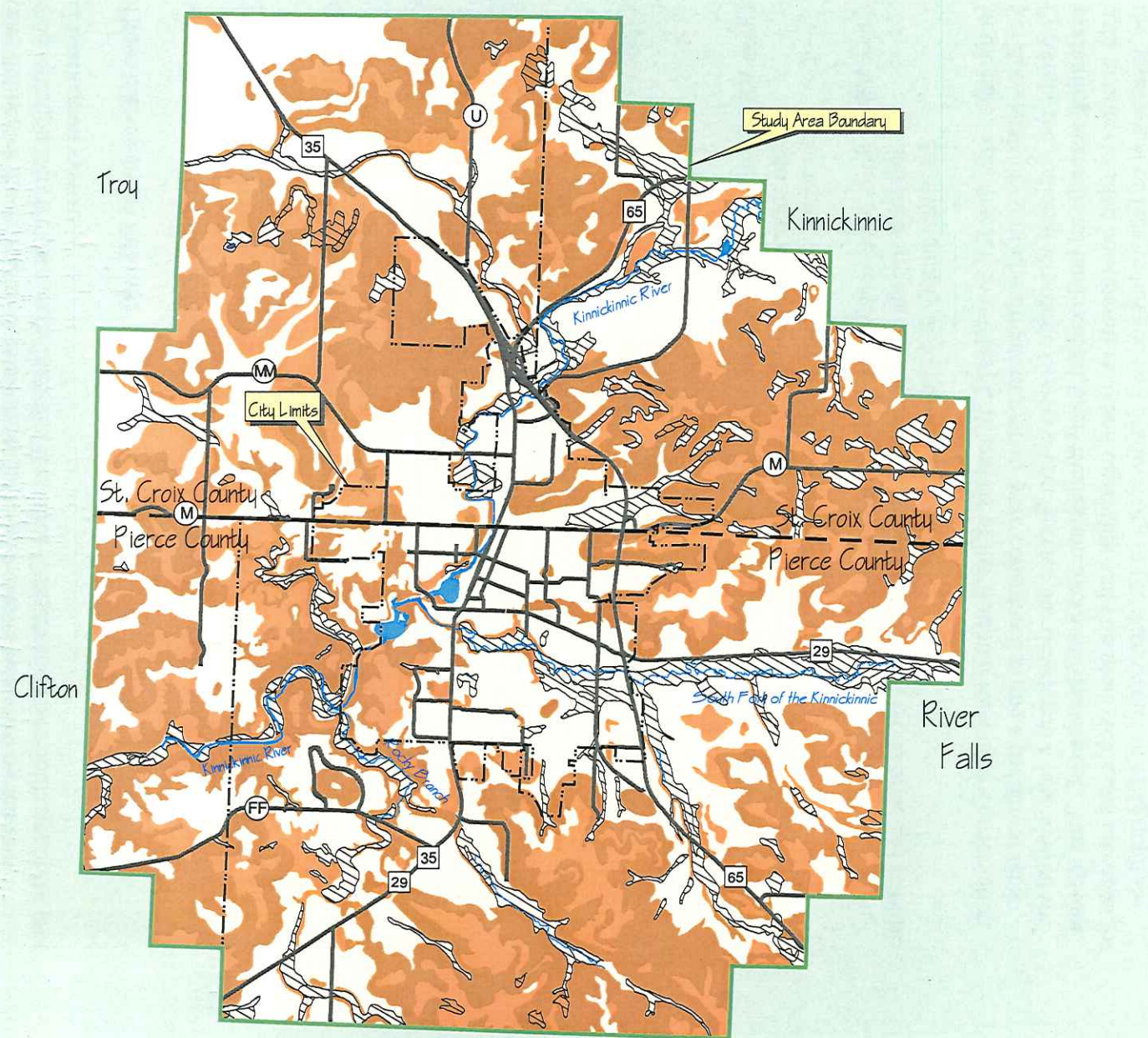
- Class I: Soils that have few limitations to restrict their use.
- Class II: Soils with some limitations that reduce the choice of plants or require moderate conservation practices.
- Class III: Soils with severe limitations that reduce the choice of plants or require special conservation practices, or both.
- Class IV: Soils with very severe limitations that restrict the choice of plants or require very careful management, or both.
- Class V: Soils that have little or no erosion hazard but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.
- Class VI: Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, range, woodland, or wildlife food and cover.
- Class VII: Soils have very severe limitations that make them unsuited to cultivation, and their use should be restricted largely to grazing, woodland, and wildlife or water supply or to aesthetic purposes.
- Class VIII: Soils have very severe limitations that make them unsuited to cultivation, and their use should be restricted largely to grazing, woodland, and wildlife or water supply or to aesthetic purposes.

In the past, soils that fell into Class I, II, and III of the National Resource Conservation Service capability unit classification system were considered prime agricultural land. Presently the National Resource Conservation Service has developed a new system for evaluating agricultural lands called Land Evaluation and Site Assessment. This system uses a more detailed consideration of soil capability and potential yields and provides for the assessment of factors beyond soil productivity in the determination of agriculture potential. Figure 2-5 Soils Map, shows environmentally sensitive areas (bottomlands, terraces, foothills, etc.) such as highly erodible soils, hydric soils, and the leaching potential of soils. This map was developed using the St. Croix County digital soil survey and by converting applicable sheets of the Pierce County Soils Survey into electronic GIS versions.

Chapter 2

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City of River Falls Sewer Service Plan



Soils Map

- Highly erodable
- Potentially erodable
- Hydric soil
- Inclusion
- Major Roads
- County Boundary
- City or Town Boundary
- Lakes & Rivers

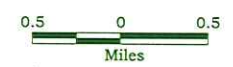


Figure 2-5

2.6 POPULATION

In the development of a sewer service area water quality management plan, it is important to know that a relationship exists between all planning elements and that these elements must be considered in the formulation of the plan. There is a bond between population, environment, and land use. Population effects land use through the environmental and geographic features of the community, and the geography dictates to some extent the desirability of the community and the location of certain land uses. These planning elements of population, environment, and land use serve as indicators for the future growth and vision of the community.

2.6.1 Historic Population Trends

As stated above in Section 2.1 Evolution of a Land Use Pattern, River Falls has experienced tremendous growth since 1900. After the arrival of Joel Foster in 1848, River Falls experienced relatively slow growth until 1940. Most of the growth has occurred since 1940. With a population count of approximately 11,696 in 1999, River Falls has experienced an approximately 450% increase. The following Table 2.2 illustrates the growth trends in the area since the 1900s and shows that River Falls is surrounded by four towns and two counties that have become a multigrowth area. The following sections contain information on the population characteristics of the City of River Falls. Data was obtained from the U.S. Census, Bureau of Information; the City of River Falls; and governmental units.

Table 2.2
RIVER FALLS AREA POPULATION HISTORY

Year	City of River Falls		Surrounding Towns*		Pierce and St. Croix Counties	
	Population	% Change	Population	% Change	Population	% Change
1900	2,008		3,299		50,773	
1910	1,991	-80.0%	3,033	-8.1%	47,989	-5.5%
1920	2,273	14.2%	2,990	-1.4%	47,769	-0.5%
1930	2,363	4.0%	2,819	5.7%	46,498	-2.7%
1940	2,806	18.7%	2,558	-9.3%	46,313	-0.4%
1950	3,877	38.2%	2,633	2.9%	47,353	2.3%
1960	4,875	25.7%	3,010	14.3%	51,667	9.1%
1970	7,238	48.5%	4,526	50.4%	61,006	18.1%
1980	9,036	24.8%	6,503	43.7%	74,411	22.0%
1990	10,610	17.4%	7,052	8.4%	83,016	11.6%

* Troy, Kinnickinnic, River Falls, and Clifton
Source: U.S. Census, Bureau of Information

2.6.2 Existing Population

River Falls and the surrounding communities have all experienced rapid growth between 1970 and 1990, which can be seen by comparing their growth rates to Pierce County (5.2%), St. Croix County (16.2%), the State (4%), and the nation (9.8%). When comparing growth rates with other communities, it is important to note that River Falls, with a 1990 population of 10,610, is the largest of the cities in this comparison.

The area surrounding River Falls has also shown considerable population growth. River Falls has been a growing city located within a growing region. Table 2.3, shows a significant growth of population in the towns surrounding River Falls. In the 20 years from 1970 to 1990, Clifton Town increased by 83%, Kinnickinnic Town by 51%, Troy Town by 88%, and River Falls Town by 18%. In 1990, with a population of 7,052, the surrounding towns have increased by 55.8%. Since 1990, the trend has continued. There has also been a noted rise in the equalized value of rural residential housing. There has also been a rise in the nonfarm population within the towns and counties, as shown in Table 2.4. The population trends of River Falls and its surrounding towns and counties have taken a consistent upward turn. According to the projections by the West Central Wisconsin Regional Planning Commission, Troy Town will continue to grow faster than the rest of the county. These trends have many causes and will impact on the environment and will increase provisions of services, infrastructures, and transportation.

Table 2.3
POPULATION GROWTH IN THE RIVER FALLS AREA

	City of River Falls	Clifton Town	Kinnickinnic Town	Troy Town	River Falls Town	Pierce County	St. Croix County
1970	7,238	612	755	1,517	1,642	26,652	34,354
(%)	(24.8)	(59.3)	(39.2)	(52.2)	(32.0)	(16.9)	(25.9)
1980	9,036	975	1,051	2,309	2,168	31,149	43,262
(%)	(17.4)	(14.8)	(8.4)	(23.4)	(-10.3)	(5.2)	(16.2)
1990	10,610	1,119	1,139	2,850	1,944	32,765	50,251

Source: U.S. Census (1990)

Table 2.4
RIVER FALLS RURAL POPULATION IN 1990

Population	Kinnickinnic	Troy	Clifton	River Falls
Farm	212	283	194	148
Nonfarm	907	1,661	945	846
Total	1,119	1,944	1,139	994

Source: Bureau of Intergovernmental Relations (1990)

2.6.3 Population Projections

Estimating population projections is much like predicting the weather. Although an effort is made to estimate an actual temperature, it is more important to forecast the trend that will occur. In the instance of population, it is important to identify a population growth or decline. All indications are that the population will continue to increase but not as rapidly as between 1960 and 1980. Elements that will impact, guide, and manage growth are: (1) proximity to the Twin City Metropolitan Area, (2) general land use policies, (3) improved infrastructure such as upgrading the State Highway from a two lane to a four lane and availability of water sewer and services, (4) future land use plans and zoning, and (5) boundaries such as an urban area boundary, extraterritorial boundary, and a sewer service area boundary.

There are various ways to project populations for the year 2020. Many factors, such as location, annexation, commercial and industrial development, and historic trends will contribute to a continuing growth in population during the next 20 years. As noted above, outside forces, such as the growth of the Twin Cities, the towns, and Counties of St. Croix and Pierce, will have an influence as will the change from two to four lanes on State Trunk Highway 35 connecting River Falls with the Metropolitan Area. Table 2.5 provides population projections from a variety of sources and models for the City of River Falls. In 1992., the West Central Wisconsin Regional Planning Commission provided population projections for the years 2000 to 2020 for the City of River Falls and for St. Croix and Pierce Counties. Table 2.6 shows a projected growth of 4,536, from 12,557 in the year 2000 to 17,093 in the year 2020.

Table 2.5
POPULATION PROJECTIONS - CITY OF RIVER FALLS

Source	2000	2010
River Falls 201 Plan	15,041	----
River Falls 1988 Park Plan	17,752	----
West Central WI Regional Planning Commission (low)	11,822	13,412
West Central WI Regional Planning Commission (high)	15,554	20,388
River Falls Planning Department (numeric)	10,802	11,685
River Falls Planning Department (geometric)	13,427	6,366
River Falls Planning Department (linear)	11,894	13,476
River Falls Planning Department (exponential)	14,047	17,993
Farmland Preservation Plans (MCD Models)	11,266	12,630
Average	13,500	15,000

Trend: 10-25% Growth Per Decade

**Table 2.6
POPULATION PROJECTIONS BY COUNTY, 2000–2020**

County	Year		
	2000	2010	2020
Pierce	10,464	12,427	14,246
St. Croix	2,093	2,486	2,847
Total	12,557	14,913	17,093

Source: West Central Wisconsin Regional Planning Commission (1992)

2.6.4 University of Wisconsin-River Falls

The UWRF, formerly known as River Falls State College, was incorporated in 1875. The University, as an entity, impacts the community in many ways. As a population group, the University population is the largest, single, identifiable segment. UWRF indicates future growth and enrollment as follows:

A full-time equivalent (FTE) is considered 12 credits. Total FTE is usually 90 to 92% of the head count (HC). Head count figures include the number of part-time students. The University’s population has an important impact on the City of River Falls in terms of housing, jobs, and transportation; recreation; water consumption; and waste water processing. In this population analysis, 50% of the FTE students would be considered residents of River Falls (58% in 1999). For 1990, 50% would be 2,307 student residents (4,614 full-time). Tables 2.7 and 2.8 provide the UWRF enrollment history and the City of River Falls and UWRF population history comparison.

**Table 2.7
UWRF ENROLLMENT HISTORY**



Table 2.8
UNIVERSITY OF WISCONSIN-RIVER FALLS ENROLLMENT
Full-time Equivalent (FTE) and Official Head Count (HC)

Year	FTE	HC	Year	FTE	HC
1980	5,220	5,339	1991	4,868	5,564
1981	5,372	5,502	1992	4,844	5,440
1982	5,261	5,334	1993	4,728	5,263
1983	5,199	5,368	1994	4,864	5,422
1984	5,066	5,287	1995	4,719	5,186
1985	4,954	5,284	1996	4,847	5,326
1986	5,185	5,613	1997	4,997	5,491
1987	5,095	5,420	1998	5,146	5,655
1988	5,017	5,544	1999	5,288	5,811
1989	4,912	5,236	2000	5,382	5,914
1990	4,614	5,196			

RIVER FALLS-UWRF
POPULATION HISTORY COMPARISONS

Year	University	City
1950	731	3,877
1960	1,445	4,875
1970	4,156	7,238
1980	5,339	9,036
1990	4,614	10,610
2000	5,382	12,557

2.6.5 Median Age

Comparing the median age of residents in River Falls with those in the counties, region, state, and nation shows that youth is a dominant characteristic of the city's population. River Falls has a very young population. Although it is generally becoming older as the baby-boomer generation ages (Table 2.9 River Falls 1990 Comparative Median Age). It is important to note that UWRF has an impact on the dominant character of the city's population, which is reflected the number of people in the 15 to 24 age group.

In comparison to the population characteristics of surrounding towns and similar size communities in the State of Wisconsin, the City of River Falls, as of the 1990 census, has a younger median age. The City of River Falls also has a smaller population of persons in the under 18 age group and a smaller population of persons in the 65 and over age group. The towns show a higher percentage of children under 18, indicating that young childbearing couples are selecting rural home sites. (Table 2.10)

Table 2.9
RIVER FALLS 1990 COMPARATIVE MEDIAN AGE

Location	Median Age (in years)
River Falls	23.29
St. Croix County	28.33
Pierce County	30.59
Region	32.40
Wisconsin	32.90
United States	32.90

Table 2.10
1990 POPULATION—AGE AND SEX DISTRIBUTION
CITY OF RIVER FALLS AND SURROUNDING AREA

Location	Population	% Male	% Female	% Under 18	% 65+	Median Age
River Falls	10,610	48.2	51.8	20.5	8.3	24.1
Pierce County	32,765	49.8	50.2	27.0	10.6	29.3
Clifton Town	1,119	52.4	47.6	31.1	4.9	33.1
River Falls Town	1,944	50.1	49.9	30.7	6.4	32.1
St. Croix County	50,251	49.9	50.1	30.1	10.1	31.6
Kinnickinnic Town	1,139	48.1	51.9	27.7	13.8	35.8
Troy Town	2,850	52.0	48.0	30.4	5.1	31.3
State of Wisconsin	4,891,769	48.9	51.1	26.4	13.3	32.9

Source: U.S. Census (1990)

2.6.6 Race

River Falls has a relatively low minority population. The largest minority group is of Asian or Pacific Islander origin. This group totals 108 or 1.02% of the total population in 1990. The other minority groups combined make up less than 1% of the city's population as a whole. (Table 2.11 Race)

Table 2.11
RACE

Ethnic Background	Number	Percent
White	10,330	97.36
Black	60	0.57
American Indian, Eskimo or Aluet	23	0.22
Asian or Pacific Islander	108	1.02
Other Race	20	0.19
Total	10,610	100.00

2.7 ECONOMIC DEVELOPMENT

A review of economic influences impacting the City of River Falls begins with the recognition of three major actor groups: (1) UWRF, (2) Twin Cities job market, and (3) local industries.

2.7.1 The University of Wisconsin-River Falls

The University impacts the economy of River Falls both in employment and retail (Table 2.12). UWRF employs approximately 650 people throughout the community. This results in approximately 500 jobs in the service sector, such as restaurants and taverns. In combination, service sector jobs represent almost one-third of all employment.

Table 2.12
ECONOMIC CHARACTERISTICS

Comparison of River Falls with Other University of Wisconsin Communities

Community	Unemployed	Manufacturing	Median Family Income	Poverty	Population
River Falls	6.3%	9.0%	\$30,535	14.7%	10,610
Menomonie	7.6%	7.4%	\$21,392	28.8%	13,547
Superior	9.8%	4.4%	\$20,905	17.2%	27,134
Whitewater	5.8%	5.2%	\$19,886	30.7%	12,636
Eau Claire	5.9%	6.5%	\$24,736	18.6%	56,930
Platteville	5.1%	5.0%	\$23,911	20.4%	9,708
Stevens Point	6.0%	5.9%	\$22,194	21.6%	23,006
LaCrosse	6.2%	8.2%	\$21,947	21.0%	51,003
Oshkosh	4.8%	13.3%	\$25,168	12.6%	55,006

Source: U.S. Census (1990)

2.7.2 The Twin Cities

An economic influence impacting River Falls is the Twin Cities job market. The 1990 census figures show that over one-half of River Falls' employable population works outside the community (Table 2.13 and 2.14). In 1999, 53.3% of the workers reported traveling 45 or more minutes to their jobs. This factor is evident in the high median family income compared to other university communities.

In comparison to similar communities, River Falls has a higher percentage of residents (workers 16 years and over) who are employed outside the community. Of the total workforce (5,781), 2,787 report working in the area of residence while 2,994 report working outside the area of their residence. (U.S. Census 1990, Table 172)

**Table 2.13
EMPLOYMENT OUTSIDE
THE COMMUNITY**

Community	Percent
River Falls	54.4
New Richmond	46.5
Hudson	51.7
Prescott	9.4
Pierce County	51.8
St. Croix County	50.4

Sources: U.S. Census (1990), City of River Falls Comprehensive Parks & Rec. Plan (1995)

**Table 2.14
RIVER FALLS RESIDENT
COMMUTING MODES**

Transportation	Percent
Drive Alone	66.8
Carpool	4.0
Public Transport	1.0
Walk/Work at Home	0.8
Other Means	17.4

Sources: U.S. Census (1990), City of River Falls Comprehensive Parks & Rec. Plan (1995)

2.7.3 Local Industry

Local industries employ 400 people, or approximately 9% of the labor force. This is only slightly behind other Wisconsin university communities. In general, local employment opportunities have been very good, which has led to a low unemployment rate when compared with other university communities. Tables 2.15 and 2.16 outline employment opportunities along with employment by industry.

**Table 2.15
LOCAL INDUSTRIAL EMPLOYMENT**

Employer	Employment Sector	Number of Employees
UWRF	Education	650
River Falls School District	Education	480
The Shannon Group (Kolpak)	Refrigeration Equipment	230
Allina Corp.	Medical/Health Care	200
River Falls Care Center	Nursing Home/Child Care	180
U.F.E., Inc.	Plastic Injection Molding	135
City of River Falls	Government	86
Smead Manufacturing Co.	Mfg. Filing Supplies	80
Quadion Company	Plastics	40*
Best Maid	Cookie Bakery/Distributor	30*

* Community Development Department Estimates

Source: Wisconsin Manufacturers Register (1995)

In 1995, a labor market study was completed by UW-Extension for St. Croix and Pierce Counties and points to a tight labor market. Some of the information includes the following:

- Thirty-one percent of full-time workers living in the county changed jobs last year.
- Only 7% of full-time workers say they are looking for new jobs.
- Only 7% of part-time workers are looking for full-time work.
- Seventy-five percent of commuting workers would prefer to work closer to home.

Sewer Service Plan

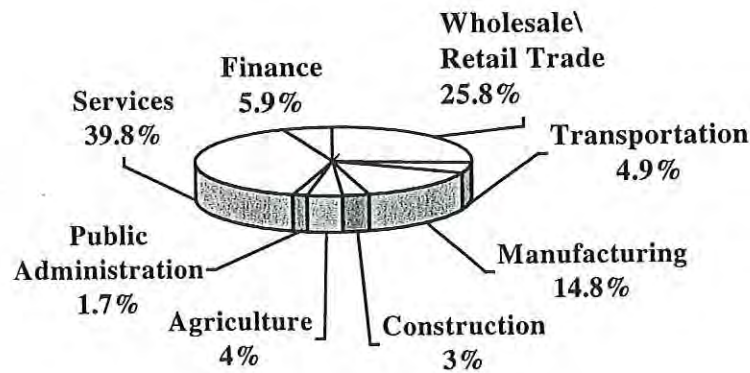
- Ninety percent of those commuters would consider taking a pay cut to work closer to home.
- The average wage of production workers commuting to Minnesota was \$13.50.
- The average wage of St. Croix County production workers was \$9.00.

**Table 2.16
EMPLOYMENT BY INDUSTRY, 1990**

Industry	Number of Employees
Services	2,038
Retail Trade	1,263
Manufacturing	757
Finance, Insurance, Real Estate	302
Transportation, Communication, & Utility	251
Agriculture	189
Construction	176
Public Administration	87
Wholesale Trade	56
Total	5,119

As noted above, the residents of River Falls work in a variety of occupations. Table 2.17 profiles what residents of River Falls do for work. This profile does not necessarily mean that the work is done in River Falls. What the profile does show is that professional services make up the largest share at 39.8%, and wholesale/retail trade at 25.8% is the second largest category. Service employment includes health services such as hospitals, physicians, nursing care facilities, etc. The major employment categories in the trade sector include eating and drinking places, grocery stores, new and used car dealers, and lumber and building materials outlets.

**Table 2.17
LABOR FORCE PROFILE, 1990
River Falls Residents**



There are a variety of occupations for residents of River Falls. However, there are many ways to measure their incomes. Household income includes the income of all members sharing a housing unit (family and nonfamily added together). Family income refers to the income from related individuals living in a household. Nonfamily income is the income from unrelated individuals in a household. Per capita income averages the total income in the community by the population to obtain an average. Tables 2.18 and 2.19 represent comparisons of median incomes in dollars.

Table 2.18
DOLLARS IN 1990

	River Falls	Pierce County	St. Croix County	Wisconsin	United States
Median Household Income	30,535	30,520	36,716	29,442	30,056
Median Family Income	39,609	35,677	41,843	35,082	35,225
Median Nonfamily Income	17,184	15,847	19,921	16,027	17,240
Per Capita Income	11,991	12,203	14,912	13,276	14,420

Table 2.19
RIVER FALLS INCOME IN DOLLARS

	1970	1980	1990
Median Household Income	--	15,439	30,539
Median Family Income	10,159	21,132	39,609
Median Nonfamily Income	--	--	17,184
Per Capita Income	2,764	5,940	11,991

Source: U.S. Census

The economic well being of a community is also measured by the poverty status as set by the federal government (Table 2.20). Poverty levels are revised annually. As an example, for a family of four, the average poverty threshold for 1970 was \$3,745, for 1980 was \$7,412, and for 1990 was \$12,674. In 1989, the national percentage of residents below the poverty level was 13.1%. The percentage of population below the poverty level increased in River Falls from 5.7% in 1970 to 6.6% in 1990. This increased percentage is still lower than in Pierce County and the state.

Table 2.20
PERCENT BELOW POVERTY LEVEL IN RIVER FALLS

Year	River Falls	Pierce County	St. Croix	Wisconsin
1970	5.7%	9.7%	6.6%	7.4%
1980	9.7%	6.7%	5.3%	17.0%
1990	6.6%	10.4%	6.4%	10.7%

3
**INFRASTRUCTURE
AND SERVICES**



3. INFRASTRUCTURE AND SERVICES

River Falls has been experiencing dramatic and rapid changes. More are expected as the city's population continues to increase, as additional residents are employed in the Twin Cities area, as enrollment at River Falls State College increases and as more new industries move into the city. The community is already suffering from "growing" pains, and this situation will be intensified because of increased demands for more and better housing and community facilities including schools, parks, and recreation space, streets and utilities. (1965 City of River Falls Comprehensive Plan)

This chapter provides a context for the existing infrastructure and services in the community. By understanding the past and present conditions, we are then able to plan, guide, and manage future resources and demands. The following themes apply to this chapter.

THEMES

- ❑ **Quality of Life** - Enhance the quality of life of the community and ensure provision of community services for residents.
- ❑ **Sustainable Growth** - Ensure that development is sustainable and that growth, conservation, redevelopment, and natural resource protection are balanced.
- ❑ **Character** - Maintain and respect River Falls' unique personality, sense of place, and character.
- ❑ **Urban Form** - Promote a compact urban form and encourage sensitive/compatible infill development.
- ❑ **Water Quality** - Meet the requirements of the Federal Clean Water Act and WDNR Chapter NR 121, Wisconsin Administrative Code.
- ❑ **Regional Perspective** - Maintain a regional growth management perspective and work with other private and governmental entities towards that goal.
- ❑ **Housing** - Actively participate in the creation of housing.

3.1 WATER SERVICES

3.1.1 Water System

Water service has been provided for all City of River Falls residents by the City of River Falls through the Municipal Utility since 1894. As of January 2000, water was provided to approximately 3,400 customers. The River Falls Municipal Utility (Municipal Utility) is operated for and on the behalf of the City of River Falls. The existing service area includes all land within the corporate limits of the city, with some water lines extending within the extraterritorial zone (ETZ). The latter are based on agreements made between Municipal Utility and the individual owners of rights-of-way. Figures 3-1 and 3-2 show the existing water distribution and available fire flow contours for the city. Municipal Utility is treated as a separate entity with individually maintained booking and accounting records. They are responsible for the management of the water system.

The *River Falls Municipal Utilities Comprehensive Water Plan* of October 1999 will lead the effort for regional water planning. Growth patterns identified through this plan will be utilized for determining the need for future supply development.

3.1.2 Water System Facility

The main features of the city's water supply system are wells, storage tanks, and the distribution network. Currently, River Falls operates municipal wells that utilize the underlying Ordovician and Cambrian Sandstones. Specifically the wells obtain the city's water supply from the Jordan Aquifer. Total production for 2000 is predicted to be 1,200,000 gallons per day (gpd) with a per capita water usage of approximately 94 gpd.

Within the City of River Falls there are presently four municipal wells operating and two private wells. The following is a history of wells in the City of River Falls:

- **Well One**, located on North Main Street, has been and will stay abandoned. In 1965 this 504-foot well had a rated pump capacity of 400 gallons per minutes (gpm).
- **Well Two**, located on Oak Street, was constructed in 1948. This well is approximately 401 feet deep, and the groundwater flow is from the southwest. This well was capable of supplying 600 gpm in 1965, 580 gpm in 1987, and 560 gpm in 1995. In 1998, Well Two was reconstructed, and the pumping capacity for the year 1999 increased to 1,180 gpm. The electrical system for the well house was also updated.
- **Well Three**, located on Cedar Street, is west of the Kinnickinnic River. This well was drilled in 1953 to a depth of approximately 379 feet, and the groundwater flow is from the southwest. This well was capable of supplying 575 gpm in 1965, 635 gpm in 1987, and 680 gpm in 1995. In 1999, Well Three was also reconstructed which increased the pumping capacity to 1,200 gpm. The electrical system was also updated.
- **Well Four**, located on Sycamore Street, reaches a depth of 415 feet and was placed into service in 1967. This well was capable of supplying 985 gpm in 1987 and 1010 gpm in 1995 and 2000. Groundwater flow is from the west to northwest.
- **Well Five**, located on Division Street, was constructed in 1979. This well is approximately 440 feet deep and was capable of supplying 1500 gpm in 1987, 1,509 gpm in 1995, and 1,550 gpm in 2000. Groundwater flow is from the south to southwest.
- **Private Wells.** The University of Wisconsin-River Falls (UWRF) well and the Golf Course well are private. The golf course well, which is a major private well, provides water only to the golf course. The well is approximately 451 feet in depth and test pumped at 757 gpm. The golf course well has a calculated specific capacity of 30 gpm per foot of draw down; a specific capacity that is greater than the other wells. This well is located to the east at a higher elevation and obtains most of its water from the Prairie DuChien aquifer.

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Existing Water Distribution

-  less than 2" line
-  4" line
-  6" line
-  8" line
-  10" line
-  12" line
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers

Data extracted from River Falls Municipal
Utilities Comprehensive Water Plan
October 1999

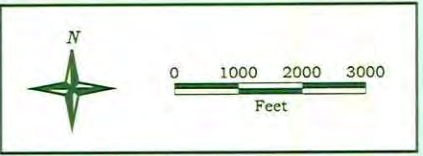
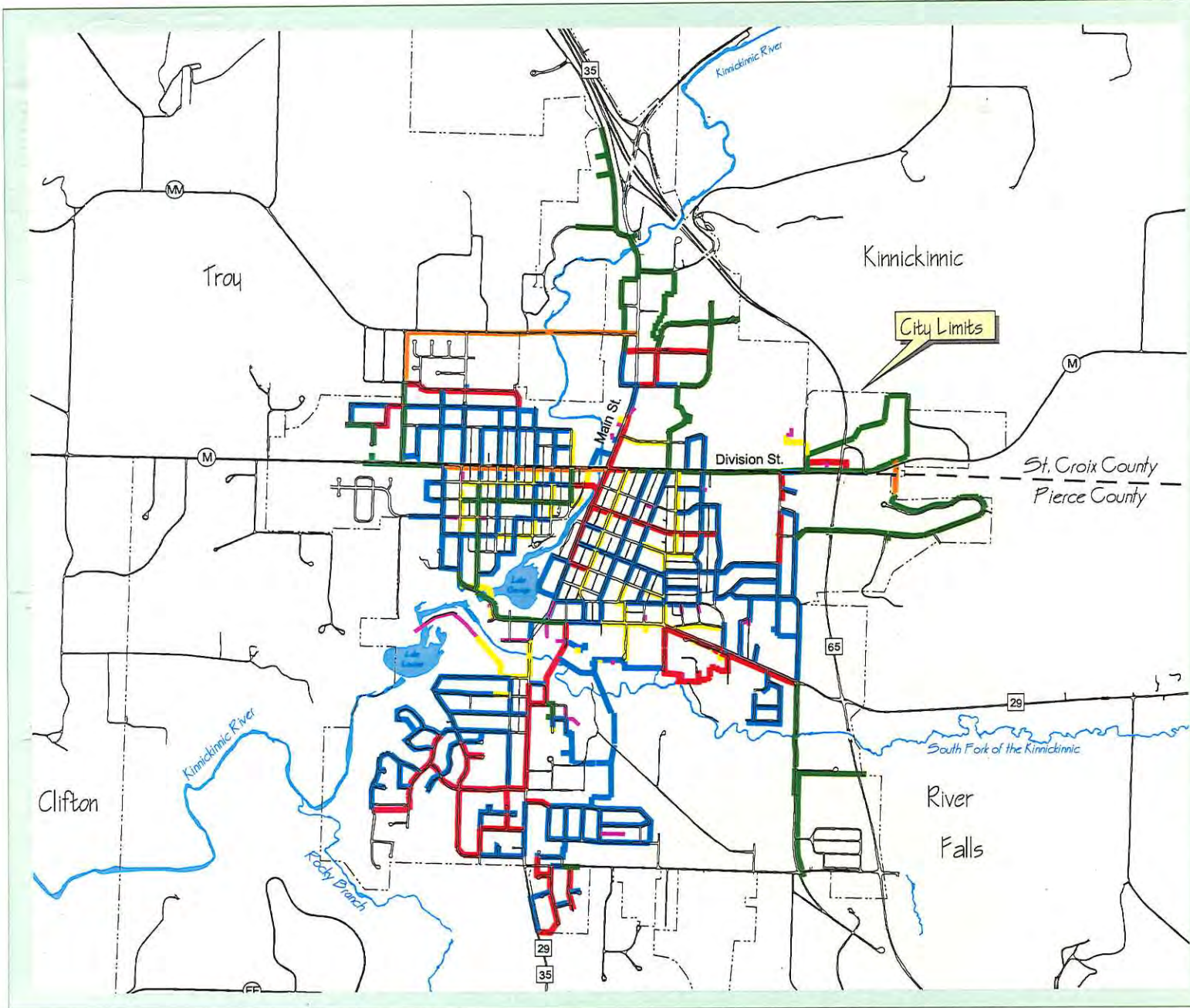










Figure 3-1



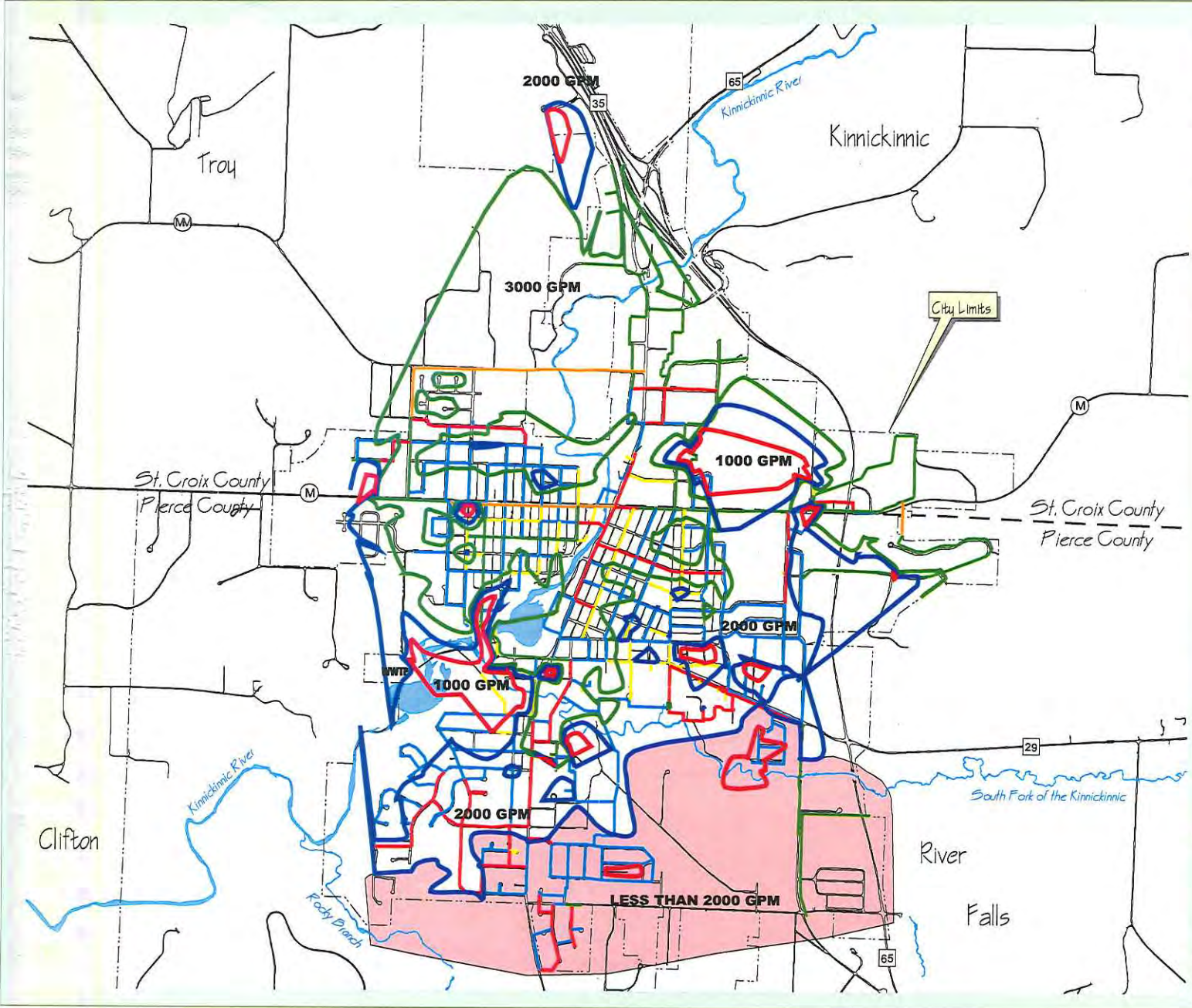
Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Available Fire Flow Contours (GPM)

-  1000
-  2000
-  3000
-  Area with less than 2000 GPM fire flow
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers

Data extracted from River Falls Municipal Utilities Comprehensive Water Plan October 1999





 

Figure 3-2

Storage and Distribution Network

Water is treated with fluoride, chlorine, and phosphate prior to delivery into a network of storage tanks and approximately 40 miles of transmission and distribution lines. Approximately five miles of the water mains are less than six inches in diameter. The smallest acceptable pipe allowed by the Wisconsin Department of Natural Resources (WDNR) for new mains is six inches. The smallest acceptable pipe allowed by the City of River Falls for new mains is eight inches. The largest pipe size used in the River Falls water system is 14 inches. The majority of pipe is either cast iron or ductile materials. The storage system consists of three water storage reservoirs ranging in capacity from approximately 250,000 to 750,000 gallons, totaling approximately 1,300,000 gallons. Ground storage capacity is 750,000, and elevated storage capacity is approximately 550,000 gallons.



Reservoir Three River Falls Golf Course

City of River Falls Reservoirs

- **Reservoir One** is located north of Division Street on top of Mound Park. The capacity was upgraded from 200,000 gallons to 750,000 gallons at an overflow elevation of approximately 1,056 feet U.S. Geological Survey (USGS) elevation (1989).
- **Reservoir Two** is located on Sycamore Street, adjacent to Well Four. This elevated tank has a storage capacity of approximately 300,000 gallons and was constructed in 1967.
- **Reservoir Three** is located on the northeastern edge of the city limits, adjacent to the River Falls Golf Course and near the end of Golf View Drive. This is the most recent of the above groundwater storage systems and was constructed in 1991. The storage capacity of this elevated tank is approximately 250,000 gallons.

3.1.3 Water Supply

Currently, River Falls operates four municipal wells that obtain a water supply from the Jordan Aquifer. Additional information on the four wells is presented in Table 3.1. Table 3.2 contains information for the Golf Course well, which is a major private well in the service area.

City of River Falls Well Fields

Recharge area information is based on *Ground-Water Resource and Geology of St. Croix County, Wisconsin* by R. G. P. Borman, USGS, 1976 and *Generalized Water Table Evaluation Map of the St. Croix County, Wisconsin* by I. D. Lippelt, 1990. The groundwater flow in this area and the recharge follows the Kinnickinnic River. Groundwater flow in this area is generally from the northeast to the southwest.

Table 3.1
EXISTING WELL INFORMATION

Well	1995			1999			Well Depth (feet)	Const.	Reconst.
	gpm	gpd	Yield	gpm	gpd ²	Yield ¹			
Well Two (Oak St.)	560	270,000	20	1,180	570,000	20	401	1948	1984, 1998
Well Three (Cedar St.)	680	320,000	16	1,200	580,000	18	379	1953	1979, 1990, 1999
Well Four (Sycamore St.)	1,000	480,000	25	1,010	480,000	25	415	1967	1995
Well Five (W. Division)	1,510	720,000	13	1,550	740,000	13	440	1979	1992
Total	3,750	1,790,000		4,940	2,370,000				

1 = Yield (specific capacity) units are in gpm/ft of draw down

2 = GPD rating is based on eight-hour run time

Table 3.2
EXISTING MAJOR PRIVATE WELLS

Well	Date Drilled	Depth (feet)	Formation	Static Water	Test Pumped (gpm)	Drawdown (feet)
Golf Course Well (Private)	—	451	25' into sandstone	1,180	757	25' 4"

Precipitation is the source of all groundwater in the region. In this area groundwater supplies 100% of the drinking water. Recharge is greatest in the areas where sand and gravel are at the surface. Areas with thin, unconsolidated material overlaying dolomite that contains fractures and solution channels has a higher rate of recharge. The recharge area for the municipal wells was determined from groundwater flow contours. The main recharge area for all of the wells is located generally east and north of the well sites.

The municipal wells utilize the underlying Ordovician and Cambrian Sandstones. All are located within the city limits. In Prairie DuChien/Jordan (Trempealeau) aquifer is the major principal groundwater source in the region. As noted above, the wells range in depth from 379 feet to 440 feet. None of the wells are located in floodplains.

Sewer Service Plan

City wells are on an eight-year routine maintenance schedule. Adding new wells in the city or replacing existing ones is difficult and expensive. Most of the city wells were drilled before 1967 and some date back as far as 1948. Only one new well has been drilled in the city since 1967.

3.1.4 Water Demand

Municipal Utility has the responsibility of ensuring that an adequate production margin exists between total demand and total supply. A reserve margin will help ensure an adequate supply of water for future growth as well as for present demand.

The current average daily usage is approximately 1,200,000 gallons. The total water pumped in 1998 was 449,571,000 gallons. The per capita water usage is approximately 94 gpd. The projected water usage over the next 20 years is estimated to increase at the rate of 1.7% each year. The projected daily usage in 20 years is 1,600,000 gallons. This is a result of the anticipated increase in population (Table 3.3).

Table 3.3
WATER DEMAND PROJECTIONS*

	1995	2000	2005	2010	2015	2020
Population	10,610	13,000	14,000	15,000	16,000	17,000
Average Day (gpd)	1,100,000	1,200,000	1,320,000	1,410,000	1,500,000	1,600,000
Max. Day (gpd)	2,530,000	2,760,000	3,036,000	3,243,000	3,450,000	3,680,000
Max. Day (gpm)	1,750	1,900	2,100	2,250	2,400	2,550
Peak Hour(gpm)	2,270	2,470	2,730	2,920	3,120	3,310

Sources: River Falls Municipal Utility Comprehensive Water Plan (1999), Population Projections - River Falls Master Plan, Update and Summary (1995)

The maximum day usage for 1995 was approximately 2.5 million gallons. The projected 2020 maximum day is 3.7 million gallons. The projected maximum day was calculated using the current maximum day to average day ratio and then applying that ratio to the 20 year projected average day. The 1995 peak hour (maximum day) was 2,270 gpm, and the projected 2020 peak hour (maximum day) is 3,310 gpm. The peak hour was calculated using a peaking factor of 3.0 over average day usage.

The River Falls water system provides fire flow volumes to assist the Fire Department in fighting fires. The upper limit of fire flow that River Falls is expected to provide is 3,000 gpm. The 3,000 gpm fire flow is an upper limit established by the Insurance Services Office.

3.1.5 Current Water Planning Efforts

The Municipal Utility prepared a *Comprehensive Water Plan* in the fall of 1999. This study was intended to cover five major, technical, areas: (1) system demands, (2) supply evaluation, (3) water treatment review, (4) distribution system modeling, and (5) Capital

Sewer Service Plan

Improvement Program (CIP). These five technical sections and a wellhead protection plan for the city wells are detailed in this 1999 *Comprehensive Water Plan*.

3.1.6 Water and Sewer Facilities in Rural Residential Areas

The counties and towns will review any new residential cluster or subdivision development to determine whether individual water and/or sanitary sewer systems will be sufficient to safeguard public health. This decisions will be based on local conditions and the proposed placement of the houses. The counties and towns will also seek advice from appropriate state agencies. In all cases, septic tank siting, design, and construction requirements must be satisfied.

3.2 WASTEWATER

The Municipal Utility has managed the wastewater since 1930. The Municipal Utility performs all administrative duties, plant operation, plant maintenance, development and review, facility planning treatment, collection system maintenance and repair, and mapping and modeling of the city's sewer system. The wastewater service area generally includes land whose sewage can be drained by gravity or by the use of lift stations to the city's Wastewater Treatment Plant. This area includes all land within the city limits as shown in Figure 3-3 Current Sanitary Sewer Service Area and Figure 3-4 Current Sanitary Sewer Flow Diagram.

The sewer system in River Falls consists of a Wastewater Treatment Plant, four small pumping stations, and collection and intercepting pipes. The existing system is capable of expansion to the northwest and northeast with some expansion to the north and very minor expansion to the south.

The city's Wastewater Treatment Plant was constructed in 1962-1963 and relocated in to its present location south of Maple Street at the south end of a private road called Apollo Road along the eastern city limits and adjacent to the Kinnickinnic River. In 1968, an aerobic digester was added, and in 1980 major upgrades of the facility were performed to provide the current treatment capacity.

3.2.1 Collection System












The existing wastewater collection system consists of approximately 41 miles of sewer mains and currently serves an area of 1,720 acres (2.7 square miles). The plant is a secondary-type treatment system utilizing a modification of the activated sludge process. Treated effluent is discharged into the Kinnickinnic River upstream of the "lower dam."

In 1997, the plant was treating an average of approximately one million gpd, approximately one-half of the total capacity. Presently River Falls wastewater is collected at the treatment plant via four major collection routes.

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

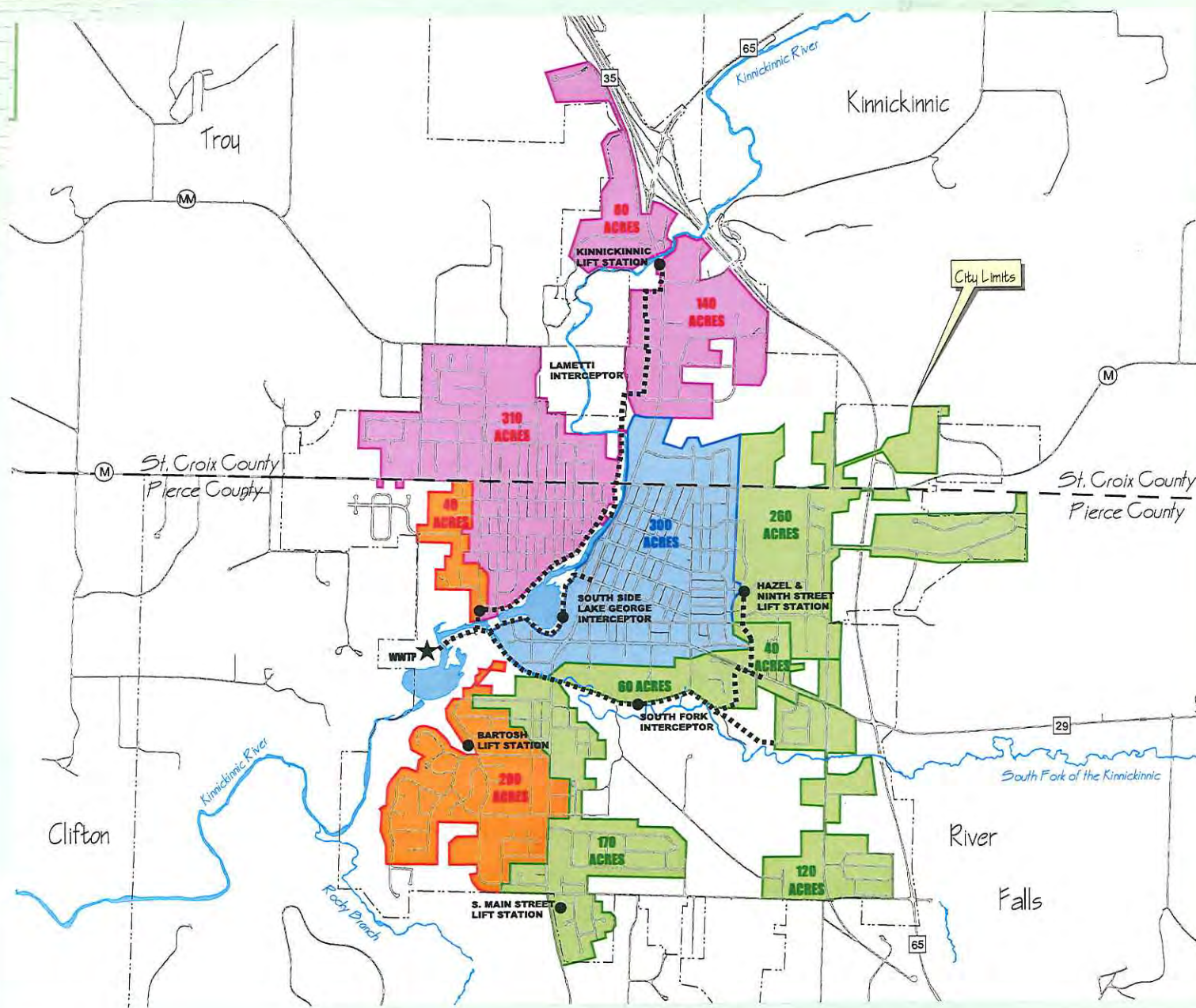
Current Sanitary Sewer Service Area

-  Common Interceptor
-  Lametti Interceptor
-  South Fork Interceptor
-  South Side Lake George Interceptor
-  Interceptor
-  Lift Station
-  Waste Water Treatment Plant
-  Major Roads
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers

Data extracted from River Falls Comprehensive Sanitary Sewer Study October 1998



Figure 3-3



Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Current Sanitary Sewer Flow Diagram

- 0.11 CFS Current Flow
- 2.92 CFS** Pipe Capacity
- 930 ACRES** Potential Future Service Area Based on Excess Capacity
- 1.52 CFS** Monitored Flow
- (PF=3) Peak Factor = 3
- (LS) Peak Influences by Lift Station

Data extracted from River Falls Comprehensive Sanitary Sewer Study October 1998

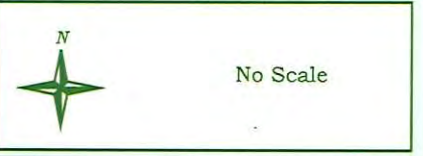
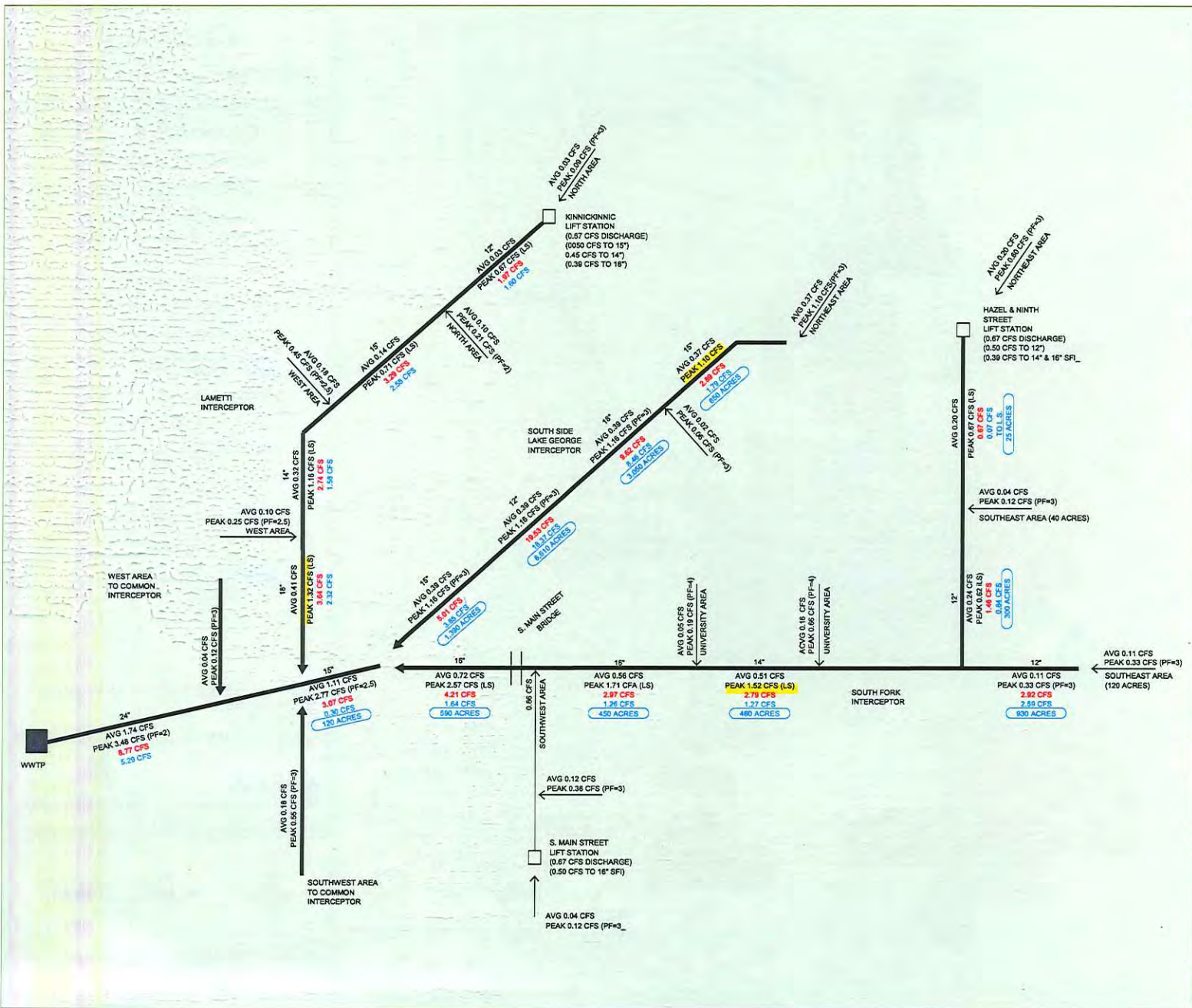


Figure 3-4



Sewer Service Plan

They are as follows:

- **Northeast.** The Walnut Street interceptor services the downtown portion of the city and the immediate adjoining areas east of the Kinnickinnic River. Discharge flow at the Hazel Street lift station was rerouted into another collection route to improve peak daily flow periods. Future plans call for the elimination of the Hazel Street lift station by gravity piping from Lake George to the station.
- **Southeast.** The South Fork interceptor serves the southern and eastern areas. New improvements to the system have been made. The lift station that services the southwestern portion of the city was replaced in 1991.
- **West.** The northwest interceptor, commonly known as the Mann Valley sewer, collects wastewater generated west of the Kinnickinnic River.
- **North.** The northeast interceptor, commonly known as the Lametti sewer, collects wastewater generated north of the Kinnickinnic River.

Several lift stations that are operated and maintained by the Municipal Utility are used because of topographical constraints. The City of River Falls Wastewater Treatment Plant was upgraded in 1980 to treat an average-day flow of 1.8 million gallons per day (mgd) and biochemical oxygen demand (BOD) loading of 3,150 lbs. BOD/day. Projected flows and BOD loading are summarized as follows:

Table 3.4
WASTEWATER TREATMENT PLANT
PROJECTED FLOWS AND BOD LOADINGS

Year	Flow (mgd)	BOD (lbs/day)
Design	1.8	3,150
2020	1.5–1.9	2,200–2,900
2050	2.4–3.4	3,600–5,300
2100	3.6–10.4	5,700–16,700

Source: *Comprehensive Sanitary Sewer Study* (1998)

3.2.2 Septic Systems

The adjacent towns and St. Croix and Pierce Counties are all working to protect groundwater through proper siting, design, and maintenance of all septic systems. Development in these rural areas will only be allowed where testing indicates that soils are suitable for on-site treatment systems over the long term. Septic tank sites and their design shall meet state requirements. A site proven suitable for a back up (replacement leaching field) for all septic systems will be required. A policy is being considered that will require septic systems to meet minimum standards when property is sold or

transferred by mortgage, contract for deed, or other device. The counties are presently working on an on-site system ordinance which would require an application and review procedure and requirements for the issuance of an on-site system permit. The counties intent is to have all applications include subsurface testing. Preliminary plats will be approved only upon a determination that the soils in the platted area generally are suitable for the installation of on-site systems consistent with the ordinance requirements. The ordinance will contain installation, inspection, and acceptance procedures. The ordinance will also include inspection and maintenance requirements. The program is intended to provide for record keeping, remedial action, enforcement, public education, and the bonding and licensing of installers and pumpers. It should be noted that septic systems are not allowed within the City of River Falls. The Towns of Kinnickinnic and Clifton do not have town land use plans. River Falls Town and Troy Town land use plans state the following in regard to septic systems:

Town of River Falls Septic Systems

The 1982 *Town of River Falls Land Use Plan* provides the following statement regarding soil suitability for septic systems: The soil suitability for on-site septic systems is very limiting in River Falls. Only 11% of the land area of the town has soils that are suitable for the installation of private septic systems as determined by the Soil Conservation Service (presently National Resource Conservation Service). Seventy-six percent (76%) of the town soils are classified as having severe or very severe limitations for septic systems. The remaining 13% of the soils have a moderate limitation that means a septic system can be installed with sufficient design modifications.

Town of Troy Septic Systems

The 1992 *Town of Troy Growth Management Plan* provides a map that delineates the limitation of soils to support septic systems. The map provides information regarding areas for good percolation that support septic systems; areas of moderate percolation that are slow and where drainage fields would need to be enlarged to ensure proper septic functions; and areas of severe percolation for septic systems. Areas near the St. Croix River are underlain by out-wash gravel that would pose very rapid percolation rates with minimal filtration of septic tank effluence. This can result in groundwater contamination. Areas in the eastern part of the town are underlain by clayey soils that provide a very slow percolation rate. Septic effluence simply could not move through the soil fast enough to allow effective septic tank function.

3.3 SOLID WASTE

Burning refuse has been the only disposal method employed for much of the century in the community. Although waste incineration has been practiced in the community, this practice was brought to an end within the city limits. In the last 10 years, the community has modified collection methods and made efforts to reduce the volume of solid waste; however, landfilling remains the form of disposal.

3.3.1 Disposal

The 16-acre community landfill located southwest of the city, which had been operating, is no longer operational. Solid waste and curbside recycling services in the city are now provided by Superior Services. Presently, the community delivers recyclable materials to Pierce County. The solid waste is transferred to the BFI owned Sarona Landfill and the St. Croix County incinerator. These facilities were designed for residential and most small commercial refuse.

The 1992 *Town of Troy Growth Management Plan* states that the solid waste is managed through the town's household waste disposal and recycling center. The center is located next to the town garage at the intersection of Townsvalley Road and Chinnock Lane. Residents pay an annual fee that allows them to drop off their household waste and recyclables. Household waste and recyclables are in turn transported and disposed of by a private hauler. Other adjacent towns also provide such services for their residents.

Rive Falls Landfill Closure

The River Falls Landfill was closed in 1998 in accordance with federal and state requirements and conditions contained in the closure plan. Landscaping and land use consistent with this plan have been implemented for this site.

3.3.2 Waste Volume Reduction Program

Several initiatives are being pursued towards reducing the volumes of waste generated in the community service area. These initiatives include recycling of waste materials, reduction of waste at the source, waste exchange, backyard composting, community composting sites, green waste processing and utilization, and construction and demolition waste reprocessing.

3.3.3 Looking Ahead

The community's approach to solid waste collection and disposal—collection, burn, and bury—has remained relatively unchanged through the majority of the twentieth century. It has been reactive to the waste disposal needs of the area. However, at the beginning of the century, the community finds itself confronted with a much more complicated and expensive network of waste management issues—transfer and transport, reduction, expanding service areas, and heavily regulated disposal requirements. Because of this, comprehensive efforts are needed to deal with the financial and operational demands of changing regulations, technology and service demands, and expectations regarding solid waste collection and disposal. Detailed efforts and a comprehensive plan will be needed to look at the community and region. A waste management plan should be developed and updated every five years.

3.4 STORM WATER

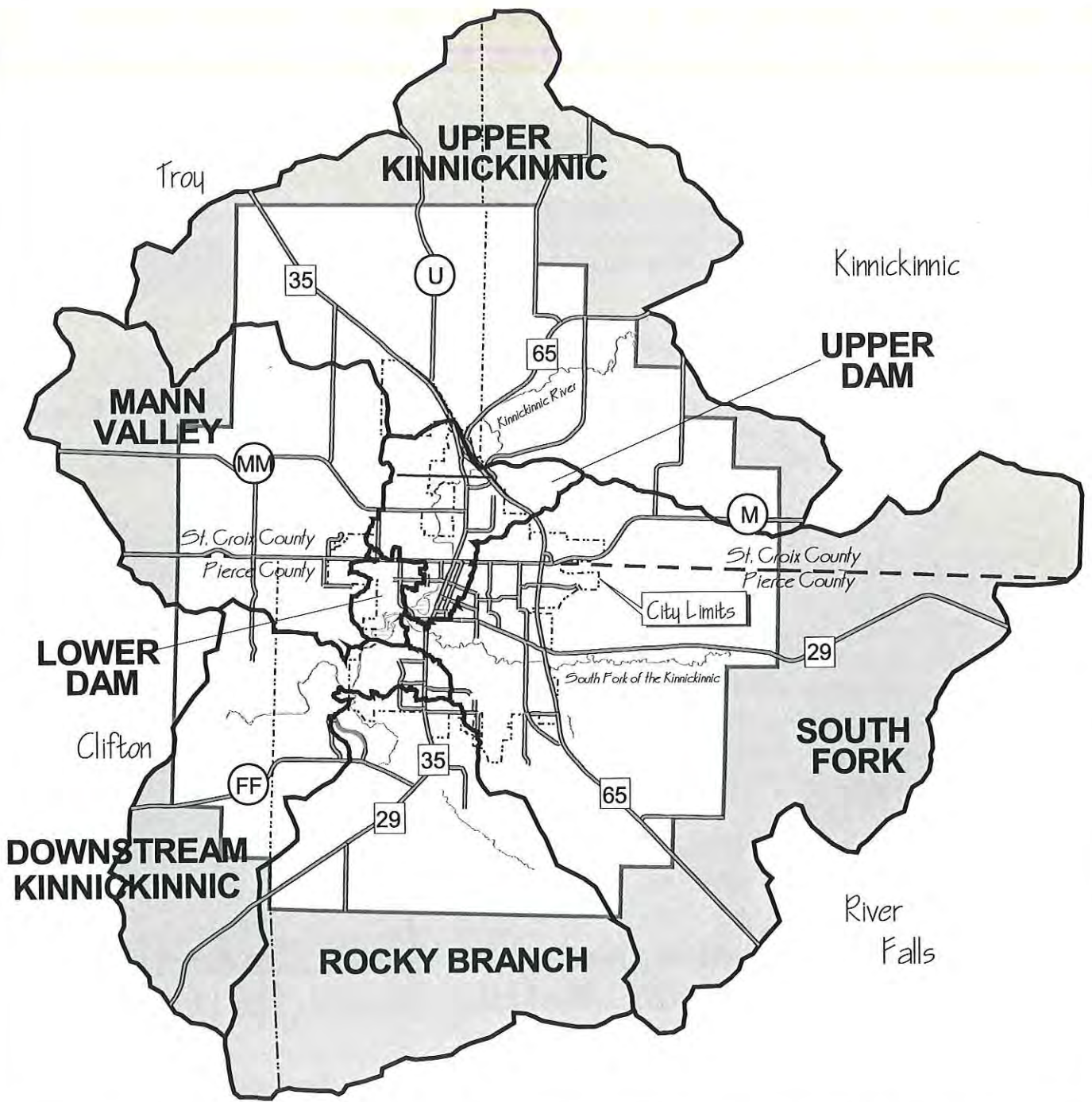
As stated in this plan, the community of River Falls is located in the southern St. Croix County and northern Pierce County in western Wisconsin. The Kinnickinnic River bisects the community from the northeast to the southwest. The South Fork of the Kinnickinnic River splits the UWRF campus, which is located in the southeastern part of the city. The Kinnickinnic and its tributaries are valuable trout streams, representing a major natural resource of the community. There are also numerous watersheds that surround the community as is shown in Figure 3-5; however, ever-increasing development within the community area drainage system has prompted the need for a comprehensive water management plan.

In the spring of 1995, a *Water Management Plan* for the Kinnickinnic River and its tributaries was prepared by the City of River Falls. The intent of this plan was to focus all basic information and planning data into a single document that described existing conditions, specific policies and standards, and recommended actions for the future enhancement of the community's water resources. This plan was prepared in accordance with the WDNR administrative 205 J grant program, with input from the UWRF, Trout Unlimited, and the adjacent towns. Implementation of this plan will require the cooperation of neighboring towns, as well as counties, state and federal agencies, and the WDNR.

This plan indicates that storm drainage control structures in the community area are not considered adequate for the existing conditions. Without appropriate modifications to the system, further development will increase the potential for flooding and property damage. This plan, which should be updated, identifies improvements and establishes an implementation schedule. The city's storm water utility and storm water ordinance will assist in the implementation of this plan. There are also other documents, like the Priority Water Plan and Trout Unlimited Newsletters, that provide guidance in improving area water management.

Increasing impervious surfaces because of development has resulted in increased runoff and decreased water recharge. The *Water Management Plan* policies focus on minimizing runoff, especially during peak flood periods; insuring adequate drainage; and locating development to minimize drainage from flooding. Strategies to address increased runoff include small-scale water retention facilities, water harvesting, and detention ponds. The intent is for quality storm water runoff to the Kinnickinnic River at acceptable rates and volumes that will reduce sediment loading and streambed/stream bank degradation and maintain a suitable river temperature to support a cold-water fishery.

With planning, decisions can be made that provide for the enhancement of water quality, prevent groundwater degradation, reduce local flooding, and improve development patterns relative to the environment.



Minor Watershed Boundary Map

- | | | | |
|--|---------------------|--|-------------------|
| | Watershed Boundary | | Major Roadways |
| | Lakes & Rivers | | Town Boundaries |
| | City of River Falls | | County Boundaries |
| | Study Area | | |

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan



Figure 3-5

3.5 PRIVATE UTILITIES

3.5.1 Gas Services

Natural gas service for the community area is provided by the St. Croix Valley Natural Gas Company, a private company based in the City of River Falls. A majority of the St. Croix Valley Natural Gas customers are residential with the remaining being commercial and public authority.

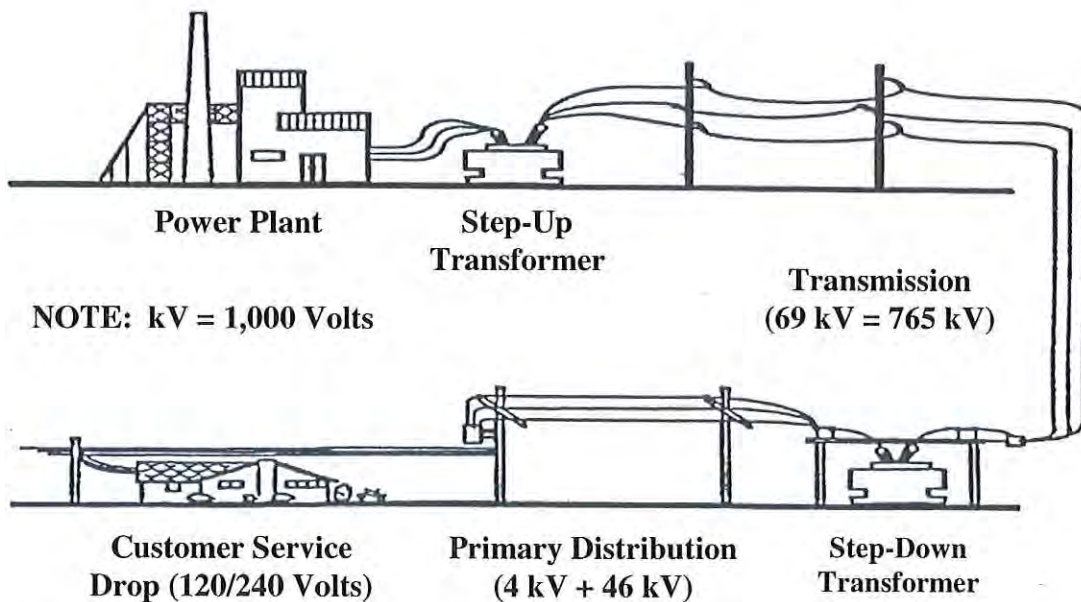
3.5.2 Telephone, Cable, and Telecommunications

Telephone service is provided by Wisconsin Bell (Ameritech) with easy links to the Twin Cities fiber optic network. The city maintains a city cable access television station: RFCC-TV, Public Access Television, Channel 12.

3.6 ELECTRIC SERVICE

3.6.1 Electric

The existing electric production and delivery system consists of three basic components: generation, transmission, and distribution. Traditionally electricity has been produced by large generating stations or power plants that are fueled by nuclear energy, fossil fuels, or hydro-power. From these central generating stations, electricity is transmitted by major power lines and “stepped down” at substations several times before it is finally distributed to the end users or customers.



Sewer Service Plan

The electric system serving the River Falls area is linked to other systems to form regional multistate grids designed to balance supply with demand and to assure reliability. The size and complexity of the system serving a particular area is directly related to the area's population and economic base, the sources of generating fuel, and the specific mix of residential, commercial, industrial, and institutional activities of the community and surrounding area.

The City of River Falls has owned and operated its' own electric utility since 1900. In 1900, the utility's installed generation consisted of one hydroelectric unit rated at 250 kW. Today the Municipal Utility operates 375 kW of hydroelectric generation and 15,890 kW of dual fueled engine generation. The municipal power plant is located along the Kinnickinnic River in southwestern River Falls. During the last 100 years, the city has purchased power and energy from Pierce-Pepin Electric Cooperative, Dairyland Power Cooperative, and Northern States Power Company. In 1989, the city entered into a 35-year power supply contract with Wisconsin Public Power Incorporated (WPPI). The City of River Falls is one of 30 municipal owner/members of WPPI. The River Falls Municipal Utility is funded entirely by retail rates that are reviewed and authorized by the Wisconsin Public Service Commission. As of January 2000, approximately 4,750 consumers receive electric service from the City of River Falls.

3.6.2 Undergrounding

Undergrounding is the placement of electric or other utility lines (such as telephone, cable, etc.), structures, and equipment below ground. The benefits of and desire for undergrounding includes improved aesthetics through a reduction of visual clutter, improved road safety, the potential for greater reliability because equipment is less vulnerable to damage, and in some cases, reduced wear and maintenance costs.

Figure 3-6 shows an example of shared space for utilities. Municipal Utility has details of existing practice outside the road right-of-way. The disadvantages are significantly increased costs associated with undergrounding, especially for undergrounding existing lines, and increased repair time following an outage of an underground line.

New corridors or line locations, whether in the city, the county, or both, must balance the desire to protect open space and to mitigate negative impacts on view sheds. There is an equally important need to protect sensitive natural resource areas and to provide design solutions that weigh the benefits of protection against factors of economy and cost.

3.6.3 Electric and Magnetic Fields

National and international research on the possible relation of electric and magnetic fields (ELF-EMF) to health has been ongoing for over 20 years. In the Energy Policy Act of 1992 the United States Congress authorized the Electric and Magnetic Field Research and Public Information Dissemination Program, also known as the EMF-RAPID Program. Three government agencies, the National Institute of Environmental Health Science (NIEHS), the National Institutes of Health, and the Department of Energy were directed

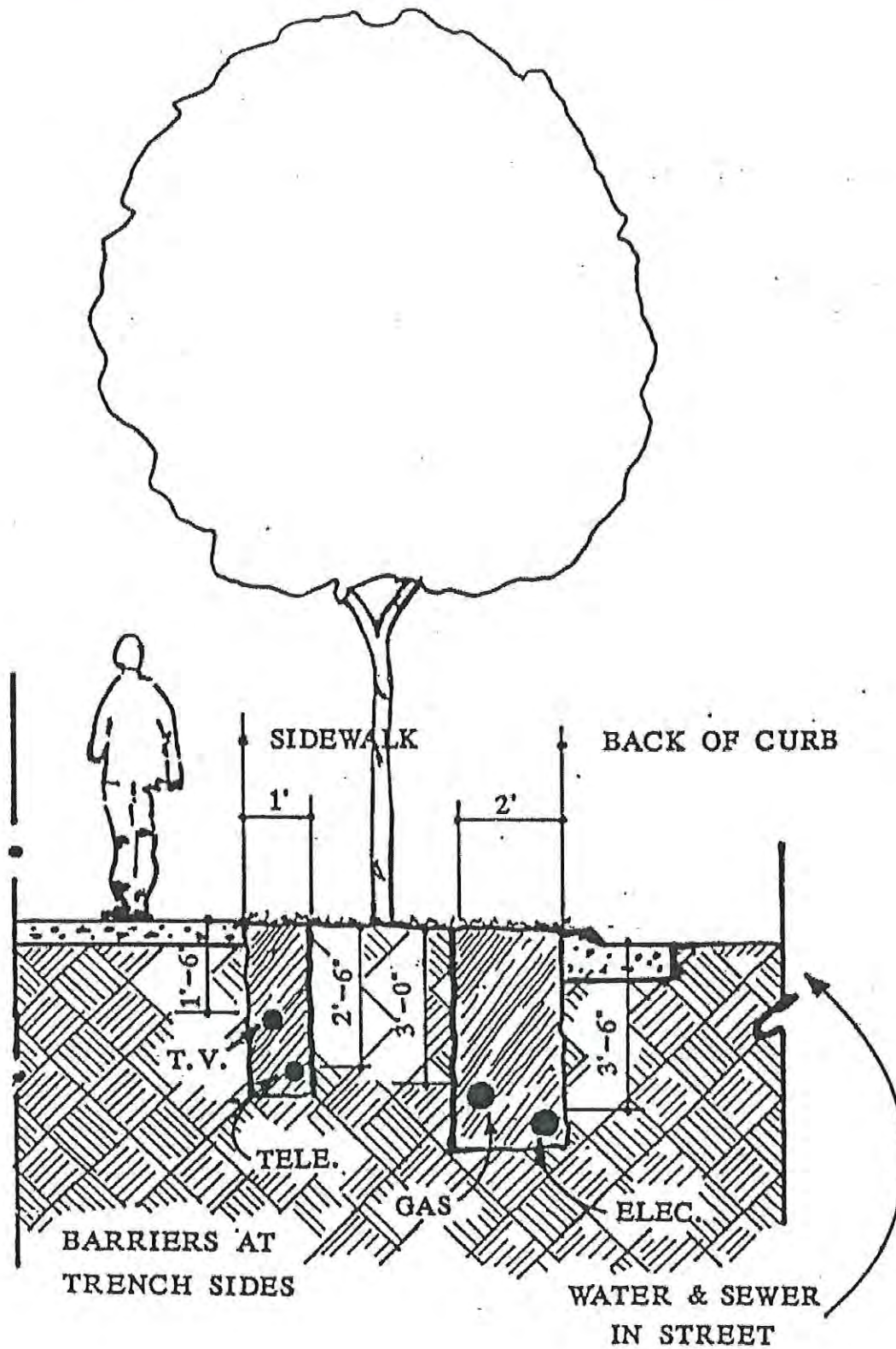


Figure 3-6 Underground Utility Trench

to manage a program to research, analyze, and provide scientific evidence of possible health risks related to exposure to low frequency electric and magnetic fields. The NIEHS was charged with oversight of the health effects portion of the program and directed to provide a report at the conclusion of the study. The report was released in June of 1999. Briefly stated, the program looked to two kinds of analysis for possible human health risks associated with exposure to ELF-EMF. Epidemiological studies, which identify statistical correlations between disease and select factors that may be related to the human population, provided the strongest evidence for an association to two forms of cancer: childhood leukemia and chronic lymphocytic leukemia in occupationally exposed adults. Laboratory studies, however, failed to find any relationship between EMF exposure for changes in biological functions or disease status. The report concludes that while the evidence was influenced to warrant aggressive regulatory action, passive regulatory action was warranted because of the "fairly consistent patterns of a small, increased risk of increasing exposure that in somewhat weaker for chronic lymphocytic leukemia than for childhood leukemia."

The report noted that the lack of connection between the human data and the laboratory data "severely complicate the interpretation" of the results. It added, "given the weak magnitude of the increased the risk," some other factors or common source of error could explain these findings. However, no consistent explanation other than exposure to ELF-EMF has been identified."

3.7 ALTERNATIVE ENERGY AND CONSERVATION

In the nineties, there was a growing interest in using energy resources more wisely than in the past. With concern about America's dependence on foreign oil or the pollution caused by using fossil fuels, the idea of living within our means—sustainable energy use—continues to gain in popularity. In a larger context, the use of renewable resources promotes greater self-reliance, energy stability, and a cleaner environment for future generations. There are many examples of alternative energy and conservation; the following are just two examples.

3.7.1 Solar Energy

Solar energy has the potential to help meet current and future energy demands. Solar collectors covering less than 1% of U.S. territory—one-tenth the area devoted to agriculture—could make more energy available than the United States consumes in a year. There is an interest in passive solar heating and cooling systems because they simplify rather than complicate life. Passive systems are simple in concept and use, have few moving parts, and require little or no maintenance. Also, these systems do not generate thermal pollution, since they require no external energy input and produce no physical by-products or waste. Since solar energy is conveniently distributed to all parts of the globe, expensive transportation and distribution networks for energy are also eliminated.

3.7.2 Wind Energy

Wind turbines are a good example of the growing competitiveness of renewable energy technologies. The cost of electricity produced by modern wind turbines has declined from over 25 cents per kilowatt hour in 1981 to 7 to 9 cents per kilowatt hour today, and industry estimates suggest it could fall as low as 4 to 6 cents per kilowatt hour in 5 years. At the current price, wind power is competitive, or nearly so, with electricity generated by new fossil-fired power plants, and in the 2000s, it should be one of the least expensive sources of electricity, fossil or renewable.

Reliability problems affecting early wind-turbine designs have been largely resolved, and mature and well-maintained systems are available 95 to 98% of the time. Other renewable sources of electricity, such as solar-thermal electric power plants and photovoltaic cells, also promise to become competitive within a decade, particularly if market demand grows to allow greater production of systems.

3.8 STREETS

3.8.1 Streets and Highways

The automobile continues to be the primary mode of transportation. Streets and highways are experiencing more use within, through, and around the community (Figure 3–7). The community has a transportation system with city and county roads that lead into the state and national system—State Highways 35, 29, 65, and Interstate 94 (I 94). The city has experienced an approximately 20% growth rate during the 1990s, while the State grew at a rate of approximately 3%. Due to the rapid growth to the north, State Highway 35 was rebuilt as a four-lane connector to the I 94 system in 2000. There is presently discussion with the Wisconsin Department of Transportation to extend the four-lane bypass (beltline) from Highway 35/65, along the eastern side of the City of River Falls. This bypass would be south of Quarry Road to just south of the southeastern corner of the city limits. These road improvements are required due to the rapid growth and development from I 94 to State Highway 65. These improvements to the roads are and will be designed to ease congestion and provide quicker access and reduce commuting time.

3.8.2 Street Network

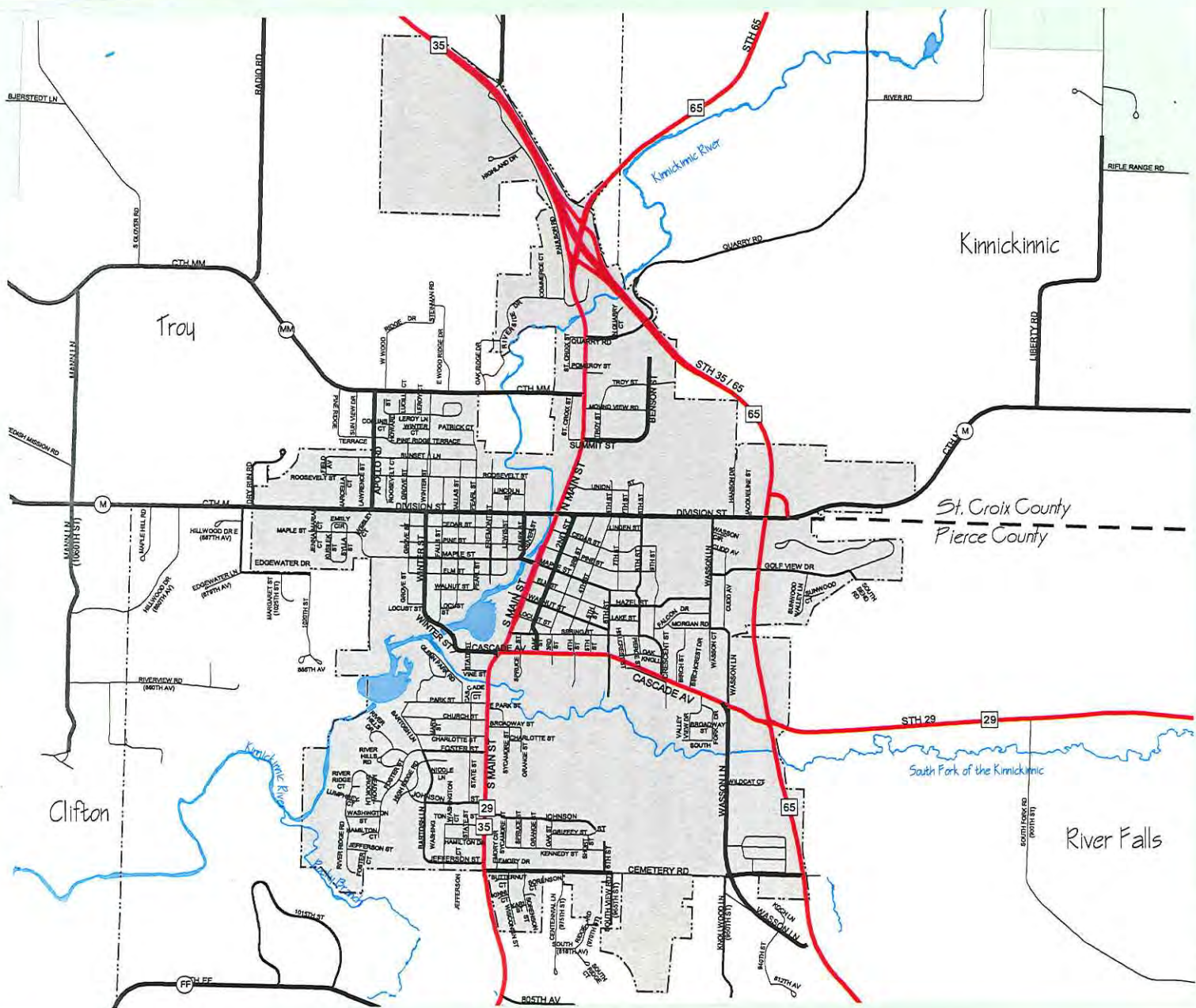
The community street network is primarily made up of two-lane streets (47.9 miles). Main Street and the surrounding neighborhoods are characterized by wide tree-lined streets. Many newer streets tend to be loops or cul-de-sacs. Newer developments are built with fewer through streets and intersections, and some tend to have wider local streets and, as stated, a greater portion of cul-de-sacs. There is a need for more through streets. The lack of a continuous street system and growth have resulted in congestion along our major arterials, such as Main Street, Division Street, and Cascade Avenue. As of 2000, there are approximately 48 miles of streets serviced by the City of River Falls Public Works.

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Street Network

-  Principal Arterial
-  Minor Arterial
-  Collector
-  Minor Roadways
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers
-  City of River Falls



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 **City of RIVER FALLS**



 

Figure 3-7

Transportation accessibility has been enhanced by the construction of major infrastructure improvements during the early 1990s. In 1994, a new bridge over the Kinnickinnic River was constructed on Division Street and forms an improved link between the eastern and western side of the city. Division Street, which turns into County Road M, is the boundary between the Counties of St. Croix and Pierce. The bridge reconstruction was achieved through a joint project between the Wisconsin Department of Transportation and the city. The new bridge replaced the Cedar Street Bridge. The widening of Main Street at Cascade has improved the intersection to ease congestion and provided increased safety. Cemetery Road from Main Street east to Wasson Lane has been reconstructed. This street has been redeveloped from an existing two-lane to an urbanized three-lane arterial. The city is attempting to reduce the vehicular access points to Main Street to optimize and provide additional traffic signals at major intersections. The reduction of vehicular access points will assist in providing the needed signalization to ease traffic congestion and offer increased safety throughout the Main Street corridor.

3.8.3 Street Classifications and Standards

The system of state routes and major and local roads is described below. The primary distinguishing features between the different classifications are access control routes and the width of the street. Definitions of the different classifications are as follows:

- **Freeways** serve regional and intercity travel and should not become the optimum route for intracity trips. Access is controlled, crossings are separated either above or below grade, lanes move in opposite directions, and directions are separated by medians. Typical free-flow speeds exceed 55 miles per hour.
- **Principal Arterials** serve major centers of activity within the sewer service area boundary and carry the highest traffic volume. They carry the major proportion of trips entering and leaving the city and should carry a high proportion of the total city area travel with a minimum of mileage.
- **Minor Arterial Streets** interconnect with the principal arterial system and provide service to small activity centers. Trips are of a short length on this system, and there is more emphasis on access than in the principal arterial system.
- **Collector Streets** provide access to and circulation within residential, commercial, and industrial areas. They distribute trips from the arterial system to local designations, and trips are generally short in length. The city's collector system could augment the arterial system to correct deficiencies.

In addition to these designated streets, the community street system includes an extensive network of local and rural streets, both paved and gravel. Although most streets in the community are two lanes, the cross-sectional width can vary dramatically. Wider streets built over the last several decades in the community have resulted from the development standards governed by safety concerns and the need to provide adequate access to underground utilities.

Streets should be designed to serve the needs of the neighborhoods. Overdesigned roads are unnecessarily wide, costly, and unsafe for residents. Streets are among the most costly of development improvements, and excessive requirements are a contributing element to rising housing prices. Overdesign may result in undesirable environmental defects: more cuts and fills, more runoff, diminished groundwater supply, and the high potential for erosion. Overdesigned and excessively wide streets tend to move traffic rather than control it, encouraging speeding and creating hazards. Narrow, curved streets discourage speeding. Planning and design of residential streets should clearly indicate the functions. The arrangement of arterials and collectors in the community should conform to an official street map that is approved by the community.

Town Roads

All town roads are considered local roads within the community's functional classification. Certain roads, such as state highways, and set county roads, such as CTY MM, FF, and so on, are considered collector roads for the towns surrounding the City of River Falls. The towns maintain a town road policy that any new roads will be installed and inspected at the developer's expense. Each of the towns provides road standards that are consistent with the county road standards. There is also a need for more road connections for through traffic.

3.8.4 Bicycle and Pedestrian Circulation

Through the years, bicycling and walking as primary modes of transportation have undergone varied levels of popularity. While walking has always been a significant means of getting around, contemporary America has evolved with the increased use of the automobile. This has created opportunities for people to live farther and farther from various urban destinations. As a result, trips traditionally made by walking or bicycling have become less desirable and have been replaced by the need for more automobiles and infrastructure.

A *Bicycle and Pedestrian Plan* was developed by the City of River Falls in 1995 (Figure 3-8). The overall goal of this plan was to recommend facilities and policies that would encourage increased levels of bicycling and walking while creating a safe, comfortable environment for existing users. Sidewalks and other pedestrian accommodations are largely provided in the older commercial and residential areas of River Falls, while pedestrian facilities are not consistently provided in many newer regions of the community. Furthermore, some critical streets in older areas of the community lack sidewalks and other pedestrian accommodations. This is also evident in many of the residential developments that are adjacent to and outside of the city limits.

The city plans to retrofit streets with needed pedestrian accommodations through the CIP. Currently, only a minimum amount of funds are provided for the program which will slow the process of retrofitting streets with sidewalks, ramps, and street crossings throughout the city. There will need to be strong support from property owners to build these sidewalks. Presently the towns do not require sidewalks for those subdivisions

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Bicycle Facilities - 1995 Bicycles and Pedestrian Plan

-  Proposed Alternate or Future Bikeway
-  Proposed Bicycle Lanes
-  Proposed Bicycle Paths
-  Proposed Wide Curb Lanes or Paved Shoulder
-  Shared Roadway
-  Suitable Existing Bicycle Paths
-  Trails
-  Major Roadways
-  Minor Roadways
-  City or Town Boundary
-  County Boundary
-  Lakes & Rivers
-  City of River Falls

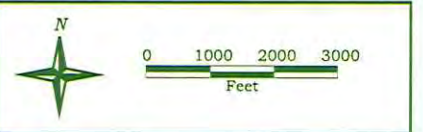
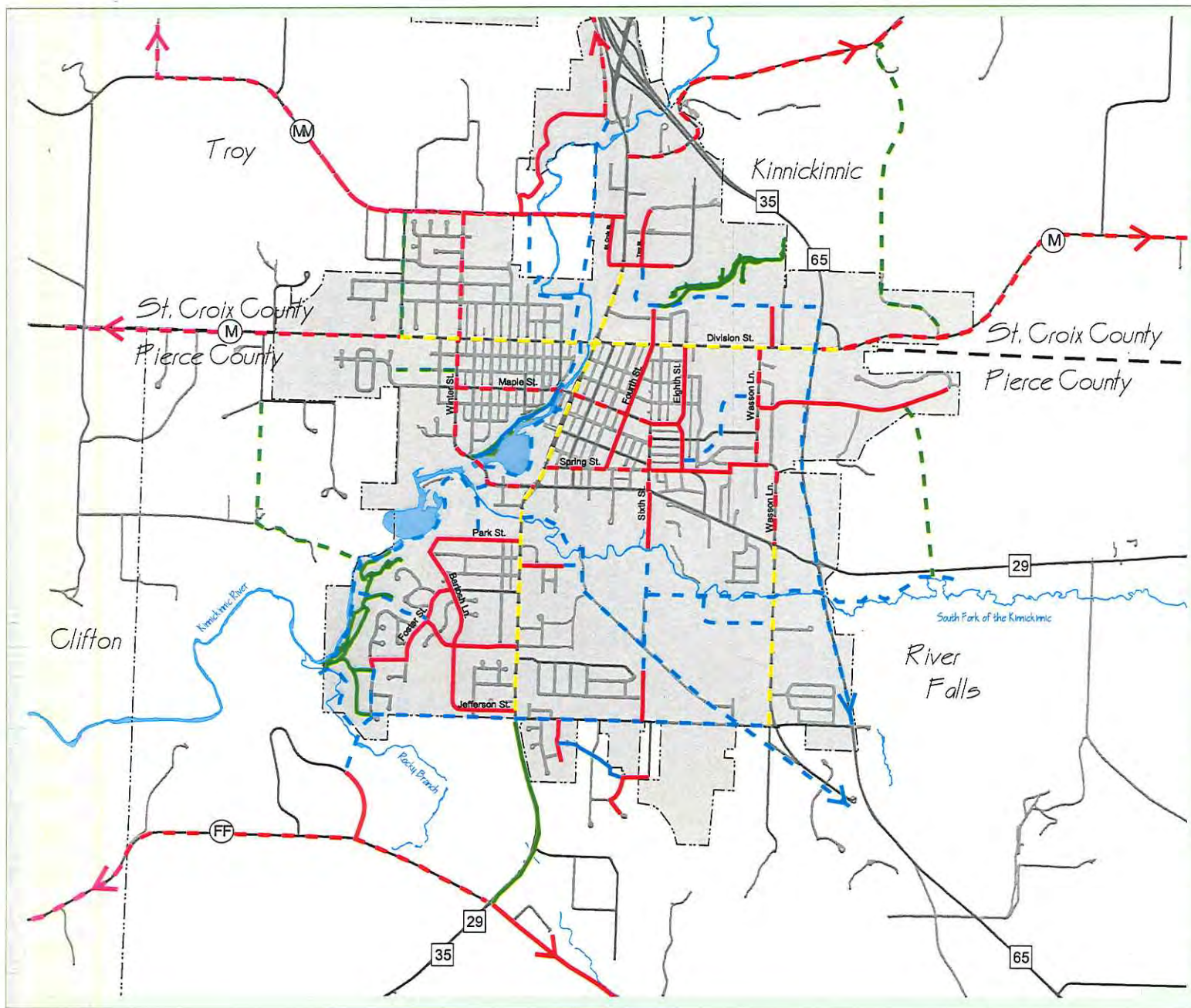
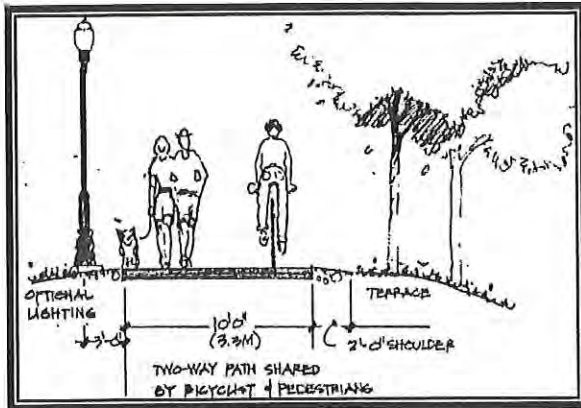
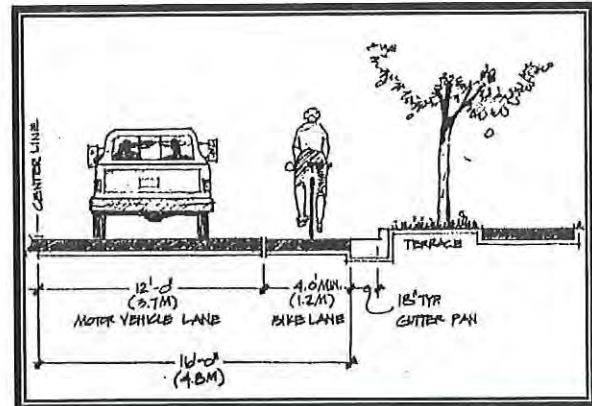


Figure 3-8





Typical Section of Bicycle Path



Typical Section of Bicycle Lane

within the ETZ. This is an issue that should be reviewed for all potential subdivisions that may be annexed into the city.

The first designated bicycle facility in River Falls was the White Kinnickinnic Trail. An offset path along Cemetery Road provides an internal bicycle/pedestrian path system. Furthermore, several designated bicycle routes exist in the towns and counties surrounding the city. In the Town of River Falls, there is a developed asphalt bicycle and walking trail parallel to State Highway 29 south of the city, and St. Croix County is now planning new bicycle routes on Quarry Road, Radio Road, CTH "M" and CTH "MM."

The River Falls *Bicycle and Pedestrian Plan* has integrated existing bicycle and pedestrian facilities into the plan along with reevaluation of these facilities to determine whether additional improvements are necessary. The 1995 plan should be updated, and planning and design considerations should be explored to identify and recommend additional corridors for bicycles and pedestrian ways.

3.9 PARKS, RECREATION, AND CONSERVANCY

Park and recreation facilities serve an important role in maintaining the quality of life. Some parks provide opportunities for a broad range of activities such as hiking, mountain biking, and nature study, while others are gathering places where neighborhood residents can relax, contemplate, and take in the beautiful views. Recreation facilities can range from athletic fields for soccer and baseball, tennis courts, and golf courses to tot-lots.

Whatever the level of services, facilities need to be accessible. In addition to the city facilities, residents have access to county, state, federal, and town parks and trails, which provide plentiful opportunities for active recreation. Many traditional trails are being lost due to the lack of planning and development.



Within the study area surrounding the city, there are limited trails and developed parks. As a result, residents are forced to rely on the city's already limited park resources. At current and past community meetings, residents frequently commented on the need for more neighborhood parks as well as recreational facilities, such as ice skating rinks, bicycle and pedestrian paths, swimming pools, soccer fields, and even skateboard ramps. The existing county plans outline county, state, and federal parks within the adjacent St. Croix and Pierce Counties. The existing *Town of Troy Growth Management Plan* also outlines the need for neighborhood parks and playgrounds. The Pierce County plan states that pressure is being placed on towns and/or the county to building their own athletic fields, hockey rinks, etc. rather than relying on the city's. The

villages and cities, especially River Falls and Prescott, operate a variety of public athletic fields, trails, campgrounds, and small natural areas for the benefit of their residents.

The City of River Falls has drafted numerous plans regarding parks and recreation, such as the *Outdoor Recreation Plan* of 1971, the *Comprehensive Parks and Recreation Plan* of 1989–1994, and the most recent *Comprehensive Parks and Recreation Plan* of 1995–2000. The 1995–2000 *Comprehensive Parks and Recreation Plan* seeks to identify the needs of the present community but also seeks to estimate the needs of the community into the next five years. The document was intended to be used also as a basis for federal/state funding and as a basis for local capital budgeting. The plan suggests and promotes ways and means to provide recreation for all the citizen groups of the community. It states, “Our public lands express loudly and clearly the community goals and values.” The city Municipal Code requires parkland dedication fees or parcels of land equal to 10% of the gross area for annexation, subdivision, and development of land within its city limits. The city categorizes its existing parks and recreational spaces as community parks, linear parks that are trail systems, neighborhood parks, special use parks such as Veteran’s Park, and quasipublic parks that are school and university park or recreational facilities. In 1995, there were approximately 152.25 acres of parkland in River Falls. Figure 3–9 presents the existing park, recreation, and conservancy lands within the city limits and the 1.5-mile study area.

Chapter 3 Infrastructure and Services

City of River Falls Sewer Service Plan

Existing Park, Recreation, and Conservancy Lands

-  Agricultural
-  Conservancy
-  City Parks
-  Town Parks
-  Area Schools
-  Univ. of Wisconsin at River Falls
-  Minor Roadways
-  City and Town Boundary
-  County Boundary
-  Lakes & Rivers
-  City of River Falls

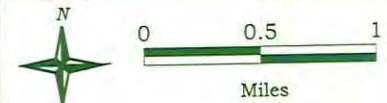


Figure 3-9

SCHOOLS

1. Good Shepherd Christian Academy
2. St. Bridget's Elementary
3. Westside Elementary
4. Meyer Middle School
5. Greenwood Elementary
6. River Falls High School
7. Chippewa Valley Technical College
8. University of Wisconsin - River Falls
9. Rocky Branch Elementary
10. River Falls High School (2002)
11. Hearland Community School

PARKS

12. Ryan Desactis
13. Collins
14. Mound
15. Hoffman
16. Heritage
17. Veteran's
18. Ostness
19. Glen
20. River Hills
21. Hamilton
22. Wells
23. Larson
24. Westdale
25. Rolling Hills
26. Halverson
27. Brandon

CONSERVANCY

28. Greenwood Cemetery
29. St. Bridget's Cemetery
30. Foster Cemetery
31. Cernohous Detention Basin
32. Boy Scout's Conservancy Area
33. River Falls School District Forest Lands
34. Morrow Pit Conservancy Area
35. Closed Landfill

RECREATION

36. River Falls Golf Course
37. Kilkarney Hills Golf Course
38. Kinnickinnic River Access (Wisconsin DNR)
39. Ingram Center

