CHAPTER 8: ENVIRONMENTAL PROTECTION

8.1 Energy Conservation

8.1.1 Alternative Energy Systems & Fuels

In recent years, attention has been drawn to the nation's energy supply. Most of the nation's and Brooklyn Park's energy comes from non-renewable sources such as petroleum, nuclear, coal, and natural gas. These resources are in limited supply as well as having been linked to negative environmental impacts. Xcel Energy, the power company that supplies electricity to Brooklyn Park, has increased its use of renewable-based systems over the past few years. The City will continue to support those efforts as well as support residents and businesses that choose to implement personal alternative energy systems:

Solar Access. The City is committed to allowing businesses and residents access to direct sunlight for solar energy systems. Solar energy collectors are permitted accessory uses in all of the City's zoning districts. Residents and businesses are encouraged to include such systems as part of their homes or buildings.

Wind. Wind turbine generated power has been a popular energy choice for utility companies in recent years, albeit in rural areas. As individual wind system technology improves, the City will work with businesses and residents who would like to own and operate such systems on their properties in the urban/suburban environment of Brooklyn Park.

Other Systems. Technological advancements and new discoveries in energy systems could lead to individual energy systems that are appropriate for an urban or suburban environment. The City will continue to work with property owners as these systems are introduced.

Alternative Fuels. The City of Brooklyn Park has been a leader in using biodiesel in all City diesel-fueled trucks and maintenance equipment. The City will continue to use alternative fuel vehicles, including E-85 and hybrid vehicles.

8.1.2 Green Buildings

Many businesses and residents have included environmentally-friendly or sustainable components into constructing or remodeling buildings or homes. These components could include the use of recycled or re-used materials, sustainable or low-impact materials, low-consumption utilities, sky-lights or properly placed windows, and energy-saving mechanical equipment and appliances. Brooklyn Park will continue to encourage residents and businesses to implement the U.S. Green Building Council's design guidelines for sustainability. The following is from the USGBC's website (www.usgbc.org) describing LEED:

> *The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance*

green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

The City is committed in including these design guidelines in public facilities owned and operated by the City and encourages our governmental partners (Hennepin County, school districts, state, and federal governments) to do the same on projects within Brooklyn Park. Any sustainable design that would yield long-term energy savings is strongly encouraged, provided that it is cost-effective to do so.

8.1.3 Land Use.

As described in the Land Use Plan (Chapter 3) and the Transportation Plan (Chapter 5), the City is encouraging land use choices that allow for walking and bicycling short trips, rather than driving, through the introduction of the Neighborhood Commercial land use category. Pedestrian connections (sidewalks and trails) between residential areas and business areas will provide a safe, convenient, environmentally-friendly neighborhood.

8.2 Historic Preservation

8.2.1 Historic Resources Study

In 2000, the Brooklyn Park Economic Development Authority commissioned an inventory of Historic Properties in the community. The study identified most of Brooklyn Park's historic structures are significant locally for their role in agriculture. The City will encourage property owners to maintain and properly upkeep their historic homes.

8.2.2 Eidem Farm (Brooklyn Park Historical Farm)

The Brooklyn Park Historical Farm, located at 4345 101st Avenue North, is a ten-acre living record of farm life in Minnesota during the years of 1890 to 1910. Homesteaded over a century ago, the farm was owned by the Eidem family for 82 years. The Historical Farm recreates the physical surroundings in which the family lived their daily lives.

Interpreters at the Eidem Homestead carry out the tasks of farming and related household activities using the tools and techniques of the late 1800's. One can experience the sights, smells and sounds that were part of the daily lives of many Americans during this period in our nation's history.

The Historical Farm consists of a number of buildings: the farmhouse, barn, outhouse, outbuildings, chicken coop, and windmill, and also includes period farm equipment and crop land. The barn and barnyard harbor livestock such as horses, cows, sheep, goats, chickens, ducks, geese and cats. The purpose of this restored farmstead is to preserve and portray 19th century farm life through guided tours, displays, pioneer craft demonstrations and hands-on activities.

The farmyard bustles with the necessity of providing large quantities of wood for cooking and heating. The folk dancing, bicycles, music, hayrides, contests, childhood games and hoop-rolling are signs that man has always paused for rest and enjoyment—simple pleasures though they be.

The farmer of 1900 lives by the seasons; his life, chores and pastimes regulated by the calendar year. The programs at the Eidem Homestead revolve around this timeless change of events.

The Eidem Homestead includes the accompanying Merrill Farmstead at 4201 101st Avenue North. This home is currently occupied by the caretaker of the Eidem Historical Farm.

8.2.3 Policies for Historical Properties

Development of properties within view of the Eidem Historical Farm. Development of properties that could have a visual impact on the Eidem Farm must be done in a manner respectful to the architecture and setting. This would include designing structures in the same period architecture or completely screening any new buildings from view from the farm grounds.

8.3 Critical Areas

8.3.1 Natural Resources Inventory – Northern Area

In 2000, the City Council commissioned a study of the northern portion of the city. The study took visual observations to rank the general quality of woodlands and wetlands north of Highway 610. No official wetland delineations were conducted. The following sections describe the significant findings from that Natural Resources Inventory:

Oak Grove Park & Schreiber Woods. Oak Grove Park has historically been a destination park with picnic facilities. The park is a part of the Rush Creek Regional Trail Corridor (formerly known as North Hennepin Regional Trail Corridor and the Rush Creek Regional Trail Corridor). In 2004, the opportunity arose to preserve a portion of the adjacent Schreiber Woods. The City acquired the Woods via a trade of some nearby open space of a lesser ecological quality.

Harstad Woods. Approximately ten acres of good quality woodlands can be found east of Winnetka Avenue, north of the Rush Creek Trail Corridor, and south of Oxbow Creek Drive. The property is guided for low density residential uses. The City encourages development of this property in such a way to preserve as many trees as possible.

Oak Savanna – 10609 Jefferson Highway. Approximately 5 acres of undisturbed oak savanna are located along the west side of Jefferson Highway, midway between 101st and 109th Avenues. The savanna is representative of the area before agriculture production changed the landscape. It is believed to be the last remaining oak savanna within Brooklyn Park. The savanna portion of the property should be preserved once the area is available for development.

Oxbow Creek Neighborhood Wetlands. A large wetland complex in the Oxbow Creek neighborhood west of Vera Cruz Drive, between 105th Avenue and Welcome Drive, was restored with development of the neighborhood. Over the years, ditching has degraded the wetland to the point were water was no longer present. Neighborhood development removed the ditch allowing water once again to remain in the system.

8.3.2 River Park

River Park, as described in detail in Chapter 7, is one of the City's premier park facilities. In the early-2000s, a major restoration effort was made to transform the northern portion of the park from a suburban-style park to a natural prairie. The process used several community volunteers to help clear the site and plant native grasses, wild flowers, and trees.

8.3.3 Environmental Area

Located in the northeastern portion of the City, the Environmental Area is approximately 120 acres adjacent to the Rush Creek Trail Corridor. This area contains a water tower and a small parking lot. The park contains woodlands, wetlands, and prairie.

8.4 Mississippi River Stewardship Plan

From the moment it trickles out of Minnesota's Lake Itasca until it pours into the Gulf of Mexico, the Mississippi River shapes the life of its region. It fosters cities and commerce; transports people and goods; provides habitat for fish, plants, and wildlife; and enriches human life with natural and recreational amenities.

Fashioned by eons of geologic and human activity, the Mississippi reflects the story of the North American continent. Native Americans fished, hunted, traveled and settled along the river; Seventeenth Century Europeans explored it; and cultural visionaries such as Mark Twain implanted it in the American imagination as a symbol of freedom and adventure. The Mississippi is a treasure in a multitude of ways: economically, environmentally, historically, and culturally.

The Upper Mississippi watershed embraces millions of acres of land and waterways that drain into the Mississippi, reaching from the western plains to the iron and copper ranges of the Great Lakes. Drainage from the watershed's marshes, bogs, wetlands, lakes, streams, and rivers seep into the Mississippi. Similarly, because water washes over the land on the way to the river, activities on the land--from tilling the soil to harvesting trees to paving--also affect the river. The river collects and carries whatever is drained, thrown, spilled, or discharged into it, as well as substances that find their way into the watersheds lakes, streams, or aquifers. The watershed of the Mississippi is a complex, dynamic and mutually dependant system. People downstream live with the activities of their upstream river neighbors.

Ecologically, the river is a watershed. Thus, river conservation efforts increasingly emphasize a watershed approach. This means considering everything from urban development to agricultural practices as factors in the health of the river. Drainage from marshes ditched for farming or suburban development, chemicals applied to farm fields, and waste disposed from households and industries all end up in the Mississippi. By the same

token, efforts to clean up or prevent pollution anywhere in the watershed can benefit the Mississippi directly or indirectly.

8.4.1 Purpose Statement

The Mississippi Stewardship Plan has been prepared in compliance with Minnesota State Legislature Executive Order 79-19 for the citizens of Brooklyn Park to accomplish the following:

A. To protect and preserve a unique and valuable state and regional resource for the benefit of the health, safety and welfare of the citizens for the state, region and nation;

B. To prevent and mitigate irreversible damage to this state, regional and national resource;

C. To preserve and enhance its natural, aesthetic, cultural and historical value for the public use;

D. To protect and preserve the river as an essential element in the national, state and regional transportation, sewer and water and recreational systems, and;

E. To protect and preserve the biological and ecological functions of the corridor.

F. To permit the reasonable use of private and public land in keeping with the character of the river without requiring changes to existing structures or properties.

G. The lands and waters within this district shall be maintained largely as residential areas. The expansion of existing and development of new industrial, commercial and other non-residential or non-recreational uses shall be limited to preserve and enhance the residential character of this district.

The Mississippi River Stewardship Plan is intended to serve as a guide in maintaining the integrity of the river corridor and the unique quality of life presently enjoyed by residents and visitors. The plan is to be flexible and allow logical changes in light of unforeseen events and should not be considered to be a final blueprint or governing directive. Changes and/or amendments to this plan should also be encouraged whenever improvements are possible but not merely to accommodate certain persons or interest groups. To remain a viable plan all property owners need to be well informed and encouraged to remain involved in their community. Without the support and cooperation of residents, no plan can be successful.

The plan documents existing conditions in the Mississippi River Corridor and develops strategies to preserve and enhance the environmental, scenic, historical, cultural, biological and scientific values, to enhance public outdoor recreation opportunities and communicate the significance of the Mississippi River and ways that individuals can help protect and enhance the river environment.

This plan has been divided into seven sections to address: residential land use, commercial and industrial land use, public land and recreation, resource protection, transportation and public utilities, public participation, and education to develop policies and programs for the preservation and enhancement of the unique and varied qualities of the Mississippi River Corridor.

8.4.2 Background

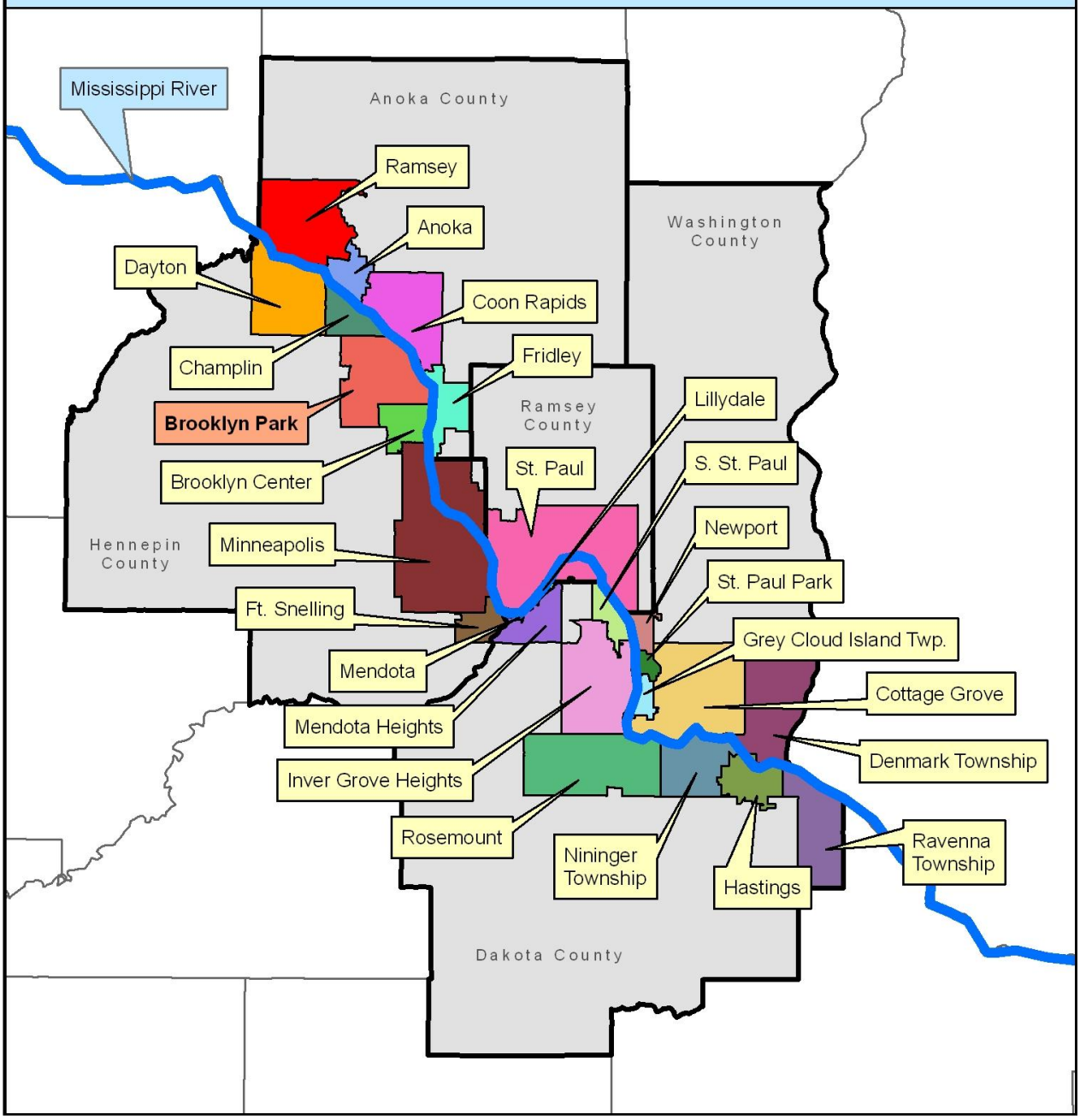
Brooklyn Township grew slowly as vacation homes and country style neighborhoods began appearing along the west bank of the Mississippi River. Activity along the river, natural tree cover and vegetation, and the location of old U.S. Highway 169 spurred development in river corridor through the first half of the 20th Century. The Village of Brooklyn Park was formed in 1954 as increased real estate activity caused land prices to rise and contributed toward the construction of some of the highest quality homes in the early days of Brooklyn Park. Residential development within the corridor has created a wide variety of housing styles. Continued private investment has resulted in expansion and renovation of older homes. This country estate style of living set a pattern of secluded low density residential development which continues today.

The Critical Areas Act, passed by the State Legislature in 1973, established criteria for selection of areas of the state that have critical environmental concerns and authorized the Governor to designate critical areas, and require comprehensive planning for environmental protection, future development and permit issuance.

In 1976, Governor Wendell Anderson established the Mississippi River Critical Area (MRCA) to protect and enhance the Mississippi River Corridor. The designation of the river and its corridor as a Critical Area was reaffirmed and continued by Governor Albert Quie in 1979 through Executive Order 79-19, and made permanently a Critical Area by action of the Metropolitan Council later in 1979. Figure 8.4.2 shows the affected communities.

Figure 8.4.2A: Mississippi National River & Recreation Area (MNRRA) Communities

May 2007

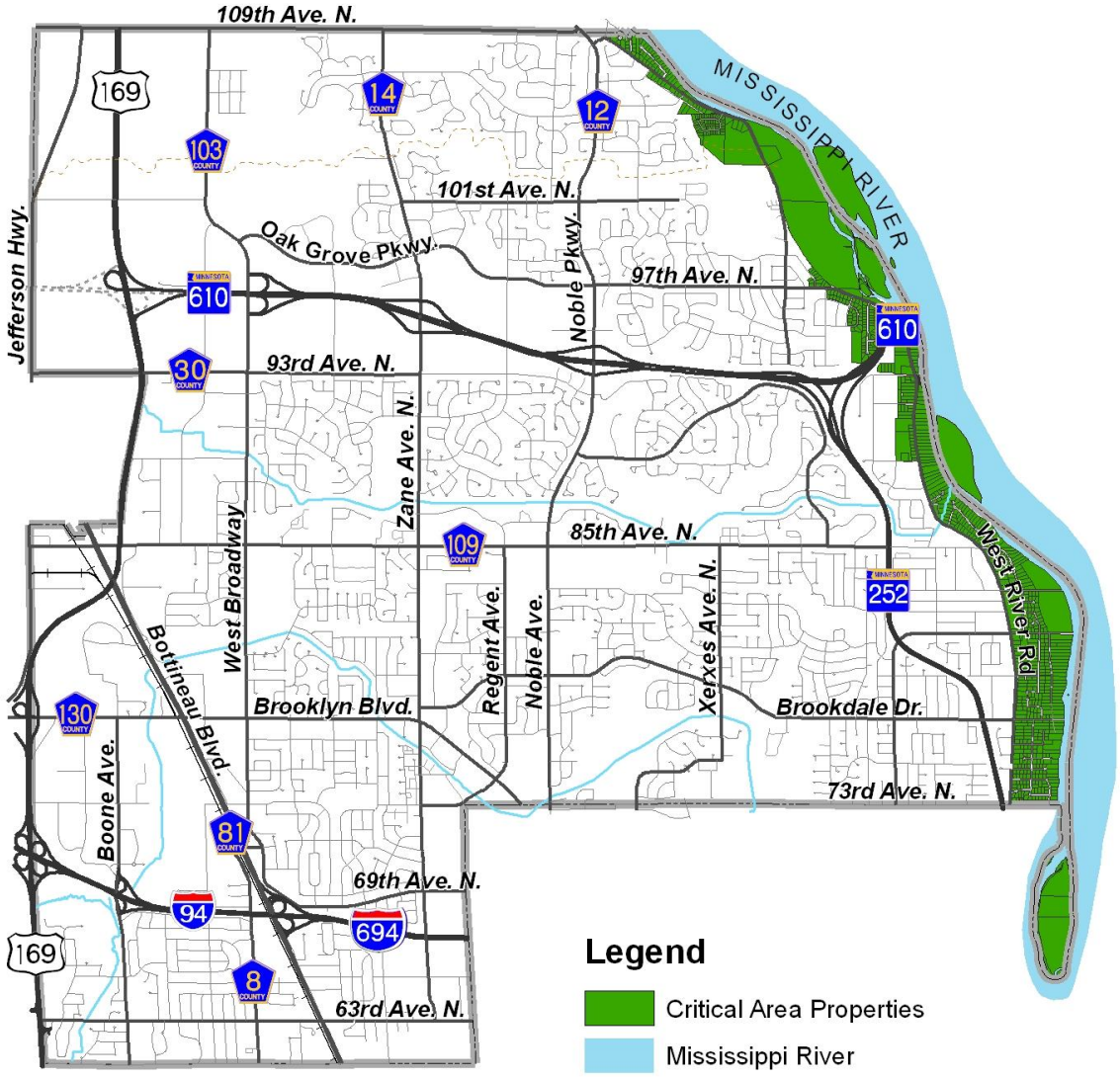


In 1980, The City of Brooklyn Park adopted the Critical Area Plan to protect the Mississippi River, guide development within the corridor and conform to the requirements of Executive Order 79-19.

On November 18, 1988, Public law 100-696 established the Mississippi National River and Recreation Area (MNRRA) as a unit of the National Park System. The 72 mile corridor stretches from the north side of Ramsey and Dayton to the Goodhue County line and includes the entire eastern boundary of Brooklyn Park. MNRRA was established by Congress to (1) protect, preserve and enhance the significant values of the Mississippi River corridor through the Twin Cities metropolitan area, (2) encourage coordination of federal, state and local programs and (3) provide a management framework to assist the state of Minnesota and units of local government in the development and implementation of integrated resource management programs and to ensure orderly public and private development in the area. MNRRA shares the same boundary as the MRCA.

Figure 8.4.2B: Mississippi River Critical Area and MNRRA Corridor

May 2007



Management roles of the MRCA were transferred from the Environmental Quality Board to the Department of Natural Resources in 1995.

In 1997, The City of Brooklyn Park joined a group of 57 communities located between Anoka County, Minnesota and St Louis, Missouri to identify common themes and work

collaboratively on preservation and enhancement of the Upper Mississippi River. This partnership is commonly referred to as the 'string of pearls'.

On July 30, 1998 Congress awarded the American Heritage River Designation to the Upper Mississippi River in recognition of the efforts of these 57 partner communities to protect and enhance the Mississippi River. The designation conferred American Heritage River Community status on Brooklyn Park. The designation has brought national attention, expertise and funding for projects along the Mississippi River.

8.4.3 EVALUATION OF PROGRESS SINCE 1980

The City of Brooklyn Park has accomplished many of the goals described in the 1980 Critical Area Plan. The policies of that plan have been carried forward and incorporated into this plan. The following is a partial list of accomplishments since the Mississippi River Critical Area Plan was adopted in 1980:

1. "Edgetown Estates" converted an undeveloped tract of land in the corridor to 47 single family residential lots in 1997. The development contains properties within Brooklyn Park and Champlin. Coordination between the local governments and the Department of Natural Resources during the review process ensured high quality site design, preservation of natural features, and the use of best management practices in the construction of homes. All residential lots have been provided with public sewer and water facilities.

2. In 1980, there were 143 septic tanks in the Mississippi River corridor. Since that time utilities have been extended and are now available for all properties within the Mississippi River Corridor. Residential properties have been connecting to the public utilities system as needed and also as a part of development or redevelopment projects.

3. The Coon Rapids Dam underwent a comprehensive rehabilitation that was completed in the Spring of 1997. The spillway gate system, operator's bridge, walkway, and portions of the old powerhouse were in various states of disrepair. A new 8 foot high gate system including a 1,903 foot long steel "control" gate and four inflatable rubber gates totaling 855 feet were installed. Other improvements included construction of a new maintenance and recreation deck, new recreation areas and restoration of the abandoned powerhouse area. The estimated cost of these improvements was $7 million. New automatic control facilities allow easy maintenance of upstream pool elevations. The new facilities provide access across the dam and promote park visitation and recreational use.

4. In the summer of 1997, the City purchased approximately 13 acres adjacent to River Park. The park grew from 33 to 46 acres in size with nearly 2,000 feet of shoreline on the Mississippi River. Planning for the future of the park is underway. Additional detail is provided in the Public Land and Recreation section of this plan.

5. Implementation of the Village Redevelopment Plan has resulted in acquisition of land adjacent to Shingle Creek for open space and extension of the City Trail System

through the Brooklyn Boulevard / Zane Avenue corridor. Stabilization techniques have been employed along the banks of Shingle Creek with landscaping, ponding, and other improvements.

6. The Hennepin County Conservation District has been conducting water quality tests in Mattson Brook Creek located north of 85th Avenue and east of T.H. 252. These tests monitor the water quality level based on the types of organisms that live in or near the creek and their sensitivities to certain types of contaminants.

7. Several improvements have been made to the transportation system within the river corridor including relocation of Trunk Highway 252 and construction of the Trunk Highway 610 bridge. These projects and future projects are discussed in the Transportation and Public Facilities section of this plan.

8.4.4 Residential Land Use

Managing land use adjacent to the Mississippi River is the predominant factor in preserving and enhancing the unique character of the river.

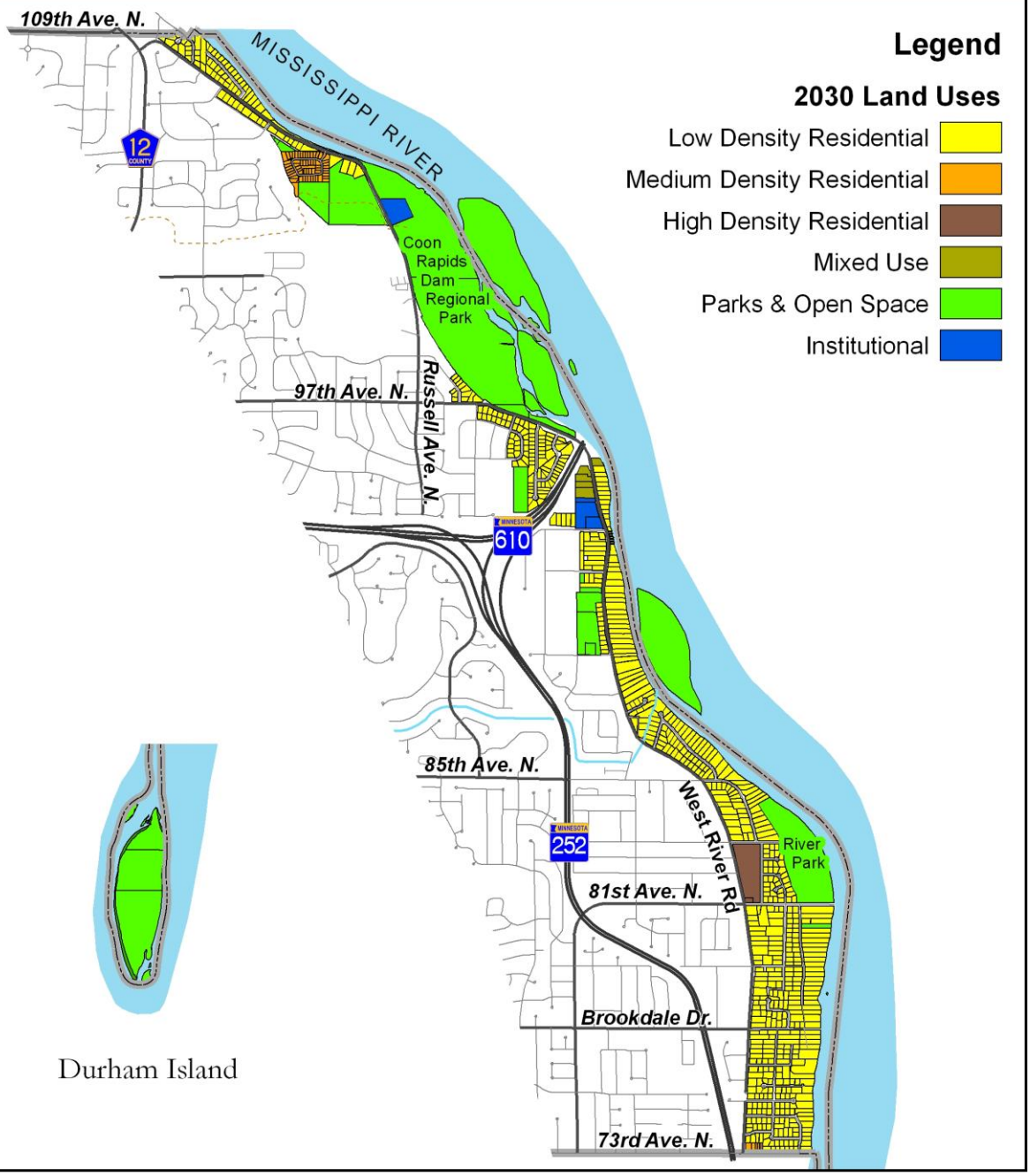
Table 8.4.4 Land Use in the Mississippi River Critical Area

	2030 Plan		**2000 Plan**	
Land Use	**Acreage**	**%**	**Acreage**	**%**
Low Density Residential	358.83	51%	499.38	73%
Medium Density Residential	16.12	2%	0	0%
High Density Residential	12.79	2%	12.16	2%
Mixed Use	5.91	1%	0	0%
Institutional	12.72	2%	0	0%
Parks	293.47	42%	164.96	24%
Commercial	0	0%	6.0	1%
Total	**699.84***	**100%**	**682.30***	**100%**
* 2000 Calculation did not include some of the islands.				

The MNRRA Corridor within the City of Brooklyn Park is an urban developed district as described in Minnesota State Legislature Executive Order 79-19. Land within the corridor has largely been developed for residential land uses. Public land and open space is the second largest land use category with a majority of land concentrated in Coon Rapids Dam Regional Park and River Park. Multiple Family Residential land is located on one site immediately west of River Park. Commercial land is limited to four properties directly south of the T.H. 610 bridge.

Figure 8.4.4: Mississippi River Critical Area and MNRRA Corridor Future Land Use

February 2008



New development, expansion and redevelopment of existing land uses are permitted only after the approval of site plans which conform to the City Code and this plan. Residential properties are exempt from providing a site plan for the construction or modification of a single family house as described in Executive Order 79-19. A certificate of survey that conforms to the City's residential Survey Requirements may be required. The same standards will be applied to the design of public facilities. New commercial and industrial

development or expansion of existing development will be limited to protect the river corridor. Land use location decisions for development proposals will be based on a balance between maintaining residential character, resource protection, visitor use and development needs in the corridor. Resource protection will be an important factor in conflicting cases.

8.4.4.1 Residential Goals and Policies for Existing and New Properties

Goal One: Preserve the country style estates and multiple-family zoning as unique components of the City's life cycle housing.

Policies:

1. Modify the City Code to ensure that existing residential structures may remain, may be rebuilt on the same footprint if damaged or destroyed, and may be expanded in any way that is consistent with the City Code.

2. Any future residential dwelling shall not encroach further toward the river than existing adjacent residential structures and shall otherwise comply with the City Code.

3. Retain areas zoned R-2 (single-family on 13,500 square foot lots) as the predominant residential development standard for existing and new residential developments in the corridor.

4. Maintain multiple family housing within walking distance of public land and facilities.

5. Support the minimization of vegetative cutting to retain existing vegetation and landscaping and encourage landowners to reestablish native vegetation. Provide information and encourage use of alternatives to fertilizer and pesticides.

6. Surveys should conform to the City's Residential Survey Requirements as per the City Code.

Goal Two: Enhance Residential Neighborhoods

Policies:

1. Assist homeowners in search of funding to restore older homes and encourage property owners to register properties with conservation organizations.

2. Establish a funding mechanism to assist property owners with the cost of land surveying to provide the most detailed information as provided in the City Code.

3. Enhance existing vegetation by creating a program that offers discounted plant material and technical assistance to interested land owners.

Goal Three: ***Promote the removal of private septic systems from the Mississippi River Corridor***

Policies:

1. Evaluate private septic systems when properties are sold or subdivided and assist homeowners with connection to City utilities in conjunction with construction projects and when private systems fail.

2. Modified utility facilities shall complement the planned land and water uses and shall not stimulate incompatible development.

8.4.4.2 Residential Site Design and Aesthetics Policies for New Properties

Site plan review standards continue to require quality and efficient design of structures, roads, landscaping, construction placement, maintenance and storm water runoff as provided in City Code and require compliance with all other applicable sections of the City Code in addition to the following site plan review standards which are applied to all types of development in the corridor except the construction or modification of a single family house:

1. New development, expansion and redevelopment of existing residential land uses must conform to the City Code.

2. Site Plans shall adequately assess and reasonably minimize adverse effects and maximize beneficial effects.

3. Structure site and location shall be regulated to ensure that riverbanks, bluffs and scenic overlooks are protected.

4. Structure site and location shall be regulated to ensure that riverbanks, bluffs and scenic overlooks remain in their natural state, and to minimize interference with views of and from the river, except for specific uses requiring river access.

5. Prevent construction on slopes greater than 12 percent.

6. All building permits are reviewed for compatibility with this plan before being issued.

7. Best Management Practices are required on all development sites to minimize impacts on the river and surrounding lands.

8. Minimize site alteration, control erosion on beaches and riverbanks, and provide for management of vegetative cutting.

9. Threatened or endangered species habitat will be protected.

10. Use of vegetation to establish habitat in landscaped areas is desirable.

11. Site plans shall provide opportunities for open space and public viewing, where applicable, and shall contain specific conditions with regard to buffering, landscaping and vegetation.

12. Developments shall be required to dedicate to the public reasonable portions of appropriate riverfront access land or other lands in interest therein. In the event of practical difficulties or physical impossibility, the developer shall be required to contribute an equivalent amount of cash to be used only for the acquisition of land for parks, open space, storm water drainage areas or other public services within the river corridor.

8.4.5 Commercial and Industrial Land Uses

Brooklyn Park currently has 5.9 acres of land zoned and occupied by commercial businesses between 93rd and 95th Avenues. One 0.79 acre property contains a restaurant located adjacent to the Mississippi River. The remaining 5 acres are located on the West side of West River Road and contain a parking lot associated with the restaurant, offices for a religious institution, a home remodeling business, and a vacant parcel.

8.4.5.1 Commercial and Industrial Goals and Policies

The following section was included in the 1999 Stewardship Plan. The proposed land uses in Chapter 3 include a mixed use designation in the Mississippi River Critical Area. The following section will remain in the event that future opportunities include commercial or industrial uses as part of a mixed use development.

Goal One: ***Protect the river and its corridor from adverse impacts of commercial and industrial development and prevent future development from changing the character of existing residential neighborhoods.***

Policies

1. Evaluate development proposals with the goals and policies established in this plan, The City Code, regional, state and federal air and water quality standards and state and federal standards.

2. Consider redevelopment options for existing commercial zoning districts including all land uses that may be appropriate and/or acquisition of lands for public use.

8.4.5.2 Commercial and Industrial Site Design and Aesthetics Policies

Site plan review standards continue to require quality and efficient design of structures, roads, screening, landscaping, construction placement, maintenance and storm water runoff as provided in Section 345 of the City Code and require compliance with Section 361.03 Applications and Procedures and all other applicable sections of the City Code in addition to the following site plan review standards which are applied to all types of development in the corridor except the construction or modification of a single family house:

1. New development, expansion and redevelopment of existing land uses are permitted only after the approval of site plans which conform to the City Code.

2. Site plans shall include detailed description of the proposed project, activities undertaken to ensure consistency with the City Code and the expected physical changes to the site as a result of the development and must provide measures to address any adverse environmental effects of the proposed project.

3. Site plans shall provide opportunities for open space establishment and for public viewing of the river on commercial properties and shall provide specific conditions with regard to buffering, landscaping and re-vegetation.

4. Structure site and location shall be regulated to ensure that riverbanks, bluffs and scenic overlooks remain in their natural state, and to minimize interference with views of and from the river, except for specific uses requiring river access.

5. The clustering of structures and the use of designs which will reduce public facility costs and improve scenic quality shall be encouraged.

6. Prevent construction on slopes greater than 12 percent.

7. Commercial and industrial developments adjacent to roadways shall be required to provide off street parking, service roads and limited controlled access points to highways.

8. All building permits are reviewed for compatibility with this plan before being issued.

9. Minimize site alteration. Vegetative cutting is regulated by the City Code to

retain existing vegetation and landscaping. All new or expanded structures shall be screened from the river with natural vegetation.

10. Best Management Practices are required on all development sites to minimize impacts on the river and surrounding lands.

11. It shall be determined if threatened or endangered species habitat exists on the development site. Development will not be allowed to negatively impact threatened or endangered species habitat.

12. Site plans shall provide opportunities for public open space and public viewing where applicable and shall contain specific conditions with regard to buffering, landscaping and vegetation.

13. Use of native vegetation to establish habitat in landscaped areas is encouraged. Manicured lawns near the river are discouraged.

14. Highway access within 250 feet of bridges or ramps is prohibited and advertising signs that are visible from the river are prohibited.

8.4.5.3 Riverfront Location Policies for New Development

The riverfront is defined as the first 300 feet landward from the Ordinary High Water Mark. Riverfront location policies are applied to all new development adjacent to the river to determine if the proposed development is compatible with the riverfront environment. Residential properties and structures are compatible with the riverfront environment and exempt from these location policies. New activities that do not meet the following criteria or have some other detrimental effects on corridor resources will be located outside the riverfront area. Criteria for compatible riverfront uses include:

1. Relationship to river (improves scenic qualities, enhances biological diversity, visually blends with the natural landscape)

2. Meets or exceeds federal, state, or local environmental standards

3. Cleans up polluted areas

4. Removes blighting influences

5. Provides high quality building and landscape design

6. Compatible with the riverfront environment

7. Compatible with surrounding residential neighborhoods

8. Maintains or improves views of the river

9. Retains or restores natural shoreline appearance

10. Minimizes public facility costs through design

8.4.5.4 Future Land Uses

As the current mix of land uses indicates, single-family residential homes will continue as the dominant land use within the Mississippi River Corridor. There are four residential lots that exceed minimum lot area for the R-2 Single Family Residential District and may potentially be subdivided. Future development will comply with the City Code, and this plan. Redevelopment options for existing commercial land uses will be explored when redevelopment opportunities arise.

The City will guide future land use through implementation of the goals and policies described in this plan. Natural areas will continue to be protected. Preservation areas are established on public land to protect natural areas. The floodplain will be restored to a natural state through a cooperative effort between all interested parties. Sensitive areas within the corridor, especially bluffs and the shoreline, are protected by the City Code and the standards established in this plan.

8.4.5.5 Future Land Use Goals and Policies

Goal One: Monitor the river corridor to ensure it will not be adversely affected by future development, continue to preserve and enhance natural areas on public land.

Policies:

1. Preserve all natural areas in the corridor and convert incompatible land uses whenever possible.

2. Development of residential, commercial and industrial subdivisions and planned developments shall conform to the City Code.

3. Site plans shall provide opportunities for public open space and public viewing where applicable and shall contain specific conditions with regard to buffering, landscaping and vegetation.

~~4.~~ In the development of residential, commercial and industrial subdivision, and planned development, a developer shall be required to dedicate to the public reasonable portions of appropriate riverfront access land or other lands in interest therein. In the event of practical difficulties or physical impossibility, the developer shall be required to contribute an equivalent

amount of cash to be used only for the acquisition of land for parks, open space, storm water drainage areas or other public services within the River Corridor.

5. Protect natural resources with preservation areas on public land and work to restore wildlife habitat, particularly for threatened and endangered species, and preserve biological diversity in all areas of the corridor, especially development projects.

6. Regulate vegetative cutting to retain existing vegetation and landscaping in the entire corridor.

7. Review building permit applications for conformance with the City Code and this plan.

8. For those developments requiring City Council action, the City shall notify DNR 30 days prior to taking action on the application.

8.4.6 Public Land and Recreation

The purpose of this section is to provide a framework for establishing community open space and preserving areas for restoration of natural vegetation and habitat, expansion of trails, recreation facilities and programs and to establish recreation development guidelines within the river corridor for the citizens of Brooklyn Park.

8.4.6.1 Public Land and Open Space

Public land and open space is the second largest land use in the Mississippi River Corridor. The corridor contains both City and Three Rivers Parks facilities that provide a wide variety of recreation opportunities for citizens and visitors alike. The City has established policies for purchasing properties in the floodplain, and will pursue other acquisition opportunities as they arise. These properties are indicated as guided for park land on the Land Use Map. The primary focus of the City's efforts will be to preserve existing public open space.

8.4.6.2 Natural Areas

Natural areas exist on both public and private lands in the river corridor. Most native plant communities can be found along the banks of the Mississippi and also in the Brooklyn Park Environmental Area. On public lands preservation areas are established to protect and enhance areas with significant natural features through the implementation of the goals and policies of this plan. Active recreation facilities, especially community scale facilities, will be provided outside the riverfront area and/or outside of the river corridor on public lands that are more suitable for that type of development.

On private land in the corridor, individual property owners and groups like the Izaak Walton League work to protect natural areas. Assisting individuals and groups in finding technical and financial assistance is how the City will promote preservation of natural areas on private land. Disturbance of natural areas is regulated by the City Code.

8.4.6.3 Trail System

The City Trail system is designed to provide non-motorized access throughout the City and connects to the Rush Creek Regional Trail. In the river corridor, the trail system is in need of some major improvements to create a safe north-south route, to provide connections to community recreation areas and also to provide an east-west trail connection across T.H. 252 and the 610 bridge. The City is on course to accomplish all of these improvements with financial assistance from both public and private organizations and through the support and contributions of residents and local businesses. Figure 6 indicates existing and future sidewalks and trails. The north-south trail will be located along West River Road. It is also likely that a trail connection will be made between 85th Avenue and West River Road through City owned right-of-way for Dupont Avenue. There is no intention to acquire property or require easements for the purpose of providing a riverfront trail.

Thoughtful design of pedestrian trails will provide for safe non-motorized travel and improve views of the river and natural areas of the corridor. Lighting, enhancing views along trails and providing benches and rest areas are key factors in the design of trails. The City is working with Three Rivers Park District to pursue land acquisition opportunities adjacent to the Rush Creek regional Trail to buffer this amenity from surrounding development.

8.4.6.4 Recreation Programs

Both the City of Brooklyn Park and Three Rivers Park District publish and distribute seasonal programming information to local residents. A wide variety of recreation opportunities are available including youth sports, educational programs, demonstrations, tours and group events to name a few. Both organizations also sponsor community events that are made possible by the continued efforts of volunteers in the community. Programming information is also available from the City of Brooklyn Park Recreation and Parks Department and Three Rivers Park District facilities and offices.

8.4.6.5 Scenic Views

There are two major scenic views along West River Road between 92nd and 97th Avenues and also between 101st and 109th Avenues. The Richard Braun Bridge crosses the Mississippi through the southerly scenic view along with two major transmission lines. The northerly location provides the best view of the river outside of River Park and Coon Rapids Regional Dam Park. Land between the roadway and the river in these areas has been preserved as public land. Access to the river is prevented by steep slopes.

8.4.6.6 Mississippi River Islands

There are five islands along the stretch of river between Brooklyn Park and Coon Rapids. Dunn Island, Banfill Island, Chase Island, Gil Hodges Island and Durnam Island. Banfill Island and Durnam Island are within the jurisdiction of the City of Brooklyn Park. The city will continue to promote preservation of all islands in a natural state through existing land use controls and the standards described in this plan and the Mississippi River Critical Area Ordinance. Dunn Island, Chase Island and Gil Hodges Island are located in Anoka County and regulated by Anoka County Parks. The undisturbed natural habitat on the islands provides a home for many types of wildlife, including many rare and endangered species and is a critical component of the Mississippi River Flyway

8.4.6.7 Mississippi River Flyway

The Mississippi River is the second longest flyway for migratory birds in the world. As many as two-thirds of the nations migratory bird population travel the corridor at some point during migration periods. Bird watching in the Spring and Fall grants the opportunity to see a wide variety of birds including hawks, eagles, owls and osprey among many others. A wide variety of rare and endangered species depend on the river environment to survive. One focus of riverfront restoration projects will be to measure the density of plants that compose the ground layer, understory and canopy of vegetation along the river. This data will be compared with data maintained by the U.S. Army Corps of Engineers to make recommendations about how these habitat areas can be preserved and enhanced. Partnerships have been formed with surrounding communities and regional, state and federal agencies to promote a coordinated approach to river stewardship.

8.4.6.8 Parks Facilities

The following are City and Regional park facilities within close proximity of the Mississippi River.

Coon Rapids Dam Regional Park (10360 West River Road)

This facility offers visitors a variety of recreational and educational opportunities throughout the year. Two miles of trails wind through a diverse Eastern Floodplain Forest, revealing an amazing variety of wild birds, fish and animals and also allows access across the river with a newly renovated walkway atop the Coon Rapids Dam. The Mississippi River shapes the east side of the park, offering fishing, canoeing, and a variety of active recreation opportunities as well as many unique locations for more passive recreation pursuits.

The West Coon Rapids Dam Visitor Center, located on the west bank of the Mississippi River, offers many interactive and passive displays, some of which change

monthly or seasonally. Area wildlife is also on display and ecological information is provided to help us understand our relationship with the natural world. A new interactive computer allows visitors a chance to explore the river by choosing their own path through the wealth of information available.

Naturalist staff provides family, youth and adult programs covering a wide variety of subjects and offer continuous demonstrations on each Sunday afternoon, spring through fall. The knowledgeable staff provides fun and interesting methods to learn about our natural environment. Individually tailored group events are also available.

River Park (100 83rd Avenue North)

Once commonly called 'Rocket Park' for the large children's play structure, River Park is the largest City Park in The Mississippi River Corridor. The park has recently expanded to the north adding 12.8 acres for a total park size of approximately 46.5 acres. Both active and passive recreation opportunities are available, including: nature areas, paths and trails, picnic pavilions, sliding hills, game courts, basketball courts, tennis courts, sand volleyball, a hockey rink, skating rink, playground equipment, ball diamonds and a shelter building.

The City was awarded two grants in 1999 to develop a master plan for the park and to enhance vegetation along the Mississippi River shoreline. An inventory of park facilities and amenities has been compiled as a part of a cooperative planning effort that will create a master plan for the future of the park.

One focus of the plan will be a riverfront restoration project designed to expand natural plant communities, remove invasive plant species, improve surface water filtration and absorption and create a sustainable park management program. A river trail and interpretive signage that describes the different features of natural plant communities will also be included. Public meetings will continue to be held throughout this process to ensure that the final plan is representative of the desires and issues raised by residents.

Jewel Park (1400 89th Avenue North)

This 14.5-acre neighborhood park is located between West Coon Rapids Regional Dam Park and River Park. Recreational opportunities include: a nature area, picnic pavilion, skating rink, playground equipment and a shelter building. It was increased in size over in 2001 with the acquisition of 6.5 acres of land.

Willowstone Park (1909 95th Avenue North)

This 17 acre neighborhood park is located north of 93rd Avenue and west of West River Road. Recreation opportunities include a picnic pavilion, public meeting space, nature area, sliding hill, basketball and tennis courts, ball fields, skating and hockey rinks and play equipment.

Brooklyn Park Environmental Area (10201 West River Road)

Although not entirely within the MNRRA Boundary, the environmental area is a significant natural amenity that connects the Coon Rapids Regional Dam Park to the

Rush Creek Regional Trail. Over 97 acres of natural groundcover, tree stands and wetlands provide habitat for a variety of wildlife. Picnic areas are also provided.

Rush Creek Regional Trail Corridor (located north of 101st Avenue)
This Three Rivers Park District amenity was constructed in the mid 1970's as a demonstration project and is now the northern link in a 38 mile metropolitan trail loop. The 11.6 kilometer trail connects to Elm Creek Park Reserve in Maple Grove and the east bank of the Mississippi River through the Coon Rapids Dam Regional Park. The trail system is surrounded by a wonderfully preserved natural landscape that includes a wide variety of wildlife, native vegetation and wetland areas. Picnic pavilions and shelters are located at intervals along the trail to allow opportunities to relax and enjoy the scenery. The facility provides a maintained bituminous trail for walking, biking and in-line skating and a rural trail for horse back riding, walking the dog or group adventures. Winter recreation opportunities include; cross country skiing, snowshoeing, snowmobiling and sledding. The Three Rivers Park District is working on extending the trail corridor to Crow-Hassan Park in western Hennepin County.

8.4.6.9 Public Land and Recreation goals and policies

Goal One: Provide an overall system of Public Park and open space to provide a desirable environment necessary to satisfy the needs of present and future residents of Brooklyn Park.

Policies:

1. Preserve all existing public land and continue to purchase properties located in the floodplain that are identified as guided for public land and open space land on the Land Use Map.

2. Provide a full range of high quality public recreation facilities.

3. Document and update public facility use information to monitor the effectiveness of public facilities in serving the public demand.

Goal Two: Preserve and protect the natural environment with emphasis on conservation of natural resources for the benefit of future generations.

Policies:

1. Implement the goals and policies of the Resource Protection section of this plan.

2. Provide examples and description of natural landscaping on public lands.

Goal Three: Provide pedestrian linkages to all public land

Policy: Include trails and sidewalks in all future public improvement projects where public benefit is identified

8.4.7 Resource Protection

8.4.7.1 Benefits. Resource protection includes the preservation and enhancement of the natural, historic and cultural features of the Mississippi River Corridor. Natural features include vegetation, habitat, soils, flood plain, wetlands, slopes, bluffs, drainage routes and surface water. Historic and cultural features are those places and structures that represent a link to the history of Brooklyn Park. Inventories of the natural, historical and cultural feature are provided in this section.

Benefits of Natural Areas. Natural areas are irreplaceable storehouses of biological diversity, supporting elements and processes that literally make life on earth possible. Sharing the planet with a diversity of species enriches our lives, and safeguards important genetic materials that may be vital to future advances in medical research and our culture's ability to confront diseases that threaten essential food crops. The following is a brief list of the benefits of natural areas:

Appeal. Protection of natural areas promotes the overall livability and vitality of our community, offering not only quality air and drinking water, but also scenic beauty and opportunities for low-impact recreation (bird watching, hiking, fishing) enjoyed by residents and visitors alike. With ample natural areas and open space Brooklyn Park is a good place for children to learn about the natural environment, and offers a high quality of life to all residents.

Protection. Natural areas reduce the rate and volume of storm water runoff, thereby reducing the incidence and severity of flooding and erosion. When natural areas and other areas of vegetated groundcover are destroyed, the risk of repeated episodes of property damage related to flooding and erosion increases.

Purification. Vegetated natural areas safeguard the quality of drinking water by reducing the sediment load that enters waterways and by filtering out toxins and excess nutrients from surface and groundwater. When natural areas are lost, especially when vegetation is replaced by impervious surfaces, groundwater may become compromised over time, creating a public health concern for properties that rely upon wells for drinking water, and may require purification systems to meet drinking water standards.

Air Quality. Natural areas promote air purity by utilizing carbon dioxide and producing oxygen. Air quality has direct implications for human health, especially in

the area of respiratory diseases. Protection of natural areas is an important part of this community's overall plan to promote a healthy living environment for residents.

Property Value. While protected natural areas on public or private land may in some cases receive a reduced property tax rate, the designation of a site as a natural area is commonly viewed as an amenity that commands a premium for adjacent lands in the real estate market that results in an increase of property value.

8.4.7.2 Environmental Structure

Soils

In Brooklyn Park, Hubbard soils make up about 20% of the soil composition, Isan soils 20%, Duelm soils 15%, and minor soils about 45% of the association.

The somewhat excessively drained Hubbard soils are on the more elevated flats and the low knolls. The poorly drained isan soils are on the broad flats and in the drainage ways that are slightly lower in elevation than the Duelm soils. The Hubbard and Duelm soils have a surface layer of black to very dark brown loamy sand on a subsoil of sand at a depth of 12-24". The soils have very low available moisture capacity, low fertility, and rapid to very rapid permeability. Duelm and Isan soils have a seasonally high water table in undrained areas.

These soils developed geologically out of sedimentary formations which have perpetuated soils with sand as its dominant makeup. Obviously this entire area has been heavily influenced by the progression of several glaciers which resulted in the river forming an outwash plain with a variety of soil and gravel deposits. Underlying rock formations have been exposed during this millennium process and soil building processes have been affected by that exposure. The glacial process, with the effects of the river's own cutting and deposit cycles over thousands of years, has created the geomorphology of the Mississippi bluffs and shoreline to be part of that huge outwash plain.

The major problem series of soils within the Critical Area is Becker fine sandy loam, Becker loam, Biscay loam depressional and Marsh. The vast majority of these soils are located within the Coon Rapids Regional Park. With the exception of Marsh soils, these soils are poorly drained. They have severe limitations for drain fields because of the one to three and a half foot water table during wet periods. Because of the high water table there is high potential for frost heaving action within those areas. Marsh soils are not well drained and are isolated by distance from the river. It is very important to note that the soil types noted here are not subject to erosion unless steep banks and exposure to the elements is prevalent for long periods of time. This situation further supports the need for deep root vegetation to increase soil stability.

Floodplain

Brooklyn Park's flood plain within the Mississippi River Corridor has different characteristics above and below the Coon Rapids Dam. Water elevation of the six mile pool above the dam is monitored and controlled. The river front area contains both private residential properties and public land. A gentle slope from bluff lines to the waterline protects residential properties from experiencing flooding problems.

Below the dam, the majority of flood plain areas are protected by public land in the Coon Rapids Regional Dam Park and River Park. Residential properties between the regional park and River Park have steep slopes that protect homes built above bluff lines. South of River Park, residential properties have been subdivided to allow homes to be located safely outside of the flood plain with a few exceptions immediately south of River Park. Current floodplain regulations restrict new construction within the flood plain. Elevations for flood plains are noted on the officially adopted Flood Insurance Rate Map.

Wetlands

Wetland inventories have been completed by the U.S. Fish and Wildlife Service as published on the National Wetlands Inventory Maps, and by the Minnesota Department of Natural Resources as published in their Protected Waters Inventory. These wetland inventories will be used to assist in determining if a wetland is present on a given parcel of property in the City. The Wetland Inventory in the Mississippi River Corridor, major species classifications include willow-alder-shrub, overstory willow-elm-aspen, cottonwood-willow and reed canary-mixed wet meadows and cattails.

Slopes 12 percent or greater

Within the river corridor, slopes equal to or greater than 12 percent have been identified based on topographic maps from a U.S. Geologic Survey and residential property surveys that are kept on file at City Hall.

Natural drainage routes

Areas in the northerly portion of Brooklyn Park generally drain easterly by Oxbow Creek or unnamed drainage ways to the Mississippi River. For areas immediately south of Trunk Highway 610, storm water runoff is generally directed to the Edinbrook Channel which carries water to the Mississippi River. For the remaining areas of Brooklyn Park (with the exception of a small area draining to Twin Lakes) storm water runoff is directed to Shingle Creek, which also carries water southeasterly to the Mississippi River.

Surface Water

The corridor is managed in accordance with state regulations for clean water including the Metropolitan Surface Water Management Act, Storm Water Management Plan and West Mississippi Watershed Plan. The City of Brooklyn Park is divided into 5 distinct watersheds for the purpose of classifying trunk conveyance systems that hydraulically connect retention basins and manage the flow of storm water. The two watersheds within the Mississippi River corridor are the Riverside Watershed and the Edinbrook Channel Watershed.

The Riverside watersheds are those subwatersheds located along the Mississippi River which provide storage and treatment for storm water runoff prior to discharge into the Mississippi River.

The Edinbrook Channel Watershed is located south of the 610 Corridor and north of 85th Avenue. The watershed carries storm water runoff from Osseo, Maple Grove and the central portion of Brooklyn Park from the west to the east and discharging into the Mississippi River.

8.4.7.3 Cultural and Historical Resources

Residents of Brooklyn Park. Property owners within the river corridor have, through significant private investment, have made improvements to properties that have created healthy residential neighborhoods and preserved many of the natural resources within the corridor.

Camden-Brooklyn Township-Anoka Stage. One of the first Twin City area stage runs was a horse and wagon which made daily trips between St. Paul and St. Anthony in the mid 19th Century. The route included a local stage that also made daily runs between Camden and Anoka in the morning and afternoon. Four horses pulled the stage as it traveled the narrow gravel West River Road through Brooklyn Township to Champlin and then across the Mississippi River Bridge and the Rum River Bridge to Anoka. In the spring, it was not uncommon to see men in the fields with a wooden plow, pulled by oxen, preparing the fields for planting.

About halfway through the journey, the stage would stop to allow the horses to rest at what came to be called the 'Half-way House' in Brooklyn Township. The house, converted from a farmhouse in 1873, was opened to the public in 1874 and continued to operate as a rest area for travelers until 1912. The 'Half-way House' could be easily identified by the six-inch white board siding from local mills. The house still stands alongside West River Road today, just north of 85th Avenue, and is still owned by the Mattson Family.

Great River Road. Great River Road is a national landmark for travelers in the Mississippi River Corridor from Itasca State Park in Minnesota down through Louisiana and to the Gulf of Mexico.

Great River Road enters Brooklyn Park on Trunk Highway 252 and follows 252 north to Brookdale Drive. The route turns east at Brookdale Drive and proceeds to West River Road. The route then turns north and follows West River Road to 97th Avenue. At Russell Avenue the route turns north and connects with West River Road again and follows West River Road into The City of Champlin. A map of the entire route, including tourist information, is available from the Mississippi River Parkway Commission of Minnesota.

Garrison Keillor Childhood Home. Garrison Keillor is an American writer and broadcaster, creator and host of a popular syndicated series on public radio. He was

born in Anoka, Minnesota in 1942 and grew up in Brooklyn Park in a residential neighborhood near Brookdale Drive and West River Road. From 1968 to 1982 he worked for Minnesota Public Radio, where he broadcast mock commercials for firms located in the mythical town of Lake Woebegone, Minnesota. In 1974, Keillor began "A Prairie Home Companion", a nationally-aired public radio show blending music, comedy and storytelling with a cast of rustic fictional characters. Keillor retired from 1987 until 1989, when he began a similar program called "American Radio Company of the Air". In 1993, it resumed the name "A Prairie Home Companion."

Local chapter of Izaak Walton League. Izaak Walton, writer and naturalist was born in Stafford, Staffordshire, England, UK. In 1621 he settled in London as an ironmonger, but left the city for Staffordshire during the Civil War, and after the Restoration lived in Winchester. He is best known for his treatise on fishing and country life, The Compleat Angler (1653), he also wrote several biographies.

The Izaak Walton League is a national conservation organization dedicated to preserving and enhancing natural areas. The Local Chapter is located at 8816 West River Road.

Canoe Classic. Fifty teams of canoeists from all over North America compete in an annual canoe race that begins at Ellison Park in Monticello and finishes near the Coon Rapids Dam in Brooklyn Park. Opportunities are also available for newcomers to ride along and follow the race. The event is also a great time to share river stories and experiences. The local sponsor of the event is Ketter Canoeing, a long time canoeing enthusiast and educator located on West River Road in Brooklyn Park.

8.4.7.4 Resource Protection Goals and Policies

Goal One: Improve the quality of the environment through preservation, protection and careful utilization of surface water and ground water resources throughout the City.

Policies:

1. Consider the use of skimmers on small tributary creeks to capture and reduce the amount of floating debris carried into the river

2. Restore degraded wetlands where a public benefit is identified.

3. Minimize overland runoff and improve the quality of runoff onto adjoining streets and watercourses to minimize water pollution associated with surface water runoff.

4. Provide facilities for the treatment of storm water before water is allowed to enter streams, wetlands, or the river.

5. Require compliance with existing air and water standards as described by the Pollution Control Agency and all other applicable local state and federal

regulations.

6. Improve the quality of water in lakes, streams or rivers within and downstream from the City of Brooklyn Park through implementation of the Comprehensive Storm Water Management Plan.

7. Encourage non-motorized recreational boating on the river to protect stream banks and water quality from impacts of recreational activities.

8. Work with local and regional partners to ensure a coordinated approach to monitoring water quality.

Goal Two: Where feasible, improve the natural environment through establishment of preservation areas along bluffs, shoreline and public lands, promote stewardship of the Mississippi River Corridor and preserve significant historical and cultural features of the corridor.

Policies:

1. Establish preservation areas that dedicate public land for the purpose of preserving a natural buffer between the river and developed areas of the City and for creating passive recreation space with views of the river.

2. Continue to restrict development in floodplain and destruction of wetlands through strict application of floodplain regulations.

3. Prevent construction, excavation, topographic alterations, filling, impervious surfaces. This policy does not apply to stairways, lifts, landings, or paths as outlined in the City Code.

Goal Three: Identify, protect and enhance significant natural, historic and archaeological features in the corridor.

Policies:

1. Inventory and incorporate regulations to protect significant vegetative stands, wetlands, bluffs, slopes and the shore line.

2. Work with local landowners to expand buffer zones between the river and lawns. Encourage native landscaping and enhancement of natural habitat by providing educational materials and strategies. Identify erosion problems and coordinate with regional partners to develop strategies to combat erosion problems.

3. Encourage local landowners to register properties with conservation organizations and preserve open space on private land.

4. Promote resource related special events to help foster a relationship between residents and the river.

5. Develop facilities, programs, education materials, and media to promote fish and wildlife resources, natural plant communities, biological diversity and orient visitors to year-round recreation and interpretation opportunities in the corridor.

6. Work with neighboring communities and other agencies to preserve undisturbed habitat on the Mississippi River islands.

7. Develop a program to preserve and restore historically significant structures. Development that negatively impacts cultural or historical resources is prohibited.

8.4.8 Transportation and Public facilities

Transportation System

The Mississippi River Corridor transportation system is primarily comprised of local streets that connect residential neighborhoods to north-south routes like West River Road and Trunk Highway 252. Brookdale Drive and 85th Avenue are east-west routes classified as arterial roadways in the corridor. Improvements to the roadway system since this plan was first adopted in 1980 include construction of the 610 bridge and relocation of Trunk Highway 252. Proposed improvements to the roadway system include a new 610 bridge, reconstruction of West River Road and construction of a pedestrian bridge over Trunk Highway 252.

610 Bridge

The 610 (Richard Braun) Bridge was constructed to provide an intermediate river crossing between the Anoka Bridge (TH 169) and Interstate 694. An Environmental Impact Statement and cooperation between local, county and state agencies ensured that the design of the bridge minimized impacts on the natural features of the river corridor and provided mitigation for areas that were disturbed during construction. The new bridge was designed to match an existing bridge and include trail access across the river to link Brooklyn Park, Three Rivers Park District, and Anoka County trail systems.

Trunk Highway 252

Trunk Highway 252 was relocated outside the Mississippi River Critical Area in 1986. The new alignment allowed expansion from a two to four lane system. Due to funding and timing constraints, the new highway system was constructed as an on-grade facility with four controlled intersections. The 93rd Avenue intersection has been closed as part of the Trunk Highway 610 construction project. When completed in the Fall of 2000, the traffic light at this intersection will be removed to allow full movement between the two highways. Relocation of Trunk Highway 252 has allowed West River Road to revert to a collector street for the residential neighborhoods of the corridor.

Pedestrian Bridge

As traffic levels on Trunk Highway 252 increased, the highway created a barrier that prevented pedestrian traffic and the City's trail system from reaching the Mississippi River. Since that time the

City has labored to secure funding to provide this connection. In the summer of 1999, a tragic accident claimed the life of Kara Kavanaugh, a young girl who attempted to cross the highway at the 85th Avenue intersection. That tragedy resulted in an outpouring of community support and volunteerism that created a benefit concert and an ongoing community effort to raise money for the pedestrian bridge. The 'Building a Bridge' fund was created with the help of residents and local businesses. The City has continued to identify and pursue funding sources for the bridge. It is anticipated that funding will be available from the Transportation Equity Act of the 21st Century (TEA 21) Transportation Enhancement or Surface Transportation programs. The pedestrian bridge is scheduled to be constructed in 2000.

West River Road Reconstruction

Relocation of Trunk Highway 252 has allowed West River Road to revert to a collector street for the residential neighborhoods of the corridor. A street reconstruction project will convert approximately 4 miles of West River Road from rural to urban street design with curb and gutter. The project begins at Brookdale Drive and ends at 97th Avenue and includes a 3.6 mile section of the Great River Road. The existing ditch storm sewer system will be converted to a conduit (pipe) storm sewer system and integrated into the city storm water system. Construction is expected to begin in 2000 with an estimated project cost of $4,000,000. All aspects of the reconstruction will comply with Executive Order 79-19.

A ten foot wide bituminous trail will be constructed on the west side of the roadway. The trail will connect to existing trails south of Brookdale Drive to allow access through Brooklyn Center to the Minneapolis trail system and will also link the Coon Rapids Regional Dam Park and provide a second river crossing at the Trunk Highway 610 Bridge. The new roadway and trail will be enhanced with parkway style landscaping and decorative lighting.

The proposed trail project is funded primarily from an ISTEA Transportation Enhancement grant that was awarded in 1995. State Trunk Highway Turnback funds will be used to reconstruct West River Road in accordance with an agreement between the City of Brooklyn Park and the State of Minnesota that transferred ownership of the roadway formerly known as Trunk Highway 169.

Residential Streets

Local streets within the corridor continue to have a rural street design. The roadways are inspected as part of a roadway classification system that ranks roadways according to their condition. A proposal to overlay or reconstruct a roadway is made to the affected neighborhood based on the condition of the roadway. If there is opposition to the improvements, and the section of roadway is still functional, no improvements will be made until either the condition of the street becomes a public safety concern or when the neighborhood petitions to have the street improved. Extension of storm sewer, sanitary sewer and water lines is a part of all street reconstruction projects. No new private septic systems will be allowed once municipal sanitary sewer service is available.

Transit

There is one Metro Transit route in the Mississippi River Corridor. It provides morning and afternoon bus service beginning in the cities of Anoka and Champlin and follows West River Road into Downtown Minneapolis. In Brooklyn Park, bus stops are located along West River Road, Russell Avenue, and 97th Avenue. Stops are also made at park and ride facilities at the northeast corner of T.H. 610 and Noble Parkway and the northeast corner of T.H. 252 and 73rd Avenue.

Other Public Facilities
Electric power is provided by the substation located adjacent to the Coon Rapids Dam. The substation powers transmission lines that provide electricity throughout Brooklyn Park and surrounding communities.

Sanitary Sewer System
Both Municipal and Metropolitan Council sanitary sewer facilities exist in Brooklyn Park. Sanitary sewer service is available for all properties in the Mississippi River Corridor. Municipal sanitary sewer service will be extended to the remaining properties as a part of a public improvements project that is either requested by the neighborhood or necessary as private systems begin to fail. The Metropolitan Council Environmental Services Interceptor line enters the corridor at 92nd Avenue and continues south through the corridor before turning west and exiting the corridor adjacent to Brookdale Drive.

Storm Sewer System
Existing storm sewer facilities are located throughout the corridor to provide for the collection and transmission of storm water that is not conveyed by the topography of the corridor. Six man made and two natural discharge points allow storm water to enter the Mississippi River in Brooklyn Park. The design and maintenance of these facilities is governed by the Comprehensive Stormwater Management Plan and applicable state and federal regulations. Storm water retention ponds exist to absorb and filter the water before allowing it to reach the river north of 89th Avenue. Additional ponding areas will be created as development occurs north of 93rd Avenue. An update of the Comprehensive Stormwater Management Plan will review alternatives for creating additional ponding areas to filter and adsorb water before it reaches the Mississippi River Corridor.

Municipal Water System
Water service is available for all properties in the corridor except for properties along the river between 81st and 86th Avenues. This neighborhood has not petitioned the City for water service, so private wells will continue to provide water for these properties unless a public petition is filed with the City or a public health concern arises.

River Crossings
At the present time, the Mississippi River is crossed by four power line easements and the T.H. 610 bridge. Three of these easements meet at the Northern States Power Substation located adjacent to the Coon Rapids Dam. The fourth easement has a 345 KV line constructed on it and is located 1.5 miles to the south. All river crossings will be located in existing easements whenever possible and alternatives to additional river crossings will be explored prior to designing additional river crossings.

Transportation and Public Facilities Goals and Policies

Goal One: Establish a transportation network that maximizes access and mobility and minimizes impacts on natural features and residential neighborhoods in the Mississippi River Corridor.

Policies:

1. Require compliance with federal state and local floodplain and watershed regulations.

2. Incorporate design for safe and collaborative use by alternative modes of transportation, especially transit, bicycling and walking in the design of projects. This shall include safe pedestrian crossings, public access to the riverfront and scenic overlooks where practical.

3. Prohibit access to highways within 250 feet of bridges and ramps.

4. Require impact studies that follow Minnesota Planning Environmental Quality Board Environmental Review Guidelines for construction projects, design projects to minimize impacts on natural features in the corridor and require mitigation to restore or replace any natural features impacted by construction.

5. Consideration shall be given to the provision of scenic overlooks, safe pedestrian facilities, access to the riverfront in public ownership, and reasonable use of land between transportation facilities and the river in the planning and design of public facilities.

Goal Two: ***Provide municipal water, sanitary sewer, storm sewer and other facilities that protect public health, safety and welfare and improve the quality of the environment through well designed and maintained facilities.***

Policies:

1. Require connection to City utilities in conjunction with construction projects and when private systems fail.

2. Comply with all local state and federal regulations and maintain a comprehensive storm water management plan.

3. Require clustering of man made facilities (i.e. transmission lines and bridge crossings to ensure the aesthetic quality and environmental integrity of the river corridor.

4. Seek funding sources to bury existing overhead utility lines.

8.4.9 Public Participation

1. A mailing was distributed to residential properties in the corridor to promote public participation in the Mississippi River planning process. Public response offered insight into the issues that affect local landowners. Chief among these are erosion control and enforcement of no wake zones.

2. A Television interview describing the Mississippi River Stewardship Plan and related initiatives was broadcast on Cable 12 in February of 1999.

3. A Mississippi River Cleanup Project conducted during Make A Difference Week removes trash

and debris from River Park, Coon Rapids Regional Dam Park, and the Brooklyn Park Environmental Area. City employees and elementary school students participate in this effort.

4. National Night Out provides an opportunity to talk with residents about the river and distribute materials with information on programs and activities in the corridor as well as sustainable methods of landscaping and yard maintenance.

5. Interviews, phone calls and letters from long time residents added an understanding of the heritage of the river corridor in Brooklyn Park. Specific issues in neighborhoods were discussed and incorporated into this plan. One of the common threads between residents is the pride they have in their properties and homes.

6. Several residents have committed their expertise to this project and reviewed drafts of this plan, organized volunteers for future re-vegetation projects, and assisted in locating sources of information.

7. An annual mailing is distributed to City residents a minimum of one time per year to provide information on pertinent water management issues. The mailing also provides opportunities for residents to participate in watershed management activities.

8. Several articles describing the Mississippi River Stewardship Plan and related initiatives have been published in the Park Pages.

9. A Planning Commission work session was held to discuss the draft Mississippi Stewardship Plan. The recommendation of the commission was to prepare a list of programs and activities that the city may choose to promote to develop priorities.

10. A neighborhood meeting was held in River Park to discuss issues related to the future of the park. Key issues included surface water use, enhancement of the shoreline and recreation equipment.

11. Site visits have been conducted at the request of property owners to discuss individual concerns relating to future projects, erosion control and other issues.

12. A neighborhood meeting was held at the Izaak Walton league to discuss residents concerns. Representatives of the City, Metropolitan Council, Hennepin County Soil and Water Conservation District and National Park Service offered suggestions and resources. The Mississippi River Stewardship Plan was also discussed at length.

13. A series of public hearings were held by the Planning Commission and City Council to discuss the Mississippi River Stewardship Plan and receive feedback from residents.

14. Two public comment periods have been held. The first ran between December 15, 1999 and January 30, 2000. The second comment period ran between May 15, 2000 and June 15, 2000.

15. The Mississippi River Stewardship Plan and related information has been available on the City's web page (www.brooklynpark.org) since December of 1999.

16. Hard copies of the plan, ordinance and other City Code provisions were given to everyone who requested them.

8.4.10 Education

In an effort to encourage residents within the City of Brooklyn Park to practice sustainable lawn management practices and disposal of household hazardous waste, the following programs have been proposed to be developed with the help of existing programs and resources from organizations listed below;

1. The City will distribute information to residents on responsible practices to protect water resources within the community. The program shall educate residents on the proper use of fertilizer and encourage residents to use fertilizer having no phosphorus content where appropriate.

2. The City will develop a program providing information to homeowners on proper disposal and/or use of yard waste in an environmentally responsible manner. It will also describe proper disposal of household hazardous waste, including waste oil, paints and solvents. The City will work toward securing locations within the City limits where household hazardous waste may be dropped off. The information program for homeowners will be broadcast on local cable television.

3. The City will promote and encourage homeowners with properties adjacent to drainage ways, ponds, wetlands and the Mississippi River to establish a vegetative buffer strip at the shoreline. The strip should consist of legumes or other perennial grasses to limit erosion and nutrient transport across the buffer strip. The success of this program will be directly related to the availability of funding and technical assistance.

Education Materials
It is the City's intention to help distribute educational materials developed by the Department of Natural Resources, Metropolitan Council and National Park Service as well as promote programs and workshops offered by those agencies. The City web site (brooklynpark.org) will also provide links to river stewardship information.

Partnerships
The City of Brooklyn Park acknowledges the following community partners in promoting proper environmental stewardship of the Mississippi River Corridor:

Citizens of Brooklyn Park
City of Brooklyn Park Planning Commission
City of Brooklyn Park Community Development Department
City of Brooklyn Center
City of Champlin
City of Coon Rapids
American Heritage Rivers Initiative
American Rivers
Coon Rapids Dam Regional Park

Department of Natural Resources
Metropolitan Council
National Park Service
Hennepin County Soil and Water Conservation District
West Mississippi Watershed District
Friends of the Mississippi
Greening the Great River
Three Rivers Park District
Anoka County Parks
The Trust for Public Land
Mississippi River Coordinating Commission
Mississippi River Parkway Commission of Minnesota
Minnesota Department of Transportation
University of Minnesota
United States Environmental Protection Agency
United States Fish and Wildlife Service
Army Corps of Engineers
Citizens for a Better Environment
Minnesota State Historic Preservation Society
Northern States Power Company
St. Paul Riverfront Corporation
Walmart
Westwood Professional Services, Inc.

8.5 Creeks

Near the southwest corner of the City, Bass Creek and Eagle Creek converge to form Shingle Creek. It then meanders for about 6 miles through the southern portion of the City before passing through Brooklyn Center and Minneapolis and entering the Mississippi River.

The *Surface Water Management Plan* addresses specific protection measures for the City's creeks and wetlands. This plan is made a part of this Comprehensive Plan by reference and can be found in the City's Engineering Division.

Three areas of Shingle Creek were recently improved. Much of the creek was channeled in the early twentieth century. The following highlights the different restoration areas:

Village Creek Area. Restoration of the area of Shingle Creek between Regent Avenue and Brooklyn Boulevard was included in the Village Creek redevelopment area. Through the last half of the twentieth century, the creek was hidden behind a shopping center, bowling alley, and other office buildings. The City's Economic Development Authority purchased several of these buildings with the assistance of the Metropolitan Council and removed them. The creek channel was widened, the banks were stabilized, and native plants and trees were planted in order to return the creek to a natural state.

The newly restored waterway and the adjacent lands have been preserved as a linear park. Bike and pedestrian trails and bridges, benches, and gathering areas have been created for the enjoyment of residents and visitors. What was once neglected, the creek is now the focal point of the area.

North of Brooklyn Boulevard. North of the Village Creek area and Brooklyn Boulevard stretching to Candlewood Drive, Shingle Creek meanders through a single-family residential area. The banks of the creek are privately owned and have been experiencing erosion over the past several years. The City is working with the property owners and the Shingle Creek Watershed Management Commission in restoring the creek and stabilizing the banks through the results of an August 2005 study. Also, the SCWMC and City are educating adjacent property owners in proper creek protection techniques.

Old Joyner Golf Course Area. In 2006, the City Council approved a private restoration of Shingle Creek within the former Joyner Golf Course between West Broadway and Jolly Lane. The channel was rerouted in a natural meandering fashion with newly created wetlands flanking each side. This restoration process will take several years.

8.6 Wellhead Protection

The *Wellhead Protection Plan,* as described in Chapter 6, is a 2 Part document that can be found in its entirety with the City's Public Utilities Division of the Operations & Maintenance Department. Part 1 developed criteria which delineated an area known as the DWSMA (Drinking Water Supply Management Area) and identified the vulnerability of the available aquifer(s) to contamination. Part 1 of the plan was completed, submitted to the state and approved on August 6, 2004.

The Utilities Staff continues to work on Part II of the plan, which sets parameters for implementation. In general, the goals of the plan are: 1) Protect the aquifer, public water supply wells and promote wise land use in the DWSMA(s) and the City as a whole; 2) Provide a safe, potable water supply, manage the available aquifers, promote and increase public awareness of groundwater problems and monitor or restrict activities that expose the groundwater to contamination; 3) Educating the general public about groundwater issues; 4) Advocating and implementation of land use best management practices; and 5) Well management and collection of data relevant to wellhead protection planning.

Part 2 of the Wellhead Protection Plan includes: 1) The results of an inventory of potential contamination sources that may impact the City of Brooklyn Park's Public Water Supply; 2) Strategies to address potential contaminant sources identified; 3) An evaluation plan to assess implementation effectiveness of the WHP Plan, and 4) An Emergency/Alternative Water Supply Contingency Plan to assist the City in the event of an environmental disaster or major disruption of the water supply system.