

# ROCKVILLE COUNTY PARK & NATURE PRESERVE

STEARNS COUNTY PARKS



## MASTER PLAN REPORT

JANUARY 2009



# ACKNOWLEDGEMENTS

In June of 2008, Stearns County retained Brauer and Associates, Ltd. to work with the County Board, Parks Commission, Citizen Advisory Committee and residents to complete a comprehensive master plan for the undeveloped Rockville County Park & Nature Preserve. This document represents the results of the planning process, which was completed in December of 2008.

The consultant team would like to commend Stearns County for undertaking an open and constructive public process for the project. This approach allowed for many perspectives to be considered on important issues that will affect recreational use and ecological restoration of this park for years to come. Through this process, it is believed that a responsible balance between human use and ecological preservation was achieved.

The consultant team would like to thank the many individuals who participated in the planning process from beginning to end. Their collective insights were instrumental in drawing conclusions that are believed to be reasonable and responsible.

A special thank you is owed to the City of Rockville and Rockville Councilman, Don Simon, for hosting the Citizen Advisory Committee and public open house meetings at Rockville City Hall.

The consultant team would also like to thank the County staff and Citizens Advisory Committee. The openness with which they approached the project paved the way for public dialog that considered all opinions to be of merit and worthy of consideration.



## Stearns County Board

- DeWayne Mareck
- Leigh Lenzmeier, Board Chair
- Don Otte
- Mark Sakry
- Vince Schaefer



## Stearns County Parks Commission

- Dave Bechtold
- Jim Graeve
- Lowell Olson
- John Peck
- Bob Piano
- Mark Sakry
- Dave Simpkins

## Project Technical Advisory Committee

- Dave Bechtold, Stearns County Park Commissioner
- Joe Chovan, Citizen
- Mona Evens, Equestrian advocate
- Gary & Mary Grams, Rockville Sportsmans Club
- Ralph Gundersen, Central MN Audubon Society
- Wayne Koeplin, Country Snow Cruisers Snowmobile Club, Richmond Director
- Randy Johannes, Country Snow Cruisers Snowmobile Club, Cold Spring Director
- John Peck, Stearns County Park Commissioner / Adjacent Landowner
- Bob Piano - Stearns County Park Commissioner
- Vince Schaefer, Stearns County Board Member
- Don Simon, Rockville City Councilor
- Angie Breg, Stearns County Environmental Service

## County Staff

- Chuck Wocken, Director Stearns County Park Department
- Pete Theismann, Stearns County Park Operations Coordinator



## Consultant Team

Brauer and Associates, Ltd.  
10417 Excelsior Blvd, Suite One  
Hopkins, Minnesota 55343  
952-238-0831

- George Wm. Watson, RLA, President
- Amanda M. Prosser, RLA

Applied Ecological Services, Inc.  
21938 Mushtown Road  
Prior Lake, MN 55372  
952-447-1919

- Dr. Kim Alan Chapman, Ph.D., Senior Ecologist
- Heather Kieweg, Staff Ecologist
- Megan Eichhorst

# TABLE OF CONTENTS

Acknowledgements .....	i
Table of Contents.....	iii
Executive Summary.....	iv
<b>Section I</b>	<b>Introduction &amp; Planning Framework ..... 1.1</b>
	Overview
	Public and Stearns County Involvement in the Planning Process
	Interface with Stearns County Parks
	Interface with City of Rockville Park Property
	Balancing Human Uses with Ecological Protection
	Conservation Easement
	Universal Design / Special Needs Framework
<b>Section II</b>	<b>Trends &amp; Public Process Findings ..... 2.1</b>
	Overview
	Setting
	Current Park Uses
	Local Public Input
	Conclusions
<b>Section III</b>	<b>Vision Statement..... 3.1</b>
	Overview
<b>Section IV</b>	<b>Natural Resources Stewardship Plan..... 4.1</b>
	Analysis of Existing Ecological Conditions
	Land Cover
	Hydrological Features
	Regional Overview
<b>Section V</b>	<b>Natural Resource Restoration &amp; Management Plan..... 5.1</b>
	Restoration Approach
	Management Units and Task Schedules
	Entire Park
	Management Units 1-6
	Wetland Restoration Options
<b>Section VI</b>	<b>Park Development Program..... 6.1</b>
	Overview
	Site Amenities and Activity Areas

<b>Section VII</b>	<b>Development Master Plan</b> .....	<b>7.1</b>
	Overview	
	Main Park Facilities Area	
	Fishing Access to Sauk River	
	Group Camp Area	
	Canoe Camp Area	
	Horse Trailhead Facility	
	Pedestrian Nature Trails	
	Pedestrian Bridge Crossings	
	Trail Observation Points & Destination Features	
	Park & Trail Signage	
	Winter Uses of Park Facilities	
	Vehicular Access and Park Drives	
	Potential Future Park Expansion	
<b>Section VIII</b>	<b>Implementation &amp; Management Plan</b> .....	<b>8.1</b>
	Development Description	
	Ecological Management Units and Task Schedule	
	Estimate of Probable Cost to Construct Improvements	
<b>Appendix A</b>	<b>Conservation Easement Agreement</b> .....	<b>A</b>
<b>Appendix B</b>	<b>Planning Process Graphics</b> .....	<b>B</b>
	Ecological Vision Plan	
	Preliminary Alternate Concept Plans (1 through 3)	
	Final Master Plan	
<b>Appendix C</b>	<b>Minnesota DNR Trail Manual - Equestrian Section</b> .....	<b>C</b>
<b>Appendix D</b>	<b>Stearns County Park Ordinance</b> .....	<b>D</b>
<b>Appendix E</b>	<b>City of Rockville Ordinances</b> .....	<b>E</b>
	City Parks Ordinance	
	City ATV Ordinance	
	City Snowmobile Ordinance	



# EXECUTIVE SUMMARY

## Purpose & Scope of this Report

This report was compiled in an effort to document the process and results of Stearns County’s master plan study for Rockville County Park & Nature Preserve. The information contained in this report commissioned by Stearns County, is the result of a six month study supervised by County staff and a Citizen Advisory Committee.



## Report Conclusions

The conclusions of the study are:

- That Stearns County should pursue a balanced approach to recreational development and ecological restoration of the property,
- That the recreational development and restoration will need to be implemented over time,
- That the timing of development and restoration will be dependent upon the availability of public and private funding,
- That change to public roads within and adjacent to the park will benefit park user safety, ecology, and recreational quality of the park.

## Development Costs

The following summary of development costs are presented in 2008 dollars and were calculated based upon the premise that all of the work would be completed by for-profit individuals or companies. As the county budgets for this work in the future, an appropriate factor should be added to the budget for inflation.

FIGURE V.1 SUMMARY OF DEVELOPMENT & ECOLOGICAL RESTORATION COSTS

	DEVELOPMENT	ECOLOGICAL RESTORATION	TOTAL
<b>INITIAL INVESTMENT</b>	\$175,000.00	\$75,000.00**	\$250,000.00
<b>PHASE 1</b>	\$683,050.00	\$443,213.00	\$1,078,263.00
<b>PHASE 2</b>	\$753,080.00	\$404,208.00	\$1,197,288.00
<b>PHASE 3</b>	\$544,400.00	\$348,220.00	\$892,620.00
<b>TOTAL</b>	<b>\$2,155,530.00</b>	<b>\$1,270,641.00</b>	<b>\$3,426,171.00</b>

\* NOTE: THERE ARE A NUMBER OF WAYS TO CREATIVELY MANAGE RESTORATION PROJECTS IN ORDER TO REDUCE COSTS. IN ADDITION TO COST SAVING MEASURES INCORPORATED INTO THE ESTIMATE ABOVE THERE ARE SEVERAL OTHER WAYS COST SAVINGS CAN BE ACHIEVED. SEE TABLE 3 UNDER SECTION VIII - IMPLEMENTATION PLAN FOR THESE OPTIONS.

\*\* NOTE: THE ECOLOGICAL RESTORATION VALUE INCLUDED IN THE INITIAL INVESTMENT IS AN AMOUNT INCLUDED IN PHASE 1 VALUES REFERRED TO IN SUBSEQUENT RESTORATION COST TABLES.

## Recommendations

1. Research the possibility of using 'STS' crews, volunteers, Eagle Scouts, Minnesota Conservation Corp, or other resources to begin the removal of non-native shrubs and trees as outlined in this report.
2. Continue the public excitement in the park in 2009 by developing the improvements as described in Section 8 Implementation & Management Plan – Initial Investments – page 8.1.
3. As use of the park for horseback riding develops consider how the County may aid the equestrian groups in their development of trails connecting to the park. Refer to Section 7 Development Master Plan – Horse Trailhead Facility – page 7.10.
4. As owners of property indicated for potential expansion of the park become willing sellers, the County should begin discussions to acquire the property or easements for habitat and park expansion. Refer to Section 7 Development Master Plan – Potential Future Park Expansion – page 7.22.
5. Discussions should be held with the City of Rockville to review city ordinances regarding the discharge of fire arms within the city limits. This will be crucial to providing hunting opportunities for the disabled as described in Section 6 – Park Development Program – Permitted Hunting for Disabled Groups and for Wildlife Management Purposes – page 6.3.
6. Review and amendment of the Counties Park Ordinance #353 will be necessary if hunting opportunities for the disabled are to be provided as described in Section 6 – Park Development Program – Permitted Hunting for Disabled Groups and for Wildlife Management Purposes – page 6.3.
7. Work with the City of Rockville and the County Highway Department toward approval of the proposed roadway realignments as described in Section 7 Development Master Plan – Vehicular Access and Park Drives – page 7.19.



# SECTION 1

## INTRODUCTION

### Overview

The development master plan reflects the consensus reached between the public, Rockville County Park & Nature Preserve Citizen Advisory Committee (CAC), Stearns County Park Commission, and the Stearns County Board regarding how the park should be developed to meet regional needs. The public process played a pivotal role in shaping planning outcomes by giving citizens numerous opportunities to voice their opinion on the park's future development. Through this process, the CAC, Park Commission, and County Board gained an appreciation for public interests and sentiments that were duly considered as conclusions were drawn. In the end, the master plan represents a reasonable balance between meeting the needs of the regional population while respecting the opinions and concerns of residents living near the park.

Notably, it should be recognized that the master plan remains dynamic and will evolve as it moves through implementation steps and benefits from new findings on recreational trends and operational experiences in the years to come.

### Public and Stearns County Involvement in the Planning Process

Given the notable interest in the future development and protection of Rockville County Park & Nature Preserve, the general public and special interest groups were invited to participate in the planning process on a number of occasions. Through formal and informal meetings, the public had direct access to Stearns County staff and the consultant team. The public's input throughout the planning process proved very fruitful and strengthened the final plan.

In addition to general public involvement, the CAC and Park Commission provided oversight of the planning process at critical points. Being familiar with local conditions and public demand for certain types of facilities, Stearns County staff inherently played an instrumental role in the master planning process. Under the planning framework, CAC, and staff specifically focused on the following key roles:

- Providing perspective and feedback on all planning issues
- Reviewing and commenting on all findings and master plan outcomes
- Reaching consensus on a final master plan



THE CITIZEN ADVISORY LISTEN TO DR. KIM CHAPMAN DURING THE ECOLOGICAL DESIGN CHARETTE

## Public Agency Involvement

A variety of individuals from public agencies and organizations were involved in the planning process in both an official and advisory capacity, the latter of which was largely through the *Rockville County Park Citizen Advisory Committee*. The committee included representation of the following agencies and organizations (in addition to citizens):

- Stearns County Board
- Stearns County Park Commission
- City of Rockville
- Rockville Sportsman's Club
- Country Snow Cruisers Snowmobile Club - Richmond and Cold Spring Affiliates
- Equestrian Advocates
- Adjacent Landowners
- Central MN Audubon Society
- Stearns County Staff

The advisory committee participated throughout the planning process, including attending five planning meetings and three public open houses. The individual and collective input of the committee proved valuable in determining the best course of action on complex planning issues.

## Step-by-Step Planning Process

The planning process followed a step-by-step procedure in which public participation was an integral part. The process ensured that pertinent issues were considered and addressed in the proper sequence and with due diligence. It also ensured that ecological issues were kept at the forefront of all discussions and land use decisions. Figure 1.1 illustrates the basic framework for the planning process.

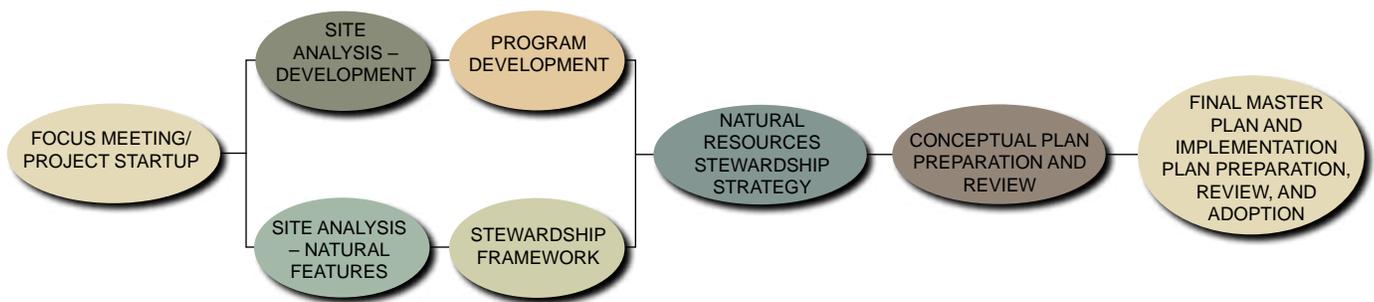


FIGURE 1.1 - FRAMEWORK FOR PLANNING PROCESS

## Interface with Stearns County Parks

The Rockville County Park & Nature Preserve master plan is consistent with the vision, goals, and policies of Stearns County's Parks. This includes alignment on issues related to the preservation of ecological systems and providing recreational amenities that meet the needs of the regional population. Stearns County will further apply the policies, standards, and guidelines defined under this and other pertinent plans as the master plan is implemented.

### County Park Development Criteria

As a park of *regional significance*, there is *no* specific requirement that the overall extent of development be limited to a maximum of 20% of the land area, leaving 80% as natural open space, however it is implicit in the Stearns County mission for its parks. Although not required, it was clearly established during the public process that limiting the built footprint to the minimum necessary to accommodate defined recreational uses was desirable and a high priority. The master plan layout reflects this by limiting the extent to which built features intrude into the natural areas.

Through the thoughtful selection and siting of proposed development, the overall built footprint under the new master plan is approximately 5%. Even though this was not a specific requirement for a county park, it does reflect the public's desire to preserve as much open space as possible while still meeting the public need for various forms of recreation.



PRESERVING AS MUCH NATURAL OPEN SPACE AS POSSIBLE IS A MAJOR THEME OF THE MASTER PLAN

## Interface with City of Rockville Park Property

Stearns County and the City of Rockville share a common interest in maximizing the park amenities in this area to meet broad local and regional park needs. This working relationship extends to the efficiencies and common goals associated with park development, including the following considerations.

### Complementary Trail Systems & Connections

Rockville County Park and Nature Preserve is located within the corporate limits of the City of Rockville. The park also abuts the recently created Eagle Park. Eagle Park is a 63 acre city park featuring the restoration of oak savanna and river woodland ecologies, which provides park visitors a unique opportunity to observe an active bald eagle nest in a setting reminiscent of early settlement times. To learn more about Eagle Park a master plan report was completed in February 2006 that can be obtained through the City of Rockville.

Rockville city roadways within the park include portions of Sauk River Road and Glacier Road. Both roadways serve the residential and farm commerce of the land to the north and west of the Rockville Park and Nature Preserve.

The Rocori Regional Trail, proposed by and to be developed and operated by the cities of Richmond, Rockville, and Cold Spring, the MnDNR, and Stearns County. The trail will parallel the south side of the Sauk River on the Burlington Northern Santa Fe rail line right of way. When developed, this trail along with the proposed connector trail to Rockville Park and Nature Preserve will provide the residents of Rockville with convenient access to not only the county park, but also Eagle Park.

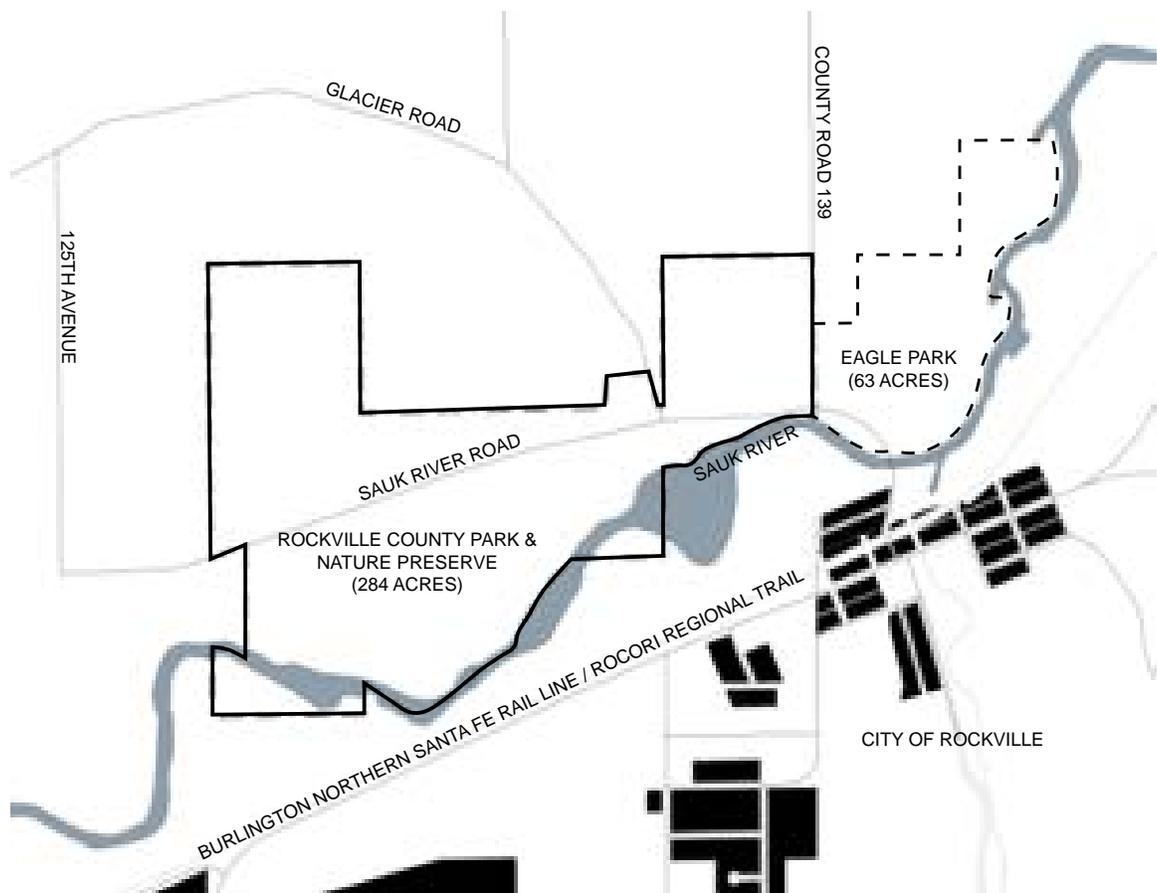


FIGURE 1.2 - ADJACENT PROPERTY OVERVIEW MAP



MATURE OAK TREES SCATTERED THROUGHOUT EAGLE PARK PROVIDE A PRIME LOCATION FOR NESTING EAGLES.



GRANITE PARK IDENTIFICATION SIGN

## Balancing Human Uses with Ecological Protection

Finding the right balance between human use of the park and its ecological preservation and protection was an important and consistent public concern throughout the planning process.

Since county parks place significant emphasis on preserving natural values, the planning process went to extensive lengths to ensure that the natural qualities present within the park would be preserved. In addition to its intrinsic values, stewardship of the park's natural landscape will also enrich the human, or cultural, experience for those visiting the park.

In comparing the development plan with the ecological protection zones shown in figure 4.1 in *Section IV – Natural Resource Analysis*, the majority of the proposed development purposefully stays on the periphery of the most sensitive areas. The exception to this includes nature trails, picnic areas, overlooks, and group camping related facilities – each of which require a certain natural setting to be successful. Larger scale features such as the main park support facilities and parking are located in less sensitive areas.

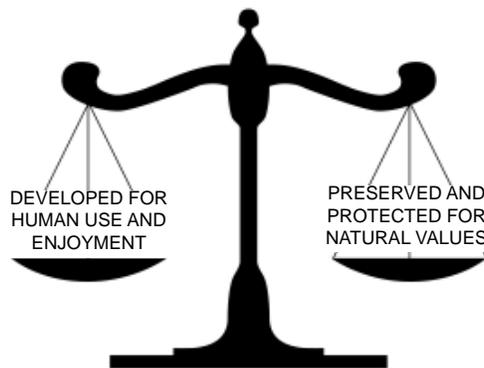


FIGURE 1.3 - BALANCING HUMAN USE AND ECOLOGICAL PRESERVATION



PRESERVING THE PARK'S NATURAL ATTRIBUTES WAS A CLEAR OBJECTIVE OF THE PLANNING PROCESS. DEVELOPMENT WITHIN THE MOST SENSITIVE OR HIGHER QUALITY NATURAL AREAS WAS PURPOSEFULLY LIMITED TO USES THAT WERE COMPATIBLE WITH THE SETTING, SUCH AS NATURE TRAILS.

## Conservation Easement

Rockville County Park & Nature Preserve contains 284 acres of land acquired as three separate parcels. Two of the parcels were bought from private landowners, but the majority of the park acreage, 194 acres, was generously donated in 2007 to the County by Linda and John Peck. This portion of the park includes a conservation easement established in 1980 with The Nature Conservancy which was thereafter transferred to the Minnesota Land Trust in 1998. The purpose of the easement is to preserve the natural and scenic qualities of the land in perpetuity. This easement limits development of the land to low impact activities and improvements. Any improvement proposed within the easement will need to meet the conditions of the agreement. See Appendix 'A' for a copy of the conservation easement.

This easement greatly influenced the location of the limited development within the Rockville County Park and Nature Preserve.



CONSERVATION EASEMENT SIGNS MARK THE PROTECTED AREA

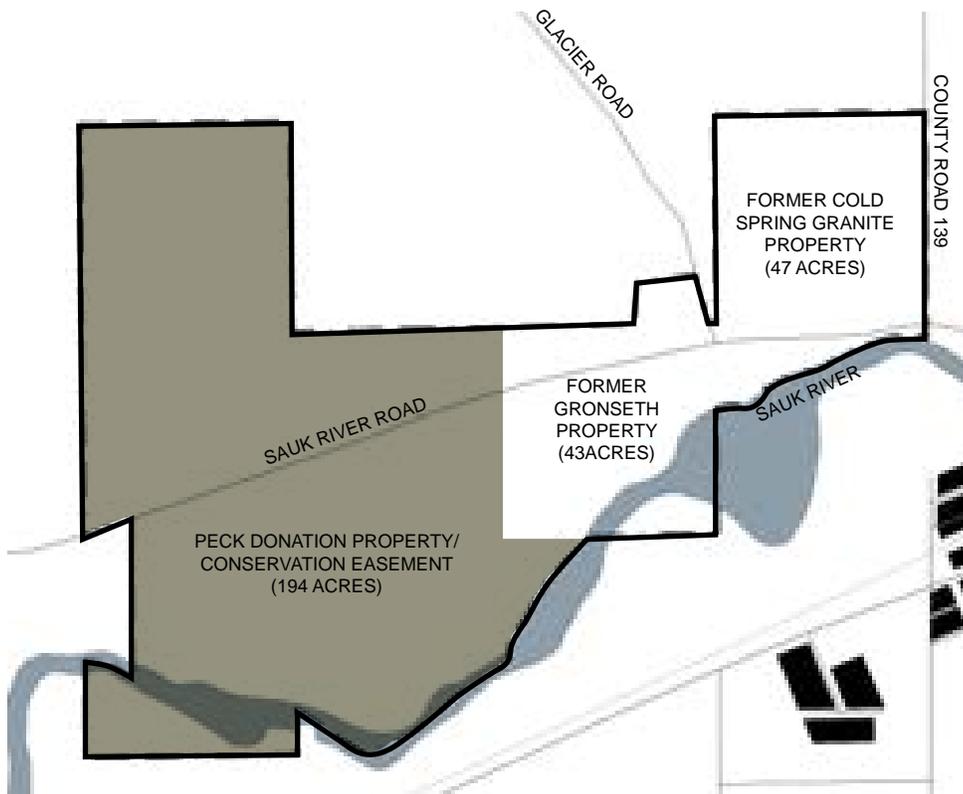


FIGURE 1.4 PARK ACQUISITION MAP AND CONSERVATION EASEMENT AREA

## Universal Design/Special Needs Framework

Universal design combines the basic principles of barrier-free design with a more comprehensive view of human capabilities. Universal design attempts to consider all degrees of sensory awareness, all types of locomotion, and all levels of physical and intellectual function. By doing so, the needs of individuals with varying desires, abilities, and expectations can be reasonably accommodated. The philosophy of universal design as defined by *Universal Access to Outdoor Recreation* include:

- People purposely choose settings for their recreation activities.
- Choices are made with the expectation of achieving specific recreational experiences.
- Desire is to provide as broad of a spectrum of activities and recreational settings as practical for a given site.

The *recreation opportunity spectrum* (ROS) classifications used by the USDA Forest Service is in keeping with the principles of universal design. These are flexible guidelines for making appropriate accessibility decisions that permit universal access within the context of the public's expectation for a certain type of setting. The ROS framework is based on a continuum of possible combinations of recreation settings, activities, and experiential opportunities, as well as the resulting benefits that can accrue to the individual (by improving physical and mental well-being) and society.

The recreation opportunity spectrum is divided into four classifications that cover the full spectrum of outdoor recreation environments. These classifications are divided primarily in terms of perceivable modifications to the natural environment and the related influences these modifications have upon visitor expectations. The following briefly defines the four ROS classifications:

- Urban/rural areas: are highly developed and evoke expectations of easy access
- Roaded natural areas: are less developed than urban settings, but still contain a relatively high number of modifications to the environment (these areas evoke an expectation for a moderate level of accessibility and a reasonable expectation for “like” experiences)
- Semi-primitive areas: are rarely developed, and evoke an expectation of difficult access
- Primitive areas: have few, if any, modifications (these evoke expectations for the most difficult access)

Under the ROS framework, it is not necessary, nor even desirable, to develop all recreation equally. From the ROS perspective, each site should be developed or modified in a manner that achieves harmony between recreation expectations and the environmental setting. What is important is that the level of access be in line with what is expected by the public – whether they are able-bodied or disabled – for a particular setting

### Application of Universal Design Principles

The objective with universal design is to consciously apply the principles to this park setting to determine what is most appropriate given the circumstances. Of the four ROS classifications defined above, the **roaded natural area classification** has the most utility given the park’s location and physical characteristics.

### Involvement of Representative Populations in the Design Process

Since universal design is still an evolving approach to design, achieving universal access is often simpler in concept than in practice. Anticipating the needs of people with varying degrees of abilities is a formidable task since it is often very difficult to understand the specific needs of individuals with certain disabilities when one does not share those limitations. Therefore, it is imperative that the design process include individuals that represent a cross-section of people with, and without, disabilities. As the project moves into design implementation phases, efforts should be made to involve representatives of divergent populations in the detail design of specific facilities. This approach helps to ensure that the design for any given facility will actually serve the intended populations.



TRAILS WITHIN THE SAVANNA, PRAIRIE, AND MAIN SUPPORT FACILITY WILL BE EASIER TO ACCOMMODATE THESE CRITERIA GIVEN THE TOPOGRAPHY CHANGES AND ECOLOGICAL CHARACTERISTICS

A unique idea to provide hunting opportunities for disabled individuals was suggested by members of the public and is included in the park program of use and is further discussed in *Section VI - Park Development Program* of this report.

# SECTION 2

## TRENDS & PUBLIC PROCESS FINDINGS

### Overview

This section of the master plan considers the setting for the park, regional trends affecting its future, and findings from the public process. Considered collectively, these variables played a major role in shaping the master plan and how the decisions made today will affect the park 10, 20, or even 50 years hence.

### Setting

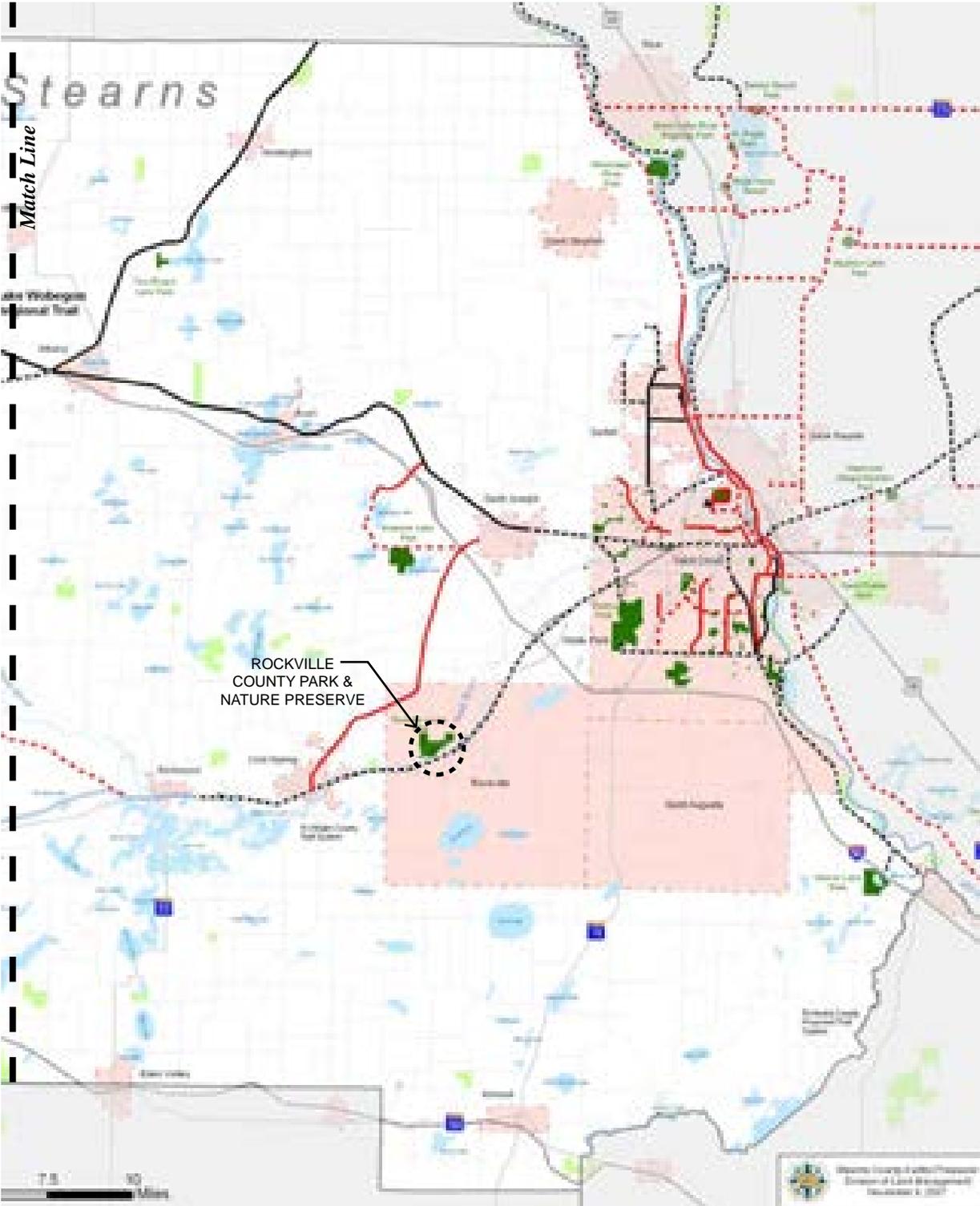
Stearns County is centrally located in the state of Minnesota. The three closest state parks are Sibley State Park in Kandiyohi County approximately 54 miles from St. Cloud; Charles A. Lindbergh State Park in Morrison County approximately 35 miles from St. Cloud and Lake Maria State Park in Wright County, 27 miles from St. Cloud. Stearns County Parks provide the county residents with regionally significant open space and recreation opportunities within a convenient drive distance.

County park facilities range from small public water accesses to large parks containing significant cultural, recreational and environmental features.

<b>Park Name</b>	<b>Size</b>
Lake Koronis Regional Park	62 acres – shared park with Meeker County
Mississippi River County Park	230 acres
Oak Township Park	32 acres
Quarry Park and Nature Preserve	643 acres
St. Martin Canoe Access	1 acre
Spring Hill County Park	82 acres
Two Rivers Lake Park	56 acres
Upper Spunk Lake County Park	7 acres
Warner Lake County Park	241 acres
Fairhaven Mill Park	5 acres – shared park with Wright County
Miller Landing	> 1 acre
Heims Mill Canoe Access	> 1 acre
Kraemer Lake – Wildwood County Park	265 acres
Rockville County Park & Nature Preserve	284 acres

Most significantly the County has been planning, acquiring land and developing a county wide trail system to make its parks accessible to residents.





## Current Park Uses

As an undeveloped park, existing use patterns have not been extensively tracked. Based on input during the public process, local residents routinely hike through the park on trails developed and maintained by the former landowner. Snowmobilers also use the Sauk River Road right of way to move east - west through the park. This trail is a MN DNR designated snowmobile route and is maintained by the local snowmobile club. The Sauk River which, largely forms the southern boundary of the park, has been designated a canoe route by the Department of Natural Resources. The route extends over 90 miles from Sauk Lake dam to its confluence with the Mississippi River. Otherwise, current uses are very limited. Although the park’s use is currently relatively low, its innate characteristics coupled with the growing population within the service area suggest that use will be very robust once it is developed for use.

While current use data provides limited insights about future use levels, trends forecasting does allow for projecting future demands and determining how the park is best developed to meet future recreational needs. To this end, trends related to changes in the population and recreational interests were taken into consideration during the preparation of the master plan.

### Population Trends for Stearns County

The following information quoted from the Stearns County, March 2008 Comprehensive Plan indicates that the population of the county is expected to increase and that the demand for public services will be directly affected.

*“Stearns County is often defined as part of a “growth corridor” in Minnesota extending from the Brainerd area through the Twin Cities to Rochester. Reflecting this status, the population of Stearns County grew at a significantly higher rate (7.1%) than the state average (4.3%) for the five years from 2000 to 2005. According to the Office of the Minnesota State Demographer, the total population of Stearns County grew from 133,166 in 2000 to an estimated 141,130 in 2005, exceeding earlier projections of growth by 12%. The estimated 2006 population of 144,443 represents a 2.3% increase over 2005.”*

*“It should be noted that the estimated 2005 County population of 141,130 would translate to a 25.6% increase in population through 2030. The State Demographer’s 2007 population projections suggest a 34.9% increase from 2005 through 2035. It appears that growth is continuing at a steady pace through the current decade. Use of natural resources and demand for housing, employment, transportation, and public services are all directly affected by increases in population.”*

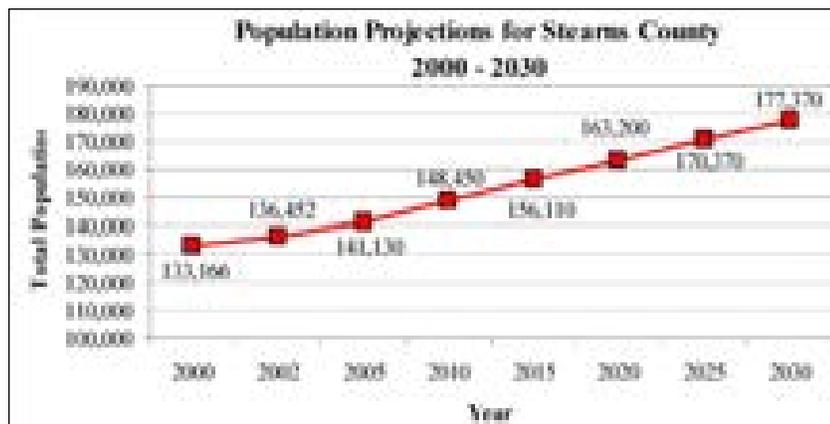


FIGURE 2.2 STEARNS COUNTY 2000 – 2030 POPULATION PROJECTIONS (SOURCE: MINNESOTA STATE DEMOGRAPHIC CENTER)

Undoubtedly, this growth trend will put increasing pressure on developing Rockville County Park & Nature Preserve to service an expanding population with a wide range of outdoor recreation pursuits and service expectations.

*“The aging of the population is expected to have impacts throughout Stearns County, both in the metropolitan area and in the non-metro and rural areas. Rural areas will likely continue to see the most rapid aging trend, as economic growth will likely continue to be more rapid in the metro area. However, all communities are expected to see the median age rise. The aging trend will have consequences for development markets, transportation needs, and for the County’s economic base”.*

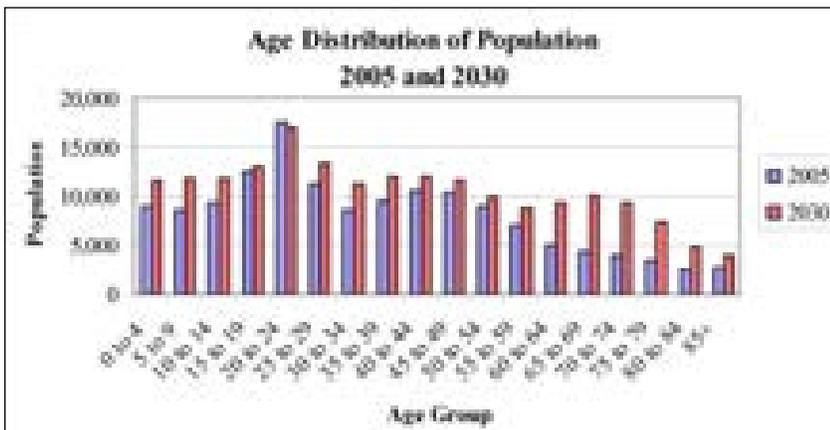


FIGURE 2.3 STEARNS COUNTY AGE DISTRIBUTION OF POPULATION 2005 AND 2030

Aging of the population along with competition for recreational time is changing the demand for and type of recreation desired by the public. Stearns County is not immune to these changes, but fortunately the County’s mission for its parks is appropriately positioned to meet the future recreation preferences and needs of its citizens. Visitation by people over the age of 60 is expected to increase as the baby boom generation ages and continues their use of the county park system. Facilities will need to be kept up to Americans with Disabilities Act (ADA) standards, and more opportunities for low impact and educational opportunities should be provided to meet the needs of this growing user base.

Increasing transportation prices are likely to increase demand for local recreational opportunities that involve less travel. Rockville County Park and Nature Preserve is in the eastern portion of Stearns County, which is the fastest growing and most urban portion of the county. The park is easily within a one half hour drive of the St. Cloud Metropolitan Area and perhaps 70 percent of the county’s population. According to the 2004 Outdoor Recreation Participation Survey of Minnesotans prepared by the Minnesota Department of Natural Resources the number one barrier to people’s participation in outdoor recreation is time.

*“For Minnesota adults, the leading barrier is time. People simply do not have enough time to participate more”.*

The location of Rockville County Park & Nature Preserve suggests that it will receive a higher level of use due to its closeness and ease of access for a large proportion of the county’s population. The facilities proposed and natural resources available at the park are also in the top 10 recreation activities most sought after by the public.

Activity:	Number of participants (000's)	Percent of population
Walking/hiking (walking or hiking outdoors for exercise or pleasure)	1,896	24%
Boating of all types, including fishing from a boat	1,493	43%
<i>Boating of all types, excluding fishing from a boat</i>	1,237	36%
<i>Motor boating of all types, including fishing from a boat</i>	1,363	39%
<i>Motor boating of all types, excluding fishing from a boat</i>	1,099	30%
<i>Nonmotorized boating of all types, excluding fishing</i>	327	11%
<i>Canoing/kayaking, excluding fishing</i>	487	14%
Swimming or wading (all places)	1,423	41%
<i>Swimming or wading in a lake or stream</i>	1,278	37%
<i>Swimming or wading in an outdoor pool or water park</i>	376	11%
Driving for pleasure on scenic roads or in a park	1,300	37%
Picnicking	1,245	36%
Fishing of all types	1,054	30%
<i>Fishing from a boat</i>	829	27%
<i>Fishing from shore or dock</i>	304	9%
Biking (bicycling outdoors of all types, including mountain biking)	1,011	29%
<i>Biking on dirt trails</i>	423	12%
Visiting outdoor zoos	957	27%
Camping of all types	899	26%
<i>Camping using a camping vehicle (e.g., pop-up/hard-sided trailer)</i>	450	13%
<i>Camping using a tent</i>	673	19%
<i>Camping using a tent for backpacking or canoe-in/boat-in camping</i>	346	10%
Visiting nature centers	884	25%
Nature observation of all types (viewing, identifying, photographing)	844	24%
<i>Viewing, identifying or photographing birds and other wildlife</i>	772	22%
<i>Viewing, identifying or photographing wildflowers, trees, natural vegetation</i>	679	19%
Golfing	820	24%
Outdoor field sports (e.g., soccer, softball/baseball, football)	727	21%
Visiting historic or archaeological sites	721	21%
Skidding and snow tubing	642	18%
Outdoor court sports (e.g., volleyball, basketball, tennis, horseshoes)	612	18%
Hunting of all types	556	16%
<i>Hunting big game (e.g., deer, bear, moose)</i>	479	14%
<i>Hunting waterfowl, upland game birds, and other small game</i>	389	11%
Running or jogging	497	14%
Ice skating/hockey outdoors	482	13%
Inline skating, rollerblading, roller skating, roller skiing	394	11%
Offroad ATV driving	357	10%
Snowmobiling	342	10%
Downhill skiing/snowboarding	313	9%
Gather mushrooms, berries, or other wild foods	302	9%
Cross country skiing	227	7%
Horseback riding	157	5%
Snowshoeing	146	4%

FIGURE 2.4 ANNUAL OUTDOOR RECREATION PARTICIPATION BY MINNESOTANS IN MINNESOTA AND ELSEWHERE, 2004 (POPULATION 20 YEARS AND OLDER)

## Local Public Input

The public process was structured to allow all interested parties ample opportunity to participate in developing the master plan. In addition to formal meetings with the Stearns County Park Commission and Board of Commissioners, a number of other public meetings were held to give the public-at-large the chance to voice their opinions and critique planning and design ideas. Figure 2.7 summarizes these formal points of public review and input.

July 22, 2008.....	Task Force Meeting - Project Kick-Off
August 5, 2008.....	Public Open House - Programming
August 26, 2008.....	Task Force Meeting - Ecological Charette
September 9, 2008.....	Park Commission Meeting
September 16, 2008.....	Task Force Meeting - Design Charette
September 23, 2008.....	Public Open House - Ecological & Design Alternatives
October 16, 2008.....	Task Force Meeting - Preliminary Master Plan
October 28, 2008.....	Public Open House - Preliminary Master Plan
November 18, 2008.....	Task Force Meeting - Final Master Plan
December 10, 2008.....	Park Commission Meeting
January 21, 2009.....	County Board Meeting - Final Master Plan Approval

FIGURE 2.7 PUBLIC PROCESS MEETING SCHEDULE

## Conclusions

### Findings From The Public Process

In general, the findings from the public process validated the recreational trends forecasts presented in this section. The initial public meetings were also fruitful in defining how the current park functions and how new uses can best be accommodated. After consideration of a number of conceptual ideas, consensus was gained for the master plan presented in this report. The following summarizes the key points made during the initial public meetings as they relate to major development issues.

### Level of Development/Natural Resource Protection

- Accommodate the recreational activities that address regional needs as defined by recreational trends and that are appropriate for this particular setting
- The park should complement, not duplicate, services provided in other parks and nature centers in the area
- The development footprint should be kept as small as possible in order to preserve natural open space areas
- Ecological stewardship of the park is considered to be of critical importance

## General Issues Raised

- Consensus that trails should be unpaved. Developing a more extensive network of natural-surfaced trails received very strong support.
- Sauk River is not well suited for swimming and therefore no facilities should be provided.
- There was support for primitive small group camping.
- There was support for leaving the snowmobile trail where it currently is located, but not to expand it.
- Providing more “family-oriented” use areas was thought to be desirable to increase park use.
- Making a trail connection to the proposed Rocori Trail, Eagle Park and to the City of Rockville was defined as important.
- Strong support was expressed for the inclusion of equestrian trails in the park and for future connections to trails developed by local equestrian groups.
- Fishing opportunities should be accommodated and improved on the river frontage.
- Facilities for persons of all abilities should be provided.
- There was unanimous support for the development of the park to be based upon sound ecological rehabilitation and management of the park.

In consideration of the population trends and findings of the public process, it is clear that Rockville County Park & Nature Preserve is an essential component of the county park system and will be vital to servicing the recreational needs of residents within Stearns County in the years to come.



THE CITIZEN ADVISORY COMMITTEE TAKES IN AND LEARNS ABOUT THE VARIOUS ECOLOGICAL FEATURES THE PARK HAS TO OFFER

# SECTION 3

## VISION STATEMENT

### Overview

The vision statement establishes the context for preparing the master plan and the basis for planning decisions related to ecological stewardship and development. The Citizens Advisory Committee adopted the County's overall vision for parks as the vision for Rockville County Park & Nature Preserve.

#### Stearns County Parks Mission Statement:

Rockville County Park & Nature Preserve is part of the Stearns County park system, which is defined in the *Stearns County Parks, Trails, and Open Space Policy Plan*. Within that plan, the vision for Stearns County regional parks is stated as follows.

“To provide natural resource-orientated parks and outdoor recreation opportunities, that enhance the quality of life of Stearns County residents through physical fitness, community building and economic vitality.”

#### Stearns County Classification System for a County Park:

**Use:** Area of natural or scenic quality for nature-orientated outdoor recreation

**Service Area:** 3-5 communities or 10 mile radius

**Size:** 100-500 acres

**Attributes / Location:** Complete natural setting, preferably contiguous to water resources



THIS PAGE INTENTIONALLY LEFT BLANK

# SECTION 4

## NATURAL RESOURCE ANALYSIS

### Analysis of Existing Ecological Conditions

Plant communities and land cover types are a foundation for planning the restoration and management of natural resources at Rockville County Park & Nature Preserve. In addition, land cover is a starting point for developing programmatic goals for the park. Hydrological features of the park and the park's regional context also help in identifying opportunities and constraints to park development.

Dr. Kim Chapman, of Applied Ecological Services, completed a site visit to Rockville County Park & Nature Preserve with John Peck on August 5, 2008. They visited representative areas of the park, briefly studied representative areas, and noted the characteristics of all land cover types present. Watercourses were also noted and a map of wetland soils was consulted to determine the potential for wetland restoration. Historical vegetation (1850-present) and regional land cover also aided with the interpretation of existing land cover and plant communities. A map of historical vegetation (Marschner 1974) was available for the 1850s as were aerial photographs for the period 1938 to the present (from Historical Information Gatherers, Inc.).

Drawing on existing information available to the consultant, maps describing land cover, hydrological features, and a regional overview were created for use in this study.

### Land Cover

The land cover and plant communities represent conditions typical for farm regions in central Minnesota (Figure 4.1). Outstanding features of the park are:

- High quality tamarack swamp and lowland hardwood (or wet) forest located in the conservation easement donated by the Peck Family;
- Woodland and forest communities that have many native groundcover plants;
- Ecological gradient from prairie and savanna to woodland and forest;
- Good diversity of wildlife due to the prairie-forest habitat gradient;
- Hydric soils in cropland which have the potential for restoration to wet meadow.

The existing gradient from treeless communities to dense forest also existed in the 1850s. The cropland of today was formerly prairie with low-growing oak brush and shrubs. The floodplain on the sandy soils of the Sauk River bottoms was prairie, both dry and wet. The tamarack swamp, wet forest, and other dense forests seen today were historically forested due to constantly wet soils and barriers to fire—the Sauk River and the steep, shaded slopes above the floodplain.

Outside Rockville Park the landscape of the 1850s was comprised of oak openings and barrens, a bright, semi-forested setting where sun-loving and shade-tolerant plants mingled. Neither trees nor grasses were dominant, but coexisted for thousands of years due to the practice of the Dakota Indians of setting fire to the land nearly every year. Without fire or another disturbance—mowing, grazing, cropping—the landscape around Rockville County Park turned into dense forest. The ecological gradient from prairie to savanna to forest created habitat for a wide range of wildlife, from prairie-dependent species like upland sandpiper and pocket gopher to forest species such as barred owl and red squirrel.

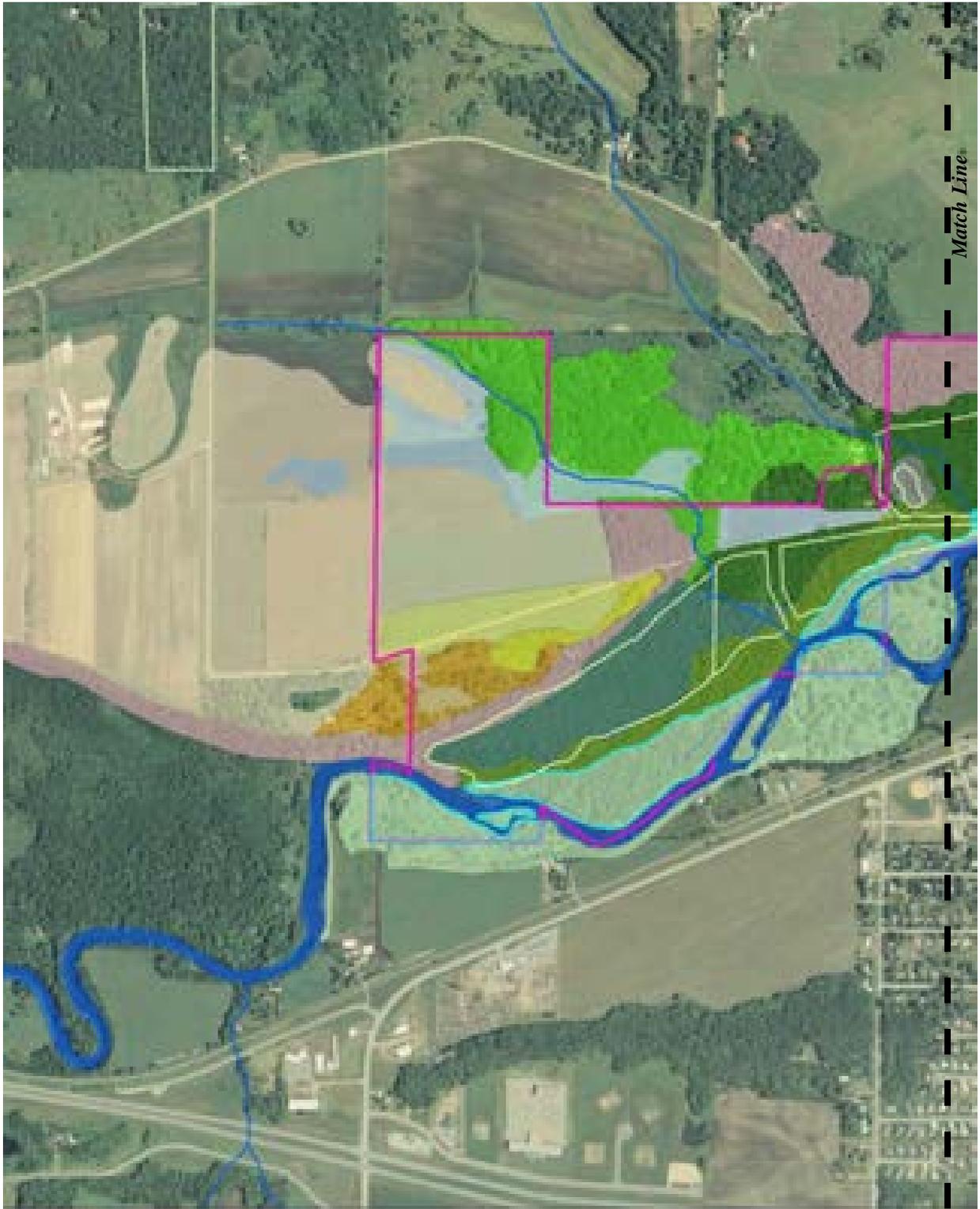
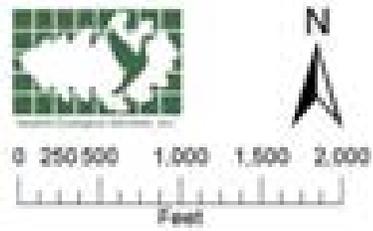


FIGURE 4.1 LAND COVER 2008



### Legend

- Rockville Park
- Eagle Park
- County Biological Survey**
- High Quality Plant Communities
- Land Cover Type**
- Wet Forest
- Mesic Forest
- Floodplain Forest - Moderate Quality
- Floodplain Forest - Low Quality
- Tamarack Swamp
- Oak Woodland
- Savanna
- Prairie Restoration - 2007
- Prairie Restoration - 1991
- Wet Meadow
- Pasture
- Rock Outcropping
- Cropland - Hydric Soils
- Cropland - Upland Soils
- Water



## Wet Forest

A wet forest is a forest on moist mineral soil with light-seeded trees that readily colonize other habitats. Trees include green ash, black ash, paper birch, quaking aspen, hackberry, American elm, box elder, silver maple, and basswood. Black ash and paper birch are more common near the tamarack swamp. Groundcover is dominated by wood nettle, ostrich and other ferns, and a variety of flowering plants. Where wet forest is disturbed, the non-native reed canary-grass and stinging nettle was abundant, along with other non-native and weedy native plants. The wet forest has always existed here, but may have expanded into adjacent wet meadow areas since 1850. The wet forest is synonymous with “lowland hardwood forest,” the term used by the Minnesota County Biological Survey for the wet forest near the tamarack swamp. The MCBS ranked this area as high quality.



## Tamarack Swamp

A tamarack swamp is a forest on saturated muck soil with trees and other plants characteristic of a cooler climate than central Minnesota. The plants survive because of shading, low position on the landscape, muck soils, and cold groundwater flowing in from the north. This is a groundwater-dependent community, meaning that if runoff is diverted from the watershed north of the tamarack swamp via ditches, the amount of groundwater flowing into the tamarack swamp may be reduced. Small fens are found where groundwater upwelling exist at the base of the slope along the north side of the tamarack swamp, but shading and invasion by reed canary-grass has reduced their size and quality over the years. Plants in the fen areas include tussock sedge, lance-leaved lousewort, white turtlehead, spotted touch-me-not, and marsh marigold. Elsewhere the tamarack swamp’s muck soils bounce when walked or jumped on because the soil is floating on water. Characteristic trees of the tamarack swamp are tamarack and black ash, with paper birch and green ash entering from mineral soil on the nearby ground. The ground of the tamarack swamp is covered by many species of mosses, liverworts, ferns, and herbaceous plants. Orchids and other uncommon plants also occur here. The non-native shrub, European buckthorn, is uncommon to common despite efforts to remove it. Buckthorn appeared denser in the light gaps formed in the canopy where tamaracks have died or blown over. The tamarack swamp rated as high quality by the MCBS.



## Floodplain Forest

A floodplain forest is a forest on mineral soils that is periodically flooded by rising waters from adjacent streams and rivers. It is similar to wet forest, but more often disturbed by flooding and sediment and nutrient deposition, and consequently reed canary-grass can dominate the ground beneath openings in the tree canopy. Trees include silver maple, green ash, American elm, box-elder, hackberry, black willow, quaking aspen, and cottonwood. Bur oak, American basswood and other trees of drier sites may grow on rises in the floodplain. The floodplain forest in the northwest corner of Rockville Park was visible on an aerial photo from 1938, suggesting that the wet conditions near the drainage way that existed when agriculture began persist at present. However, the floodplain forest now growing in the floodplain of the Sauk River was open fields in 1938 in which old river oxbows and channels could be seen. Some of this ground was farmed, and all of it appears to have been grazed. The historical Marschner map shows the floodplain as open prairie, probably wet prairie. The forest cover developed only in the last few decades after livestock were removed and the plants of a mature floodplain forest have not had time to establish. Consequently the quality of the floodplain forest here is lower than in the northwest corner of the park where the forest has existed for more than 70 years.

## Mesic Forest

A mesic forest is a forest on mineral soil with average soil moisture conditions that promote the growth of plants of both moist and dry sites. Because of favorable soil conditions, plant diversity is often high in mesic forests. The mesic forest at Rockville County Park supports a good diversity of spring wildflowers, such as bloodroot, trillium, and blue cohosh, as well as later-blooming flowers and woodland grasses. The presence of woodland grasses, such as bottle-brush grass and wild-rye, indicates that past grazing which eliminates woodland grasses was not too severe and that the groundcover has potential to improve. Bur oak, red oak, american basswood, hackberry, ironwood, white ash, american elm, black cherry, and white oak were present in the mesic woods. The largest trees are estimated to be at least 125 years of age. Sugar maple is establishing itself at some locations, posing a challenge to future plant diversity of the mesic forest. Sugar maple increases in mesic forest over time unless the forest is disturbed. Increasing sugar maple dominance reduces overall plant diversity by creating dense shade under which many tree seedlings, shrubs, and herbaceous plants cannot grow.



## Oak Woodland

Oak woodland is a forest located on drier sites than mesic forest. Coarser-textured soils and/or steeper topography promote better drainage than mesic forest. The oak woodland in 1938 had a more open tree canopy than it does presently. On the Peck-donated land, for example, the tree canopy covered less than 50 percent of the ground. Outside the park in 1938 were similar areas that had less than 35 percent canopy cover. A tree canopy of 35-50 percent is characteristic of savanna habitats that are maintained by regular disturbance of some kind—fire, grazing, or cutting. These disturbances maintained open canopy conditions for centuries in the oak woodland. However, lack of disturbance for the last 40-50 years in the oak woodland allowed light-seeded trees of wet forest and floodplain forest to colonize the former savanna. Plainly visible in the oak woodland are old bur oak and northern pin oak trees with broad, spreading branches indicating that they developed when the forest was open savanna. Between the old oak trees has developed a dense growth of green ash, hackberry, and American elm. Red oak is also present. The largest trees are estimated to be 125-150 years old. The groundcover variety is greater near the edges of the woodland where light levels are higher than in the interior of the woods. The groundcover is typical of a savanna in transition to a forest, with most of the sun-requiring species being rare, and few of the shade-tolerant species being present due to the short time that the canopy has been closed and available for colonization by these species.



## Savanna

Savanna is a plant community where the tree canopy covers less than 50 percent of the ground. It is maintained by regular disturbances. Research suggests that savanna canopies can become closed forest in 20-25 years, and that disturbance each year or every other year is required to prevent the tree canopy of a savanna from closing (Chapman and Brewer 2008). Bur oak is the dominant tree species of the savanna at Rockville County Park, and the largest trees are estimated to be 125-150 years old. Green ash, box-elder, and American elm are present. The groundcover is highly altered by past grazing and was dominated by non-native grasses (Kentucky bluegrass, smooth brome) and quackgrass. Parts of the savanna were until recently grazed by horses.



## Prairie Restoration

Two areas of former cropland were planted to tallgrass prairie: one around 1996 by the Pecks and the other in 2008 by Stearns County. Native prairie plants cover most of the older restoration, which includes big bluestem, Indian grass, little bluestem, lupine, sedges, yellow coneflower, goldenrod, and purple prairie-clover.



## Wet Meadow

Wet meadow is an herbaceous plant community on wet, typically mineral soil that is periodically flooded. Wet meadows too small to map are scattered in the wet forest and tamarack swamp. A large wet meadow is located at the park's boundary in its northwest part and extended historically to adjacent lands north and west. A ditch dug perhaps 100 years ago reduced the size of the wet meadow at Rockville Park. Portions of the former wet meadow are cropped or hayed today. The 1938 aerial photo shows the ditch, which was last cleaned out about 30 years ago. The invasive plant reed canary-grass dominates most wet meadows of the region. Reed canary-grass is an imported grass widely planted for forage and hay. It replaces the diverse native plant life of wet meadows that have experienced changed hydrology, grazing, and sediment and nutrient runoff from cropland and roads. It has low value for wildlife due to its dense growth and tiny seeds. Native plants can be found in wet meadows at Rockville County Park where shading reduces dominance by reed canary-grass, or where hydrology is natural or mowing lowers the height of reed canary-grass. Among the many native plants seen in small numbers were lake sedge, water sedge, bebb's sedge, wool grass, green bulrush, giant lobelia, marsh milkweed, northern bedstraw, canada anemone, rough hedge-nettle, boneset, spotted joe-pye-weed, wild mint, water horehound, blue-joint reed-grass, and prairie gayfeather. A number of shrubs also grow in wet meadows: pussy willow, , gray dogwood, red-osier dogwood, and sandbar willow.



## Rock Outcrop

This community occurs on an elongate granite whaleback. It was noted as an outstanding plant community by the MCBS. On the 1938 aerial photo the rock outcrop was several times larger than it is today; it has shrunk due to tree encroachment. The plants growing here are a mix of species indigenous to dry cliffs and dry prairies: pink corydalis, pussytoes, big bluestem grass, bluets, starry wild onion, red-stemmed Juneberry, wild rose, polytrichum moss, and hairy spiderwort. Two invasive, non-native plants—Tartarian honeysuckle and Kentucky bluegrass—take up space in the plant community. Bur oak and northern pin oak trees are larger than the other encroaching tree species, suggesting that the area immediately surrounding the rock outcrop was more like savanna than woodland.



## Cropland

Cropland currently consists of alfalfa north of Sauk River Road and corn west of the wet meadow in the park's northeast corner. Some former cropland in the northwest corner is fallow and was formerly wet meadow. This area of former wet meadow is mapped as cropland-hydric soils.



## Water

Open water at the park is the Sauk River and Babbling Brook, a small stream that flows from the northwest through the eastern portion of the park.

## Hydrological Features

As Figure 4.2 on the next page illustrates, the Sauk River dominates the park's hydrological features. It is a warm, shallow, slow-flowing river. Sediment is a problem in the river because it drains an agricultural region, but vegetation beds are never the less quite diverse and dense inside the park. Granite corestones crop out of the streambed in interesting arrangements. The 100-year floodplain of the Sauk River extends to the edge of the City of Rockville and nearly to Broadway Street in places. Inside the park the floodplain includes the floodplain forest and tamarack swamp.

Babbling Brook is a small tributary of the Sauk River flowing through the park's eastern third. Babbling Brook was dry at Sauk River Road at the time of the field visit. The brook's watershed starts in the high quality forests some two miles north of the park. After descending over steep terrain, Babbling Brook flattens out in the agricultural lands south of Glacier Road. Along most of its way through this flat cropland, its banks are covered by natural plant growth, including a variety of native sedges, grasses, and wildflowers. Near where Babbling Brook crosses Glacier Road it once met the water flowing from the park's northwest corner. In this corner is a formerly large, drained wetland that was the west headwaters of Babbling Brook.

The ditch was dug sometime before 1938, likely around 1900, in order to drain this portion of the park and also two private parcels west of the park. A 2-3 foot high ridge in the oak woodland (Figure 4.2; asterisk) near the park's north boundary forced water from the park's wetland to travel east and meet Babbling Brook. The ditch was cut through this ridge and now flows south to the Sauk River. As a result, not only is the park's wetland drained, but Babbling Brook is starved of the water that used to flow from its western headwaters. There is a tamarack swamp on muck soil between the park's wetland and Babbling Brook. This tamarack swamp has deteriorated through the years because the snowmelt and rainfall that once kept it moist was diverted directly to the Sauk River. Moreover, the muck soil of the tamarack swamp can hold several times its weight in water and discharge that excess water downstream throughout the year. As a result, Babbling Brook formerly received more groundwater in summer than it does with the ditch in place.

At the time of this field visit, the ditch contained flowing water in the park's northwest corner, standing water in the floodplain forest downstream, and was dry in the oak woodland. This suggests that the drained wetland was dry enough to absorb runoff from the ditch as water moved through it, and that the ditch was draining and drying the wetland during the growing season.

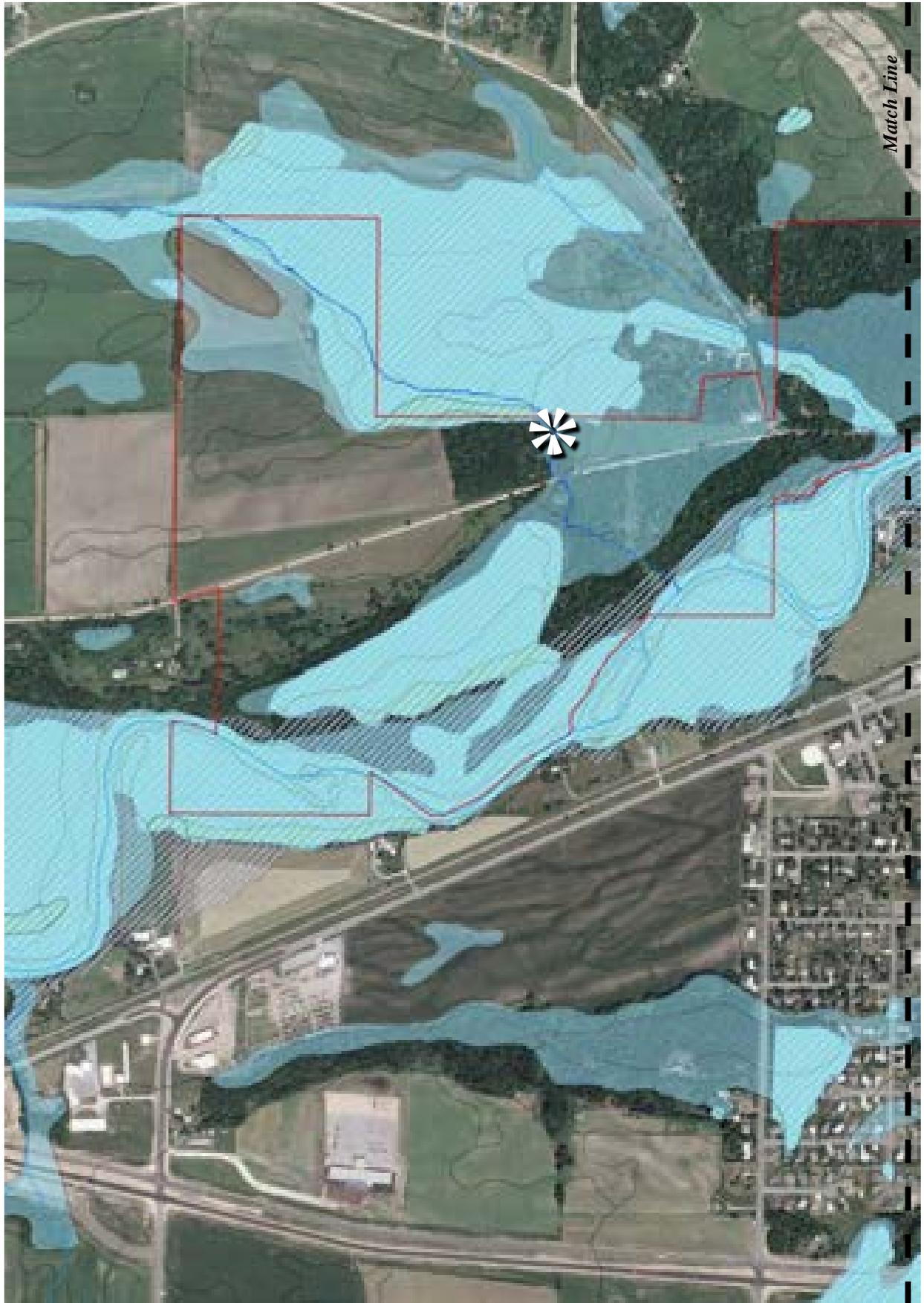


FIGURE 4.2 HYDROLOGIC FEATURES



### Legend

-  EAGLE PARK
-  ROCKVILLE COUNTY PARK & NATURE PRESERVE
-  NON-HYDRIC SOILS
-  HYDRIC SOILS
-  NWI WETLAND
-  FEMA FLOODWAY





SAUK RIVER

## Regional Overview

It was pointed out in the Eagle Park Master Plan that the Sauk River is a regionally significant natural corridor, and that securing connections upstream and downstream is an important goal and necessary to maintain the plant and animal species using the natural corridor. In addition, development from St. Cloud, Waite Park, Rockville, and Cold Spring is expected to grow along this corridor because of its beauty and recreational potential. This corridor has regional importance because it is one of the largest continuous blocks of native species habitat available in the surrounding agricultural region as shown in Figure 4.3 on pages 4.14 and 4.15.

The natural features of Rockville Park do not stop at the property boundary. Babbling Brook's headwaters to the north and west begin outside the park. Runoff from development and cropland flows into the park via the west ditch and Babbling Brook. This in turn flows to the Sauk River. Water quality in Babbling Brook and its watershed strongly affects water quality inside the park and in the local area of the Sauk River where the brook discharges.

The forests, woodlands, savannas, prairies, and wetlands inside the park are too small to support wildlife indefinitely by themselves. American kestrel, marsh hawk, barred owl, sandhill crane, and pileated woodpecker have territories larger than the available habitat at the park. More importantly, these species and all those at the park belong to inter-breeding regional populations of these animals. In order to maintain these regional populations, larger habitat blocks are needed. Consequently, the park's plant communities and habitats belong to a regional mosaic of natural areas.

Table 1. Some Native Plants Observed at Rockville County Park

Common Name	Scientific Name	Plant Community Where Prevalent
Box Elder	<i>Acer negundo</i>	Oak Savanna, Floodplain Forest
Silver Maple	<i>Acer saccharinum</i>	Wet Forest
Prairie Onion	<i>Allium stellatum</i>	Rock Outcrop
Round-leaf Serviceberry	<i>Amelanchier sanguinea</i>	Rock Outcrop
Big Bluestem	<i>Andropogon gerardii</i>	Restored Prairie, Rock Outcrop
Canada Anemone	<i>Anemone canadensis</i>	Wet Prairie
Pussytoes	<i>Antennaria</i> sp.	Rock Outcrop
Prairie Sage	<i>Artemisia ludoviciana</i>	Oak Savanna
Marsh Milkweed	<i>Asclepias incarnata</i>	Wet Prairie
Big-leaved Aster	<i>Aster macrophyllus</i>	Oak Woodland
Paper Birch	<i>Betula papyrifera</i>	Tamarack Swamp
Marsh Marigold	<i>Caltha palustris</i>	Tamarack Swamp
Lake Sedge	<i>Carex lacustris</i>	Wet Meadow
Tussock Sedge	<i>Carex stricta</i>	Tamarack Swamp
Blue Cohosh	<i>Caulophyllum thalictroides</i>	Mesic Forest, Oak Woodland
Hackberry	<i>Celtis occidentalis</i>	Oak Woodland, Floodplain Forest, Mesic Forest, Wet Forest
Turtlehead	<i>Chelone glabra</i>	Tamarack Swamp
Grey Dogwood	<i>Cornus racemosa</i>	Wet Prairie
Rock Harlequin	<i>Corydalis sempervirens</i>	Rock Outcrop
Showy Lady's Slipper	<i>Cypripedium reginae</i>	Tamarack Swamp
Boneset	<i>Eupatorium perfoliatum</i>	Wet Prairie, Wet Meadow
Black Ash	<i>Fraxinus nigra</i>	Tamarack Swamp, Wet Forest
Green Ash	<i>Fraxinus pennsylvanica</i>	Oak Savanna, Tamarack Swamp, Oak Woodland, Floodplain Forest, Wet Forest
Common Oxeye	<i>Heliopsis helianthoides</i>	Restored Prairie
Azure Bluet	<i>Houstonia caerulea</i>	Rock Outcrop
Bottlebrush Grass	<i>Hystrix patula</i>	Oak Woodland
Pale Touch-me-not	<i>Impatiens pallida</i>	Tamarack Swamp
Virginia Iris	<i>Iris virginica</i>	Wet Meadow
Wood Nettle	<i>Laportea canadensis</i>	Tamarack Swamp, Wet Forest
Tamarack	<i>Larix laricina</i>	Tamarack Swamp
Tall Blazing Star	<i>Liatris pycnostachya</i>	Wet Prairie
Great Blue Lobelia	<i>Lobelia siphilitica</i>	Wet Meadow, Wet Prairie
Water Horehound	<i>Lycopus americanus</i>	Wet Prairie
Ostrich Fern	<i>Matteuccia struthiopteris</i>	Tamarack Swamp, Wet Forest, Floodplain Forest
Wild Mint	<i>Mentha arvensis</i>	Wet Prairie
Ironwood	<i>Ostrya virginiana</i>	Mesic Forest
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Oak Woodland
Swamp Lousewort	<i>Pedicularis lanceolata</i>	Tamarack Swamp

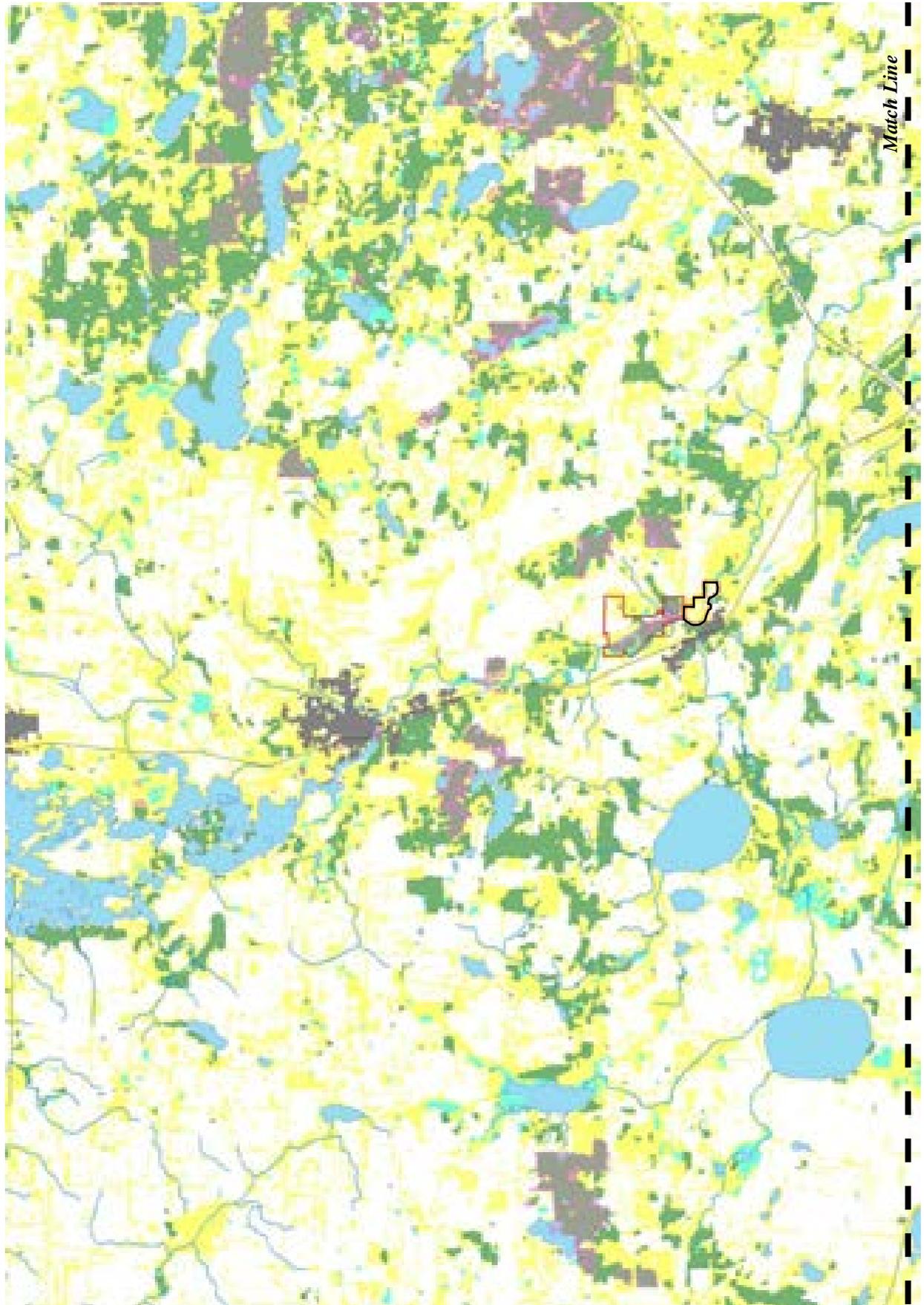


FIGURE 4.3 REGIONAL NATURAL RESOURCES OVERVIEW MAP

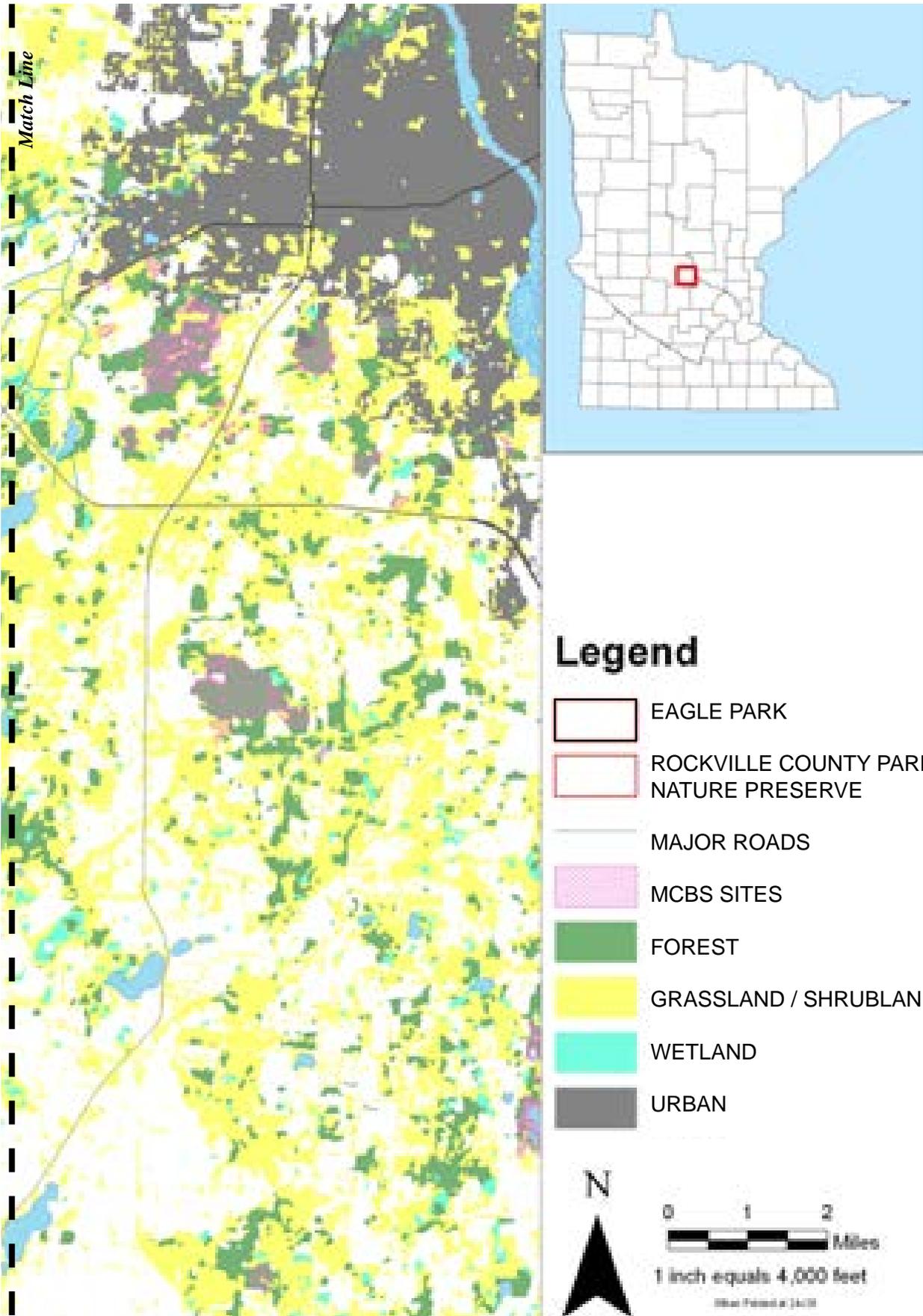


Table 1. Some Native Plants Observed at Rockville County Park (cont.)

<b>Common Name</b>	<b>Scientific Name</b>	<b>Plant Community Where Prevalent</b>
Polytrichum Moss	<i>Polytrichum piliferum</i>	Rock Outcrop
Quaking Aspen	<i>Populus tremuloides</i>	Wet Forest
Black Cherry	<i>Prunus serotina</i>	Mesic Forest
White Oak	<i>Quercus alba</i>	Mesic Forest
Northern Pin Oak	<i>Quercus ellipsoidalis</i>	Oak Woodland
Bur Oak	<i>Quercus macrocarpa</i>	Oak Savanna, Oak Woodland, Mesic Forest
Red Oak	<i>Quercus rubra</i>	Mesic Forest
Grey Headed Coneflower	<i>Ratibida pinnata</i>	Restored Prairie
Red Raspberry	<i>Rubus idaeus</i>	Floodplain Forest
Black-eyed Susan	<i>Rudbeckia hirta</i>	Restored Prairie
Brown-eyed Susan	<i>Rudbeckia triloba</i>	Floodplain Forest, Wet Forest
Sandbar Willow	<i>Salix exigua</i>	Wet Meadow
Meadow Willow	<i>Salix petiolaris</i>	Wet Prairie
Bloodroot	<i>Sanguinaria canadensis</i>	Mesic Forest, Oak Woodland
Maryland Sanicle	<i>Sanicula marilandica</i>	Oak Woodland
Little Bluestem	<i>Schizachyrium scoparium</i>	Restored Prairie
Green Bullrush	<i>Scirpus atrovirens</i>	Wet Meadow
Woolgrass	<i>Scirpus cyperinus</i>	Wet Meadow
False Solomon's Seal	<i>Smilacina racemosa</i>	Oak Woodland
Indian Grass	<i>Sorghastrum nutans</i>	Restored Prairie
Smooth Hedgenettle	<i>Stachys hispida</i>	Wet Meadow
American Basswood	<i>Tilia Americana</i>	Mesic Forest, Wet Forest
Trillium Trillium sp.		Mesic Forest
American Elm	<i>Ulmus americana</i>	Oak Savanna, Oak Woodland Mesic Forest
Prickly Ash	<i>Zanthoxylum americanum</i>	Oak Savanna

Table 2. Important Invasive Plants at Rockville County Park

<b>Common Name</b>	<b>Scientific Name</b>	<b>Plant Community Where Prevalent</b>
Smooth Brome Grass	<i>Bromus inermis</i>	Oak savanna, Prairie restoration
Tartarian Honeysuckle	<i>Lonicera tatarica</i>	Rock outcrop
Reed Canary-Grass	<i>Phalaris arundinacea</i>	Wet meadow, Floodplain forest, Tamarack swamp
Giant Reed-Grass	<i>Phragmites australis</i>	Wet meadow
Kentucky Bluegrass	<i>Poa pratensis</i>	Oak savanna, Rock outcrop
Common Buckthorn	<i>Rhamnus cathartica</i>	Tamarack swamp
Siberian Elm	<i>Ulmus pumila</i>	Cropland, Wet meadow
Nettle	<i>Urtica dioica</i>	Floodplain forest, Wet meadow

Table 3. Some Wildlife Observed at Rockville County Park

<b>Common Name</b>	<b>Group</b>	<b>Plant Community Where Observed</b>
Leopard Frog	Amphibian	Floodplain forest, Wet meadow
Common Yellowthroat	Bird	Floodplain forest
Indigo Bunting	Bird	Floodplain forest
American Goldfinch	Bird	Floodplain forest, Mesic forest
Northern Cardinal	Bird	Mesic forest, Oak woodland
Pileated Woodpecker	Bird	Mesic forest, Oak woodland
Blue-gray Gnatcatcher	Bird	Oak woodland
Eastern Wood-pewee	Bird	Oak woodland, Oak savanna
Cedar Waxwing	Bird	Oak savanna
Chipping Sparrow	Bird	Oak savanna
Eastern Bluebird	Bird	Oak savanna
Gray Catbird	Bird	Oak savanna
House Wren	Bird	Oak savanna
Red-tailed Hawk	Bird	Oak savanna, Prairie Restoration
American Kestrel	Bird	Prairie restoration
Tree Swallow	Bird	Prairie restoration
Marsh Hawk	Bird	Prairie Restoration, Cropland (alfalfa), Wet meadow
Black-capped Chickadee	Bird	Tamarack swamp
Downy Woodpecker	Bird	Tamarack swamp
White-breasted Nuthatch	Bird	Tamarack swamp
Barred Owl	Bird	Tamarack swamp (observed by Pecks)
Red-eyed Vireo	Bird	Tamarack swamp, Mesic forest
Sandhill Crane	Bird	Wet meadow (observed by Pecks)
Bald Eagle	Bird	Oak Savanna (observed by others)
Pocket Gopher	Mammal	Oak savanna
Thirteen-lined Ground-squirrel	Mammal	Oak savanna
Eastern Chipmunk	Mammal	Oak woodland

### Literature Cited

Bonestroo, Rosene, Anderlik & Associates. 2006. Eagle Park Master Plan City of Rockville. Unpublished report for the City of Rockville, Rockville, MN.

Chapman, K.A. and R. Brewer. 2008. Prairie and savanna in southern lower Michigan: history, classification, ecology. *Michigan Botanist* 47:1-48.

Minnesota Department of Natural Resources (2005). Field Guide to the Native Plant Communities of Minnesota: The Eastern Broadleaf Forest Province. Ecological Land Classification Program, Minnesota County Biological Survey, and Natural Heritage and Nongame Research Program. MNDNR St. Paul, MN.

Marschner, F.J. 1974. Minnesota Early Vegetation Map. Scale 1:500,000. Digitized by Brian Hargrave, Minnesota DNR.

# SECTION 5

## NATURAL RESOURCE RESTORATION & MANAGEMENT PLAN

### Restoration Approach

The main intent of restoration is to create ecologically valuable (high quality) natural communities in a developed or disturbed landscape. If the natural communities are high quality, wildlife populations, ecological functions, and human enjoyment are enhanced. The vegetation of existing high quality sites and data from land surveys conducted 100-150 years ago (pre-settlement) are used as references to guide restoration work. However, widespread regional and site changes prevent re-creating the original landscape, so restoration goals must also consider existing conditions.

This restoration and management plan will guide future restoration and management work at Rockville County Park and Nature Preserve. The plan aims to restore the ecology, diversity and beauty of the park's native plant communities, and lays out management tasks for the perpetual stewardship of the park. It seeks to maintain the integrity of existing high quality ecosystems by removing invasive species, and to recreate or restore many aspects of pre-settlement vegetation, including prairie, oak savanna, woodland, and wetland. The plan includes a management unit map, description of work tasks that will occur in each unit, and a phased schedule of tasks for each unit. The management unit boundaries proposed in this plan are aligned with future roads, trails, and cropland, as illustrated in the Rockville County Park and Nature Preserve Master Plan.

Restoration and management programs need to be flexible because of timing of funding, restoration activities, performance benchmarks, the management needs of plantings, and financial circumstances. Programs need to change in response to new scientific data and new insights gained during implementation. For these reasons, the Natural Resource Restoration & Management Plan (NRR&MP) is not absolute, but rather begins the restoration of the site's native diversity and ecological functioning. Regular monitoring of restoration success provides feedback on the plan's effectiveness and generates data for changing the plan if necessary. This process of evaluation, adjustment, refinement, and change is called adaptive management and is fundamental to the NRR&MP.

### Management Units and Task Schedules

Ecological restoration and management is generally comprised of two stages:

**Remedial Restoration Stage:** The remedial stage is the most intensive and costly. Significant effort is necessary to reestablish native vegetation, and to manage invasive species such as European buckthorn, Tartarian honeysuckle, garlic mustard, and reed canary grass. Actions will include tasks such as seeding, spraying invasive species with herbicide, and brush control. (Herbicide application will be performed by trained individuals only per label instructions. Bio-control techniques will be used when available.) The period of time required to conduct the remedial stage varies depending on the condition of the ecological system, and challenges presented by the site. Typically a remedial stage of three years for a given area is required, followed by the perpetual management stage for that area.

**Perpetual Management Stage:** After achieving initial restoration goals, the restoration process shifts to a reduced-intervention, less-costly, long-term management stage. The perpetual management stage is critical for maintaining the value of the investment, perpetuating healthy plant communities, and maximizing the ecological and aesthetic benefits of the native plant communities. This management provides long term control of invasive species, and maintains necessary disturbance patterns, such as fire, within the management units.

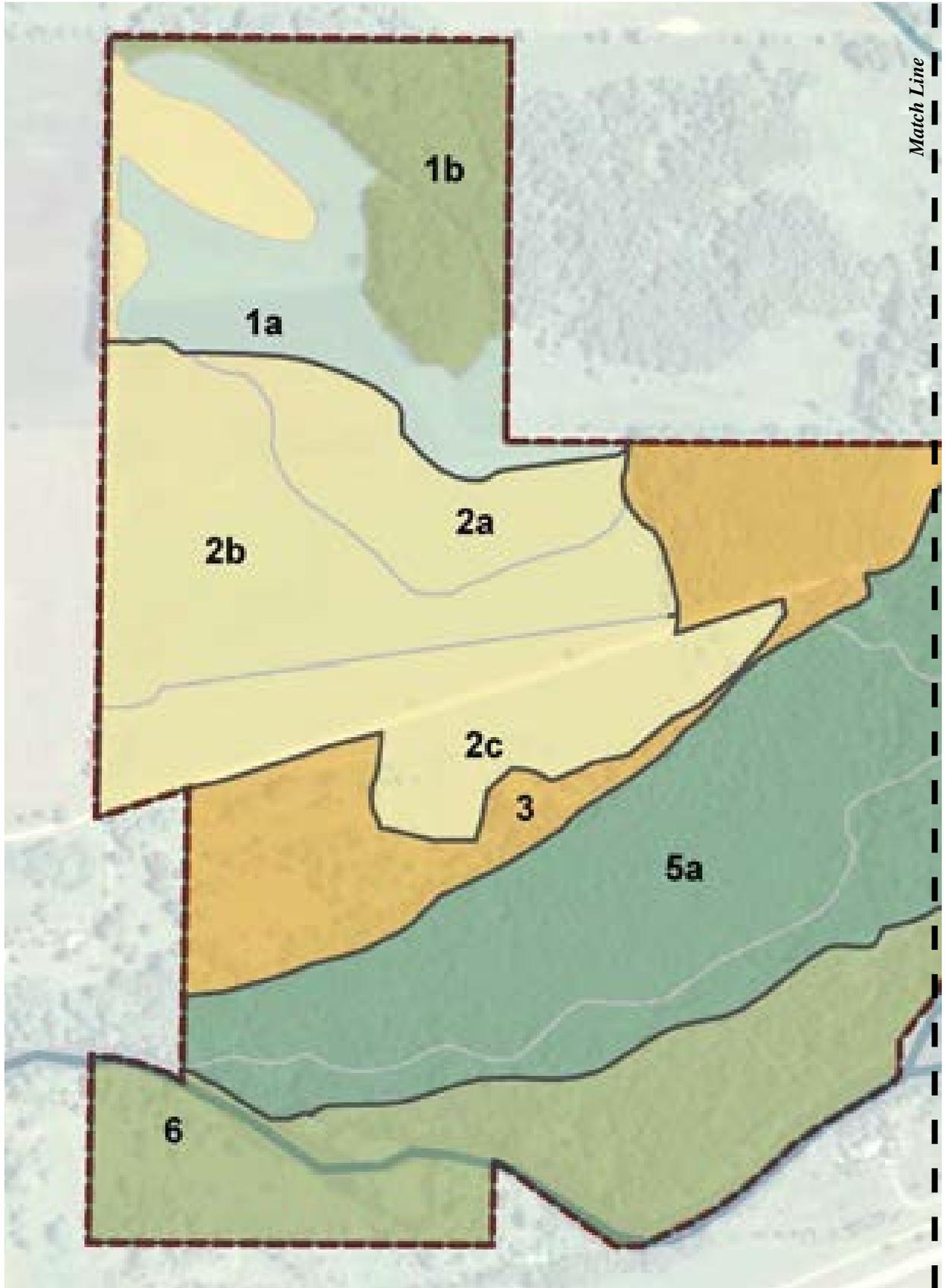
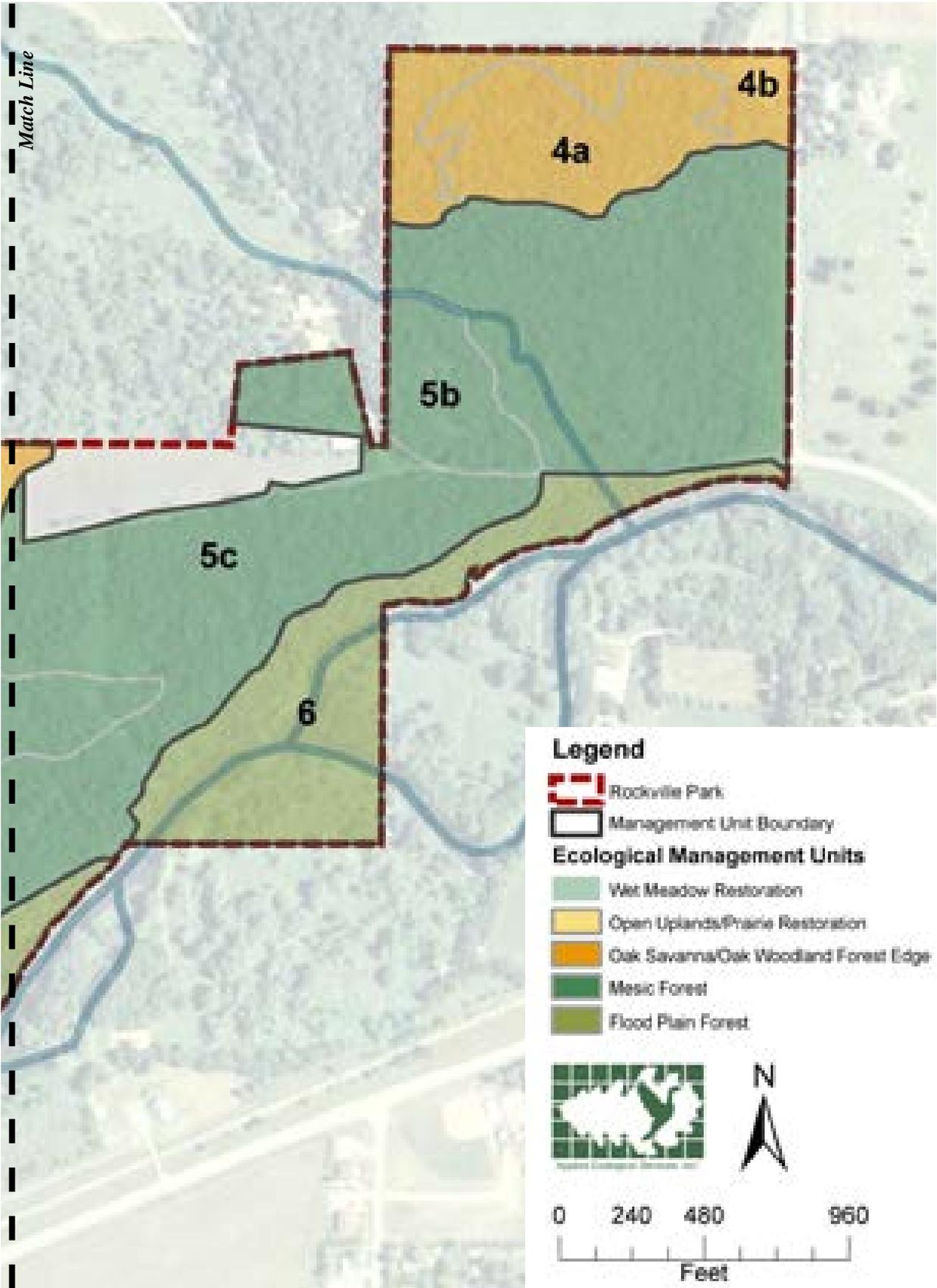


FIGURE 5.1 ECOLOGICAL MANAGEMENT UNITS



To carry out the remedial restoration and perpetual management stages at Rockville County Park and Nature Preserve, work tasks are listed and scheduled over a multi-year period for each of the six management units that have been developed for the Park as Figure 5.1 indicates. Restoration and management at the Park is scheduled to occur in three phases. The work in each management unit may span one or more phases. Once work begins in a management unit, it is critical that all tasks be completed in sequence or the restoration targets for that unit may not be achieved.

During the first phase (Years 1-3), the restoration/recreation of prairie, oak savanna and woodland will begin, and woody invasive species will be controlled in the tamarack swamp and rock-outcrop. During the second phase (Years 4-6) prairie restoration and oak woodland restoration will continue, wetland restoration will begin, and woody invasive species will be controlled in the mesic and wet forests. Finally in the third phase (Years 7-8) invasive species will be controlled in the floodplain forest.

## Entire Park

Two management tasks will be carried out park-wide: managing the deer herd and monitoring the condition of the vegetation.

### 1. Deer Herd Management

- Deer herd management is necessary to prevent over-browsing of the herbaceous and shrub layers. Without herd management the herbaceous ground layer will be depauperate, and tree seedlings will not germinate or survive. Sharp-shooters should be hired for special hunts to maintain a deer population in the range of 1-10 deer per square mile; alternately, management can be attempted through recreational hunting.

### 2. Plant Inventory

Conduct an extensive plant inventory to enhance future restoration planning and identify any rare plants that may be present on site.

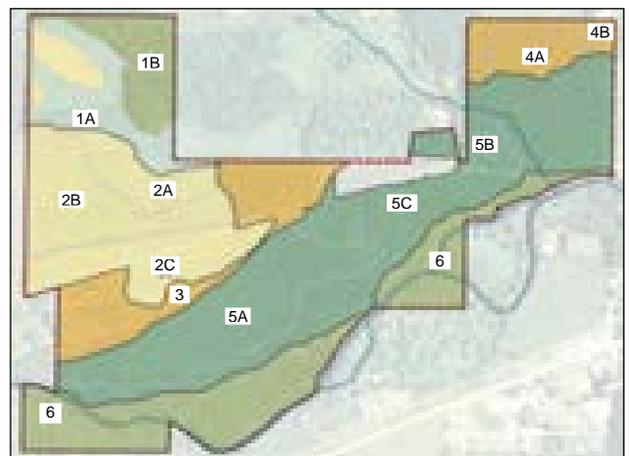
### 3. Annual Monitoring

- Establish photo points and take photos annually.
- Walk restorations and note invasive species presence, and problems with vegetative cover.

## Management Unit 1

### General Description

The hydric soils of Unit 1 (currently under cultivation) have great potential for wetland restoration. By blocking the flow of water in the ditch, water will pond on site, creating a gradation from wet meadow to wet prairie to mesic prairie. (See pages 5.18 and 5.19 for wetland restoration design options.)



Existing land cover types for Management Unit 1 are:

- Cropland – Hydric Soils (20.1 acres)
- Cropland – Upland Soils (5.5 acres)
- Wet Meadow (1.9 acres)
- Floodplain Forest – Moderate Quality (14.7 acres)

*The target communities for Unit 1 are wet meadow, wet prairie, mesic prairie (Subunit 1a) and floodplain forest (Subunit 1b).*

The wetland and prairie restoration areas are the highest priority for restoration. Management of the floodplain forest for invasive species is lower priority.

## Tasks – Wet Meadow & Prairie Restoration

### 1. Wetland Hydrology Restoration

- Undertake a hydrologic engineering study to determine the expected extent of saturated soils after wetland restoration.
- Consult with neighbors about the restoration’s expected hydrologic impacts, and form easement agreements as necessary.
- Construct an earthen berm to plug the ditch that currently drains the wetland area.

### 2. Site Preparation

- Discontinue haying of existing hayfields.
- Herbicide treatment of reed canary grass, non-native pasture grasses & other invasive species twice while actively growing (spring & fall). Areas of existing hayland with moist to wet soil should be treated with warm-season grass-specific herbicide and spot-sprayed for other invasive species (e.g. Canada thistle). Areas of existing pasture on dry soils should receive blanket herbicide treatment.
- Burn existing vegetation between herbicide sprays to encourage active regrowth.
- Disc dry soils on site prior to planting; harrow moist to wet soils after broadcast seeding.

### 3. Establish Native Vegetation: Seeding & Planting

- Collect seed from existing wet meadows using volunteer labor in order to increase genetic diversity. Coordination and training of volunteers will be necessary to ensure collection of native target species.
- Seed and plant using appropriate local ecotype species.

### 4. Manage Undesirable Species: Weed Control

- Control weedy species by mowing planted areas to 6” height twice the first season of growth, and once the second season.
- Control invasive non-native herbaceous vegetation with spot herbicide application and/or mowing. Potential species of concern include but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird’s foot trefoil, smooth brome, spotted knapweed, reed canary grass, purple loosestrife, hybrid cattail, and common reed.
- Conduct prescribed burn at the end of the third growing season to reduce litter load, and prevent woody species encroachment.



Table 5.2 - Unit 1b Floodplain Forest Restoration Remedial (Short-Term) Task Schedule

Task		Phase Three												
#	Category	Description	Year 18			Year 19			Year 20					
			Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
1	<b>Brushing &amp; thinning</b>	Cut and stump treat all non-native woody vegetation (buchthorn, Siberian ealm, black locust & Tartarian honey suckle, etc. Herbicide resprouts and new germination of undesirable woody vegetation from above task.												
2	<b>Annual Inspection &amp; Report</b>	Assess unit and prepare report of specific recommendations for restoration & management.												

Table 5.3 - Unit 1 Perpetual (Long-Term) Management Activities

Plant Community	Prescribed Burning	Weed Control (Mow, Pull, Spray)	Monitoring
Wet Meadow	Every 4 Years	Every Year	Every Year
Prairie Upland	Every 4 Years	Every Year	Every Year
Floodplain Forest	N/A	Every Year	Every Year

**NOTES:**  
SCHEDULES ASSUME THAT PRESCRIBED BURNING WILL BE EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE. IF PRESCRIBED BURNING IS NOT EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE, MOWING WOULD LIKELY BE REQUIRED.

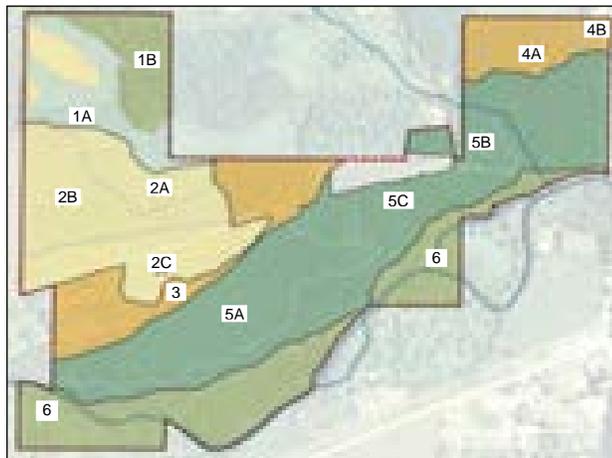
MANAGEMENT ACTIVITIES BEGIN IN PHASE 3 FOR WET MEADOW AND PRAIRIE UPLAND, AND AFTER PHASE 3 FOR FLOODPLAIN FOREST

## Management Unit 2

### General Description

Prairie Restoration in Unit 2 will provide a block of habitat for grassland nesting birds, and floral displays throughout the growing season. The prairie restoration will be phased in with Subunit 2a planted in phase I and Subunit 2b planted in phase II. Subunit 2b will initially be planted to alfalfa and used as a hay field. Haying will be allowed after August 1 to allow grassland nesting birds to successfully fledge their young. Subunit 2c has existing prairie restoration cover. This area will be maintained as prairie and savanna. Savanna tree species that naturally regenerate in this area will be protected from fire and allowed to grow. Existing land cover types for Management Unit 2 are:

- Cropland – Upland Soils (34.5 acres)
- Prairie Restoration – 2007 (15.5 acres)
- Prairie Restoration – 1991 (5.2 acres)



*The target community for Unit 2 is prairie.*

## Tasks

### 1. Establish Vegetation: Seeding & Planting

- Seed and/or plant using appropriate local ecotype species, using drill or broadcast method.
- In Phase I seed Subunit A to prairie and Subunit B initially to alfalfa. In Phase II seed Subunit B to prairie.

### 2. Manage Undesirable Species: Weed Control

- Control weedy species by mowing planted areas to 6” height twice the first season of growth, and once the second season.
- Control invasive non-native herbaceous vegetation with appropriate spot herbicide application and/or mowing. Potential species of concern include, but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird’s foot trefoil, smooth brome, and spotted knapweed.
- Conduct prescribed burn at the end of the third growing season to reduce litter load, and prevent woody species encroachment.

### 3. Perpetual Management

- Weed Control - Control invasive non-native herbaceous vegetation with appropriate spot herbicide application and/or mowing. Potential species of concern include, but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird’s foot trefoil, smooth brome, and spotted knapweed.
- Conduct prescribed burns on a four year rotation. Establish two burn units for the combined Management Units 1-3. Each burn unit should include the complete gradient (wetland–prairie-savanna–woodland) in order to mimic natural fire gradient.



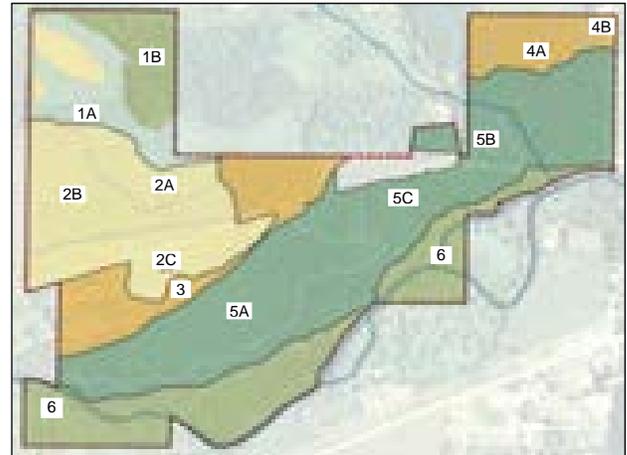


## Management Unit 3

### General Description

When fully restored Unit 3 will form a transition between the prairie edge and the forest. Near the prairie, scattered oaks will form a savanna. Moving from the prairie to the forest, the tree canopy will become more closed and typical of an oak woodland community. Due to past control efforts, buckthorn cover is sparse in this unit. Existing land cover types for Management Unit 3 are:

- Pasture (2.2 acres)
- Savanna (7.9 acres)
- Oak Woodland (17.5 acres)



*The target communities for Unit 3 are oak woodland and oak savanna.*

The restoration gradually opens the canopy as the native groundcover recovers. When restoration is completed, there will be a gradient of decreasing canopy cover from forest to prairie. The oak woodland near the forest should have a canopy cover of 50-75%, and the oak savanna near the prairie should have a canopy cover of 10-35% (Canopy cover is the percent of the total area directly beneath the trees' leafed out branches). Restoration of the oak woodland and oak savanna will require thinning of aggressive native woody species such as box-elder, hackberry, green ash and American elm. After a partial thinning, assess the regrowth potential of the groundlayer. If groundlayer response is poor (<50% cover), seed bare areas with appropriate local ecotype species. A final canopy thinning should occur 4 years after the partial canopy thinning.

### Tasks

#### 1. Site Preparation (Pasture & Oak Savanna)

- Discontinue grazing and allow pasture grasses to grow.
- Treat non-native herbaceous groundcover in oak savanna & pasture areas with herbicide twice while actively growing.
- Burn existing vegetation to prepare the site for planting.

#### 2. Establish Vegetation: Seeding & Planting

- Seed and/or plant savanna community using appropriate local ecotype species.

#### 3. Removal of Woody Species: Brushing & Thinning (Oak Woodland & Oak Savanna)

- Selectively thin aggressive native woody species such as box-elder, hackberry, green ash and American elm in order to favor the oaks. A partial thinning should remove trees that are entangled in the oak canopies and inside the drip line of oaks, plus trees in the shrub and subcanopy layers. In the 4th year after the partial thinning, the remaining trees should be removed to reach overall canopy cover goals. All clearing should be done as part of a firewood or pulpwood sales contract and done only when the ground is frozen.

**4. Manage Undesirable Species: Weed Control**

- Control weedy species by mowing restored areas to 6” height twice the first season of growth, and once the second season. Avoid harm to young oaks and native shrubs species.
- Control invasive non-native herbaceous vegetation with appropriate spot herbicide application and/or mowing. Potential species of concern include, but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird’s foot trefoil, smooth brome, spotted knapweed, and garlic mustard.
- Conduct prescribed burn at the end of the third growing season to reduce litter load, and control aggressive/invasive woody species.

**5. Perpetual Management**

- Weed Control - Control invasive non-native herbaceous vegetation with appropriate spot herbicide application, mowing and/or hand-pulling. Potential species of concern include, but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird’s foot trefoil, smooth brome, spotted knapweed, and garlic mustard.
- Conduct prescribed burns on a four year rotation. Establish two burn units for the combined Management Units 1-3. Each burn unit should include the complete gradient (wetland–prairie-savanna–woodland) in order to mimic natural fire gradient.

**Table 5.6 - Unit 3 Remedial (Short-Term) Management Activities**

#	Category	Description	Task																							
			Phase One												Phase Two											
			Year 1			Year 2			Year 3			Year 4			Year 5			Year 6								
			Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter				
1	Site Preparation	Discontinue grazing																								
		Treat non-native herbaceous layer with herbicide - two treatments (Savanna & Pasture)																								
		Burn (Savanna & Pasture)																								
2	Seeding & Planting	Seed and plant: native ground cover																								
		Follow-up management for seeding: assess need for remedial seeding or erosion control & complete as necessary (Savanna & Pasture)																								
3	Brushing & Thinning	Selectively thin aggressive native woody species: (box-elder, green ash, elm, hackberry, etc.) that are entangled in the oak canopies.																								
		Selectively thin aggressive native woody species: (box-elder, green ash, elm, hackberry, etc.) to achieve overall canopy closure goals..																								
4	Weed Control	Mow restored areas (Savanna & Pasture)																								
		Assess conditions to determine need for control of undesirable herbaceous species; herbicide & mow																								
		Assess conditions to determine feasibility of conducting fall burn - If feasible apply for permits, contact local authorities, and prepare burn plan. Woodland = W Savanna = S																								
		Conduct burn fall or following spring																								
5	Annual Inspection & Report	Assess site and prepare report of specific recommendations on activities and recommendations.																								

Table 5.7 - Unit 3 Perpetual (Long-Term) Management Activities

Plant Community	Prescribed Burning	Weed Control (Mow, Pull, Spray)	Monitoring
Oak Savanna	Every 4 Years	Every Year	Every Year
Oak Woodland	Every 4 Years	Every Year	Every Year

**NOTES:**

SCHEDULES ASSUME THAT PRESCRIBED BURNING WILL BE EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE. IF PRESCRIBED BURNING IS NOT EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE, MOWING WOULD LIKELY BE REQUIRED.

BEGINS PHASE 3

## Management Unit 4

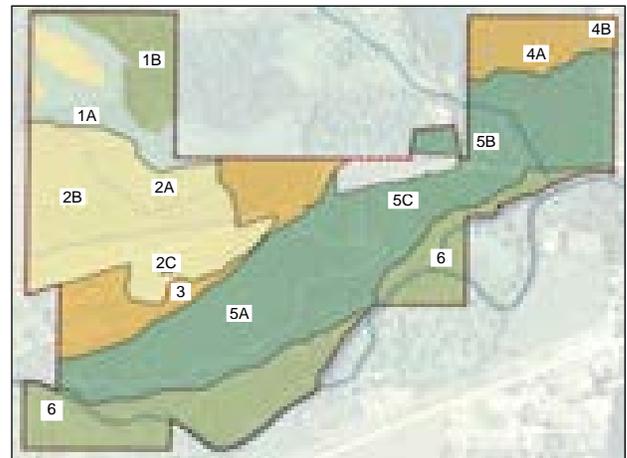
### General Description

Unit 4 is an existing oak woodland in good condition that needs to have invasive woody species removed and aggressive native tree species thinned out. The existing land cover type of Management Unit 4 is Oak Woodland (13.3 acres).

*The target for this unit is restoration to oak woodland with a canopy closure goal of 50-75%.*

The restoration gradually opens the canopy as the native groundcover recovers.

Restoration of the oak woodland and oak savanna will require thinning of aggressive native woody species such as box-elder, hackberry, green ash and American elm. Once thinned the unit needs to be managed with fire to maintain its woodland character and prevent buckthorn seedlings from becoming established in the groundlayer. Subunit 4a, the area inside the trail, will be managed with fire. Subunit 4b, the area outside the trail will be allowed to develop a denser canopy to enclose this section of the park. Due to the absence of fire, invasive woody species in this area will need to be managed perpetually by cutting and treating.



### Task Prioritization

#### 1. Removal of Woody Species: Brushing & Thinning

- Remove invasive non-native woody vegetation from the unit including European buckthorn, black locust, Siberian elm and Tartarian honeysuckle.
- Selectively thin aggressive native woody species such as box-elder, hackberry, green ash and American elm in order to favor the oaks. A partial thinning should remove trees that are entangled in the oak canopies and inside the drip line of oaks, plus trees in the shrub and subcanopy layers. In the 4th year after the partial thinning, the remaining trees should be removed to reach overall canopy cover goals. All clearing should be done as part of a firewood or pulpwood sales contract and done only when the ground is frozen.

#### 2. Manage Undesirable Species: Weed Control

- Conduct prescribed burn at the end of the third growing season to reduce litter load, and control aggressive/invasive woody species.

### 3. Perpetual Management

- Weed Control - Control invasive non-native herbaceous vegetation with appropriate spot herbicide application, mowing and/or hand pulling. Potential species of concern include, but are not limited to: Canada thistle, bull thistle, leafy spurge, sweet clover, crown vetch, bird's foot trefoil, smooth brome, spotted knapweed, and garlic mustard.
- Conduct prescribed burns on a four year rotation.

Table 5.8 - Unit 4 Remedial (Short-Term) Management Activities

Task		Phase Two												Phase Three											
#	Category	Description	Year 4			Year 5			Year 6			Year 7			Year 8			Year 9							
			Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall														
1	Brushing & Thinning	Cut and stump treat all non-native woody vegetation (buckthorn, Siberian elm, black locust & Tartarian honeysuckle, etc.)																							
		Herbicide resprouts and new germination of undesirable woody vegetation from above.																							
		Selectively thin aggressive native woody species: (box-elder, green ash, elm, hackberry, etc.) that are entangled in the oak canopies.																							
		Selectively thin aggressive native woody species: (box-elder, green ash, elm, hackberry, etc.) to achieve overall canopy closure goals.																							
2	Weed Control	Assess conditions to determine need feasibility of conducting fall burn. If feasible apply for permits, contact local authorities and prepare burn plan.																							
		Conduct burn fall or following spring																							
3	Annual Inspection & Report	Assess site and prepare report of specific recommendations on activities and recommendations.																							

Table 5.9 - Unit 4 Perpetual (Long-Term Management Activities

Plant Community	Prescribed Burning	Weed Control (Mow, Pull, Spray)	Monitoring
Oak Savanna	Every 4 Years	Every Year	Every Year

NOTES:  
 SCHEDULES ASSUME THAT PRESCRIBED BURNING WILL BE EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE. IF PRESCRIBED BURNING IS NOT EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE, MOWING WOULD LIKELY BE REQUIRED.

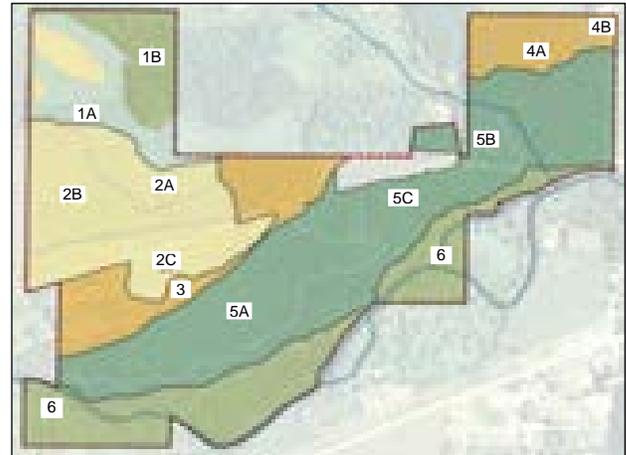
BEGINS PHASE 3, YEAR 2

## Management Unit 5

### General Description

Management Unit 5 contains the site's highest quality natural areas. To maintain this quality, invasive species (particularly European buckthorn and Tartarian honeysuckle) need to be removed and kept under control. Existing land cover types for Management Unit 5 are:

- Wet Forest (35.5 acres)
- Mesic Forest (24.2 acres)
- Tamarack Swamp (30.1 acres)
- Rock Outcrop (2.4 acres)



*The target communities for this unit are wet forest and tamarack swamp (Subunit 5a), rock outcrop (Subunit 5b), and mesic forest (Subunit 5c).*

### Task Prioritization

#### 1. Removal of Woody Species: Brushing & Thinning

- Remove invasive non-native woody vegetation from the unit including European buckthorn and Tartarian honeysuckle.
- Foliar spray buckthorn seedlings in the year following the initial clearing.

#### 2. Manage Undesirable Species: Weed Control

- Control invasive non-native herbaceous vegetation with appropriate herbicides or hand pulling. Potential species of concern include, but are not limited to: creeping bellflower, garlic mustard and reed canary grass.

#### 3. Perpetual Management

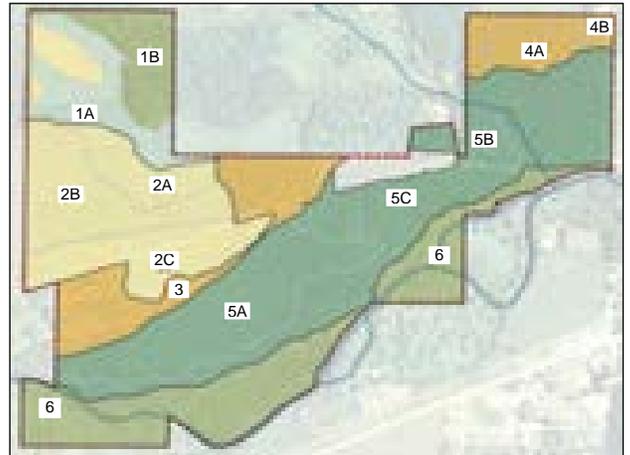
- Control invasive non-native herbaceous vegetation with appropriate herbicides or hand pulling. Potential species of concern include, but are not limited to: European bellflower, garlic mustard and reed canary grass.
- Control buckthorn seedling re-growth by hand pulling – volunteer labor.



# Management Unit 6

## General Description

Historically Unit 6 was an open savanna/brushland, but it has since been invaded by floodplain forest tree species. Removal of these trees would probably result in the dominance of the area by the invasive reed canary grass. Restoration of this area is of low priority due to its lower quality and the frequent disturbance caused by river flooding, sediment loading, and excessive nutrients in floodwaters.



The existing land cover type for Management Unit 6 is:

- Floodplain Forest – Low Quality (38.9 acres)

*The target community is floodplain forest.*

## Task Prioritization

### 1. Removal of Woody Species: Brushing & Thinning

- Remove invasive non-native woody vegetation from the unit including European buckthorn and Tartarian honeysuckle.

### 2. Perpetual Management

- Patrol and remove seed-producing buckthorn and honeysuckle.
- Patrol and remove garlic mustard. Eventually competition with wood nettle will take care of garlic mustard, but in the short term floodplains are where it first invades, then spreads to the uplands, hence the need for monitoring.

Table 5.12 - Unit 6 Remedial (Short-Term) Management Activities

Task		Phase Three												
#	Category	Description	Year 7			Year 8			Year 9					
			Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
1	Brushing & Thinning	Cut and stump treat all non-native woody vegetation (buckthorn, Siberian elm, black locust & Tartarian honeysuckle, etc.)				■								
		Herbicide resprouts and new germination of undesirable woody vegetation from above.						■						
2	Annual Inspection & Report	Assess site and prepare report of specific recommendations on activities and recommendations.				■				■				■

Table 5.13 - Unit 6 Perpetual (Long-Term) Management Activities

Plant Community	Prescribed Burning	Weed Control (Mow, Pull, Spray)	Annual Monitoring
Floodplain Forest	N/A	Every Year	Every Year

**NOTES:**

SCHEDULES ASSUME THAT PRESCRIBED BURNING WILL BE EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE. IF PRESCRIBED BURNING IS NOT EMPLOYED AS A RESTORATION AND MANAGEMENT TECHNIQUE, MOWING WOULD LIKELY BE REQUIRED.

BEGIN AFTER PHASE 3



## Wetland Restoration Options

### Option A – 1100 foot Elevation Berm In Wetland

In this option a berm is constructed in the wetland to block the existing ditch at the park property. The top of the berm is at an elevation of 1100 ft and connects two areas of 1100 foot elevation north and south of the ditch. The berm diverts ditch water southward to the historical wetland basin and onto existing hydric soils inside the park. The water flows to the south and fills the areas noted as “wet meadow.” As this area fills, the water then flows east and returns to the ditch. With this option, the existing wetland south of the ditch will be wetter than currently, but the ditch will prevent land north of the ditch from receiving additional water. This option requires approval by the neighbor to make the wetland south of the ditch wetter than it is currently. At present the neighbor’s wetland south of the ditch is occasionally used for agricultural purposes. If agreement with the neighbor cannot be reached, construction of a berm along the property boundary, and a conveyance structure to return the water to the ditch will be necessary.

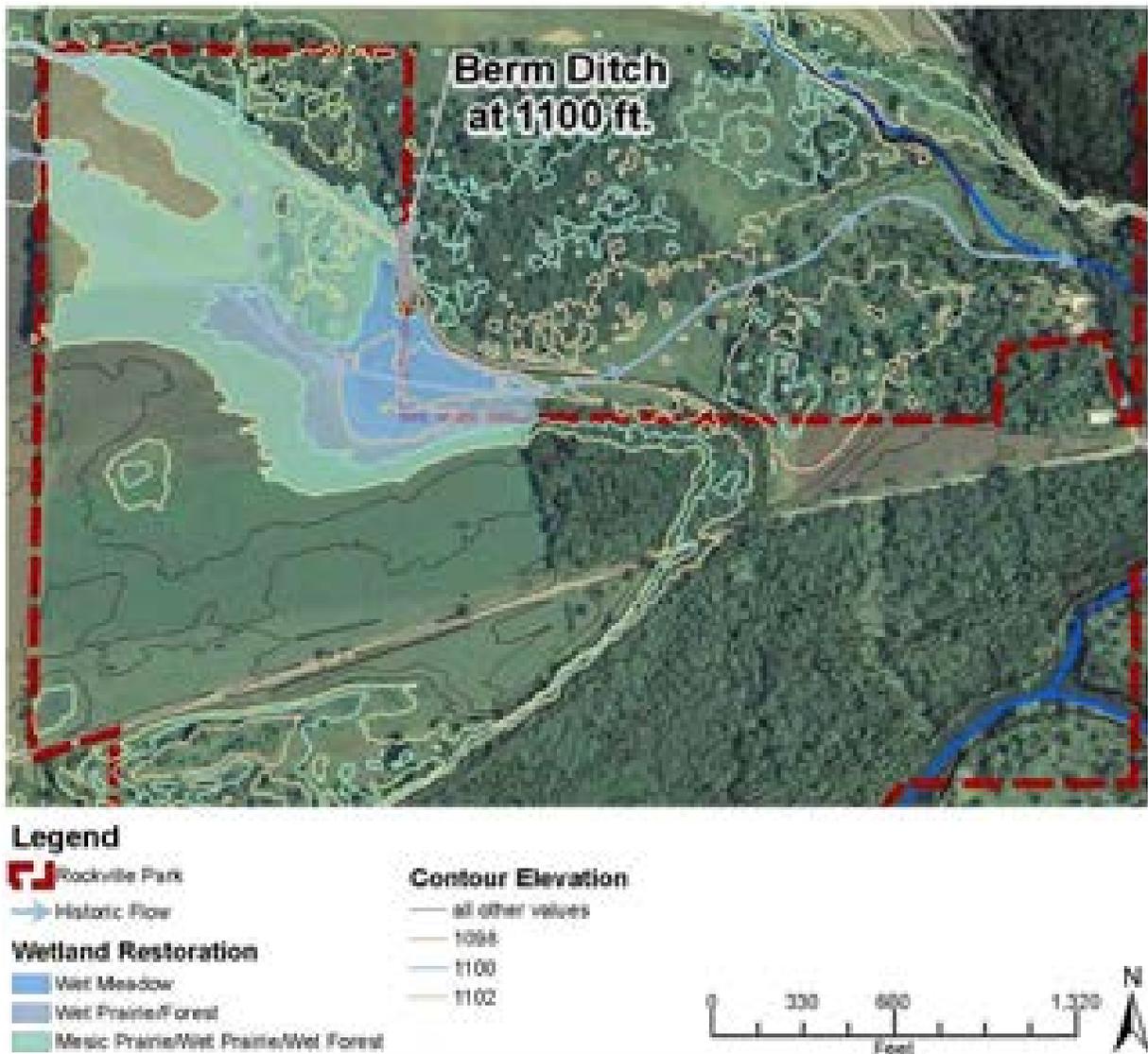
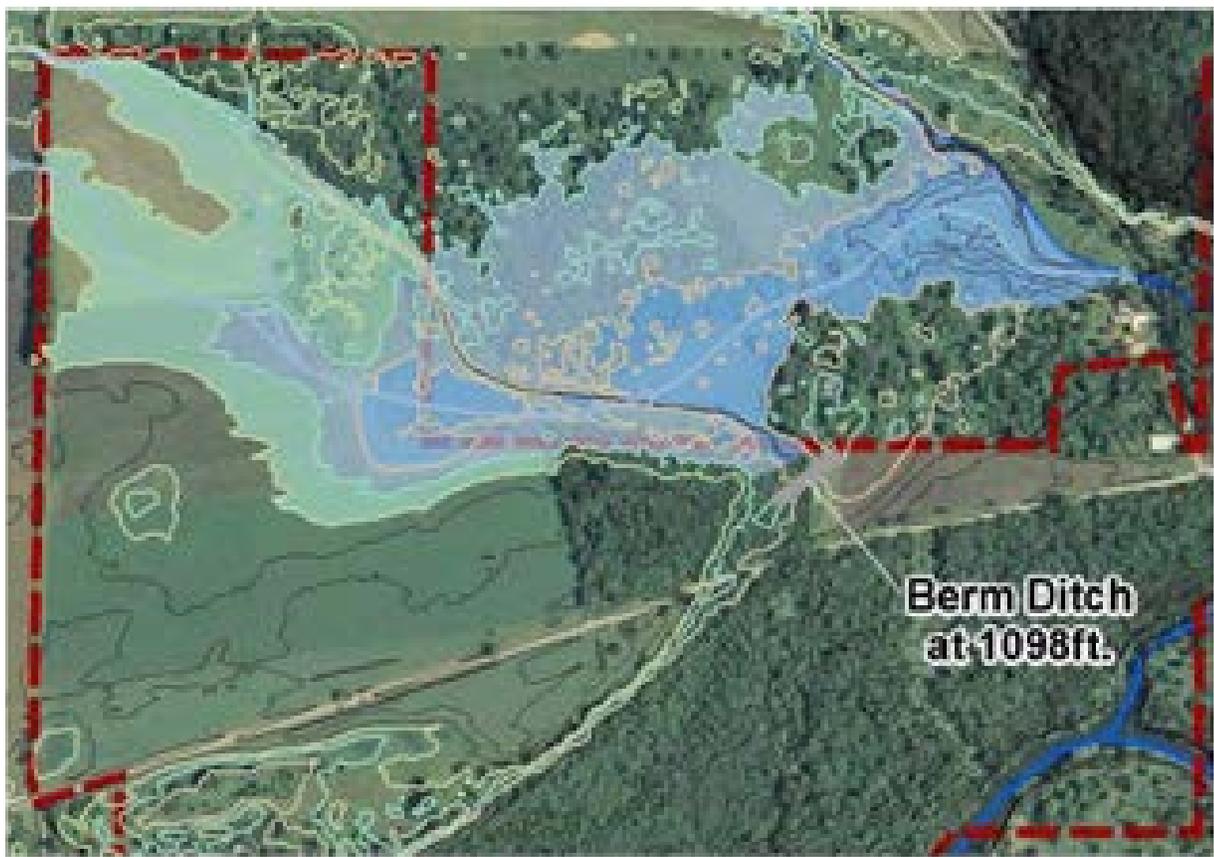


FIGURE 5.2 WETLAND RESTORATION OPTION A GRAPHIC

### Option B – 1098 foot Elevation Ditch Plug in Oak Woodland

In this option the existing ditch is plugged to an elevation of 1098 feet to a depth of approximately 3 feet in a historical ridge in the oak woodland. This ridge blocked water flow from the park’s wetland basin and forced it northeast to Babbling Brook. This option allows the water to flood the historical wet meadow basin on existing hydric soils and re-establishes its historical sheet flow path through a tamarack swamp to Babbling Brook. This option requires that an easement be obtained from neighbors to the north which will allow the hydric soils on their property to become wetter than currently. The north edge of the hydric soils is currently hayed. This option would likely make those soils wetter, reducing or preventing their agricultural use. It is unlikely that restoring the historical water flow to Babbling Brook would flood the uplands of the private homesteads north of the park due to their higher elevation. However, a hydrological study should be conducted to establish the high water level in the wetland relative to these properties.



#### Legend

Rockville Park

Historic Flow

#### Wetland Restoration

Wet Meadow

Wet Prairie/Forest

Mesic Prairie/Wet Prairie/Wet Forest

#### Contour Elevation

all other values

1098

1100

1102



FIGURE 5.3 WETLAND RESTORATION OPTION B GRAPHIC

THIS PAGE INTENTIONALLY LEFT BLANK

# SECTION 6

## PARK DEVELOPMENT PROGRAM

### Overview

The program for development of Rockville County Park & Nature Preserve is based upon its compatibility with the park's natural resource base and the County's vision for restoration and maintenance of those resources. The program items have been developed and refined during the planning process and reflect the public's interest and opinion. Some of the program items are unique and will require modifications to county park ordinances and review by the City of Rockville for compliance with its ordinances prior to implementation. Since some of the program activities are new to the county and few other providers have similar activities, sources of information related to the operation of these activities are limited. At the initiation of these activities park staff will monitor them and make adjustments as required.

### Site Amenities & Activity Areas:

#### Sweat Lodge

A traditional Native American sweat lodge is a structure made of slender withes of aspen or willow lashed together with raw hide. The ends of the withes are set into the ground in a circle 10 to 15 feet in diameter. The withes are then bent over and tied into a dome like structure 4 to 5 feet in height. Traditionally the withes were then covered with buffalo, bear or moose hides. Today synthetic coverings may be used. Flooring is natural earth or grass some times covered with a mat of sweet grass, cedar boughs or other materials for cleanliness. A pit is created in the center of the lodge that is 2 feet in diameter and 1 foot deep. This pit is used to contain the stones that provide the heat for the lodge. A fire pit used to heat the stones is located in close proximity to the lodge.

The sweat lodge and its accompanying ceremony are central to Native American spirituality but are also common in other cultures.

Proposed by Native American advocates as an ecumenical activity, this use exists in only one other park in Minnesota. The Upper Sioux Agency State Park is the only example that could be found of a sweat lodge being allowed on public property. The DNR developed an agreement for the sweat lodge with local Native American tribes to allow the activity on public property. If the County decides this activity is appropriate, an agreement between the County and the proponents of the sweat lodge should be developed.

Consideration of the following conditions should be given:

- The proponent must acknowledge that land upon which the lodge is placed is public
- No limitations will be placed on the general public's legal use of the sweat lodge site or adjoining parkland
- The park land upon which the sweat lodge is located is not, and will not be, considered sacred
- All alterations to the land and vegetation must be reviewed and authorized by the County prior to execution of improvements
- Wood used as the heat source for the sweat lodge shall be obtained from the County Park Department to insure that pests and diseases are not imported into the park
- The sweat lodge user group shall abide by all Stearns County Park ordinances and applicable City of Rockville ordinances and state law
- Stearns County should allow this use if the advocate and responsible user group will agree to the master plan location for the activity and will execute a satisfactory use agreement with the County

It may be prudent for the County to allow this use on a trial basis in order to gauge its acceptance and compatibility with general park use.

### Group Camps (family and youth groups)

One group camp area should be provided for within the park. This space should allow for groups of approximately 15-20 people and should provide tent pads, picnic tables, a fire ring, and be located in close proximity to restroom facilities and a picnic shelter. A second 'future' group camp area location should be accounted for in the master plan to be developed only if demand for additional facilities becomes apparent. The group camp area(s) should be accessible by vehicle for maintenance and ADA compliant. A minimum one half of the tent areas should be designed for universal access.

### Primitive Canoe Camping Areas (on Sauk River)

One primitive canoe camping area should be provided. The MnDNR has recommended that it be accessible only by water to reduce the potential for unauthorized use. This area should allow space for 2-3 tents and a fire pit. It would be a first come first serve campsite and would be maintained by the County. A portable restroom should be provided within this area with waste to be hauled to an acceptable dump site. The restroom facilities will need to be removed from the floodway at times of high water.

### Group Picnic Shelter

This facility should be designed to accommodate groups of 50 to 75 people and include grills, tables, trash containers, a potable water source, power and security/safety light. This shelter should be accessible by vehicle for delivery of people and goods. The design of this shelter, tables, etc should be ADA compliant and compatible with the rustic nature of the park.

### Individual Picnic Sites

Designed for individuals and families these picnic facilities should be placed at points of interest throughout the park along the planned trail system. Development should be limited to a table and pad and trash containers. At least 50% of these should be ADA accessible.

### Play Structure (nature-based)

The play structures included in this facility shall be nature based. Examples would be simulated rock climbing walls, a tree house, tree climbers and slides. Swings for both adults and children shall also be provided in a separate space. Seating for parental observation should also be provided adjacent to the structure. The playground and play structure shall be compliant with ADA, CPSC and ASTM requirements for access and safety.

### Open unstructured play field

A reasonably size maintained lawn area shall be provided for active lawn games associated with the picnic shelter, campground and playground.

### Restroom Facilities

Restrooms for both genders shall be provided. These shall be waterless vault type facilities designed to blend aesthetically with the adjacent group picnic shelter.

### Bird Watching Observation Points

These points shall be carefully placed throughout the park along the planned trail system. The observation points shall at a minimum include a bench. In special situations, a small blind shall be constructed to insure that the wildlife to be observed is not disturbed by the viewer's presence. The blind may consist of short walls and a roof and should be constructed of natural materials and camouflaged.

### Parking

Vehicular parking shall be limited to designated parking areas. Roadside shoulder parking shall be prohibited. The amount of parking shall be determined by the size of the group picnic shelter as this is the highest demand single use event facility. Should demand require more space an expansion area for parking shall be established. Parking shall be aggregate surfaced.

### Permitted Hunting for Disabled Groups and for Wildlife Management Purposes

Disabled hunting requires no special built park facilities other than those that are required for general ADA access to the park. This activity would be organized, managed, funded and insured by an independent non-profit organization(s) specializing in this unique activity.

The county should determine the appropriate type and times for such hunting activity, of course this activity would need to comply with state hunting regulations. Firearms and or bow hunting maybe considered. Upland game, waterfowl, turkey and white tail deer hunting were suggested by the public.

Wildlife management hunting may become necessary to protect the park's natural resources. Significant damage may be caused to the park if in the future white tail deer become over populated. Other park agencies around the state have instituted carefully controlled sharpshooter hunts to manage deer populations.

If either of these types of hunting is to be instituted in this park, the county will need to revise / amend the County Park Ordinance. Currently firearm or other weapon discharge is prohibited by ordinance in county parks. In addition this park is located within the City of Rockville corporate limits, a review of this activity by the city may be required. Currently the city park ordinance does not allow fire arm discharge within city parks. Whether this applies to a county park or not was a question raised by city staff.

### Geo Caching

Geo caching is an outdoor adventure game for owners of global positioning systems (GPS). The object of the game is to find caches which normally consist of a small waterproof container with small items and logbook inside that was left and hidden by others. The person establishing the cache lists it on the website [www.geocaching.com](http://www.geocaching.com) for players to find. When a player locates a cache they sign the log and take and/or leave a small token. They also post their find on the online logbook. The game encourages non-traditional park users into the park system and provides significant physical activity.

Many providers of public parkland require that the individual setting up a geo-cache within its park register the cache, its coordinate location, owners name and address. In doing so the person placing the cache agrees to abide by park rules and any special requirements that the agency might feel appropriate. Other providers do not allow individuals to set up the cache, but do so themselves. Either of these approaches would give the county some control and a remedy should one be needed. Most agencies providing public parkland have found this activity to be acceptable and game players to be good park guests.

No park development is required for this activity.

### Shoreline Fishing w/ Designated River Access Points

With over a mile of Sauk River shoreline bordering the park the Citizen Advisory Committee found support from the public, especially the citizens of Rockville, for shoreline fishing. Although not a high quality fishery, the CAC felt it important to give park visitors and fishermen an opportunity not only to fish but also to view the river. The access should be developed in conjunction with the existing core stone platforms traditionally used by neighbors for fishing. The access should also provide persons of all abilities an opportunity to enjoy the river.

### Habitat and Wildlife Rehabilitation

The Citizen Advisory Committees' first priority for this park is to maintain and improve its significant ecological features. The description of the ecological priorities and approach to improving them is described in *Section IV - Natural Resources Analysis* of this report.

## Educational Programs / Outdoor Learning Area

The park and its ecology is a resource for learning about our world. The Citizen Advisory Committee felt that although formal facilities, such as a nature center building, would not be required, that self learning opportunity should be made available. A small outdoor seating area is planned immediately adjacent to the group picnic shelter which can serve groups as a lecture area and starting point for groups touring the park. Through the use of signs, self guided tours, wildlife observation points and blinds, as well as, making the site accessible to school groups, scouts and others education about and value of nature could be gained by the public.

Suggested interpretive topics to cover at the park are:

- Prairie Restoration
- Re-forestation
- Granite Outcrop Natural Community
- Tamarack Bog (Elevated Boardwalk)
- Lowland Hardwood Forest
- Conservation Area
- Wetland Credit Banking

## Hiking/Walking/Birding Trails

Pedestrian trails within this park were considered by the Citizen Advisory to be the primary method of transportation within the park. These trails are to be as accessible as possible yet soft surfaced and as narrow as practical. It was concluded that special “Birding” trails were not required and that all trails should provide such opportunities.

## Bicycling Trails

A trail connecting Rockville County Park & Nature Preserve along Sauk River Road to the Rocori Regional Trail at State Highway 23 will be constructed to allow summer use by bikers, pedestrians, and horseback riders. During winter months this trail will also be used by snowmobilers. This is the only trail within the park that will be available for bicycle use.

## Cross-Country Skiing & Snowshoeing

Since the county does not intend to groom ski trails in this park no formal trails will be developed. Informal use of the park on non-groomed trails will be allowed. Snowshoeing does not require trail grooming and is considered a low impact activity and perfectly acceptable in this park.

### Horseback Riding w/ Trailhead / Staging area

Equestrian advocates for use of this park as a site for horseback riding indicated that in addition to developing trails for horseback riding that ‘Trailer To’ facilities would be desirable. This would require the park to provide trailer parking, horse ties, water and waste disposal. The Citizen Advisory Committee determined that combined pedestrian / horseback rider use of the majority of the park trails was an attractive use for this park. Due to the sensitive environmental conditions and practical construction and maintenance considerations it was decided by the CAC to limit equestrian use to certain areas of the park.

Studies by the Minnesota Department of Natural Resources have found that horse owners will trailer to sites that provide a minimum of a day’s ride. See Appendix C. This equates to 10 miles of trails or more. Rockville County Park & Nature Preserve will have no more than 4.25 miles of trails for horseback riding. The plan does suggest connections for future off site trails that may be developed, managed and operated by others. The county should coordinate with equestrian associations and local units of government in their efforts to establish off-site trails connecting to the park.

Development of ‘Trailer To’ facilities by the County should be predicated upon the establishment by others of sufficient additional off-site trails connecting to the park.

### Snowmobiling – (Existing)

A state designated snowmobile trail exists in the right-of-way of Sauk River Road through the park. This trail alignment will be maintained and only modified in areas where changes to the road are required to meet park safety requirements.

Snowmobiles would be able to use the aggregate pedestrian, equestrian and bicycle trail that parallels the north edge of Sauk River Road connecting the pedestrian walkway on the County Road 139 bridge to the intersection with Glacier Road. Currently snowmobilers ride on the paved section of Sauk River Road. This new trail alignment will provide a safer route for snowmobiling through the park.

# SECTION 7

## DEVELOPMENT MASTER PLAN

### Overview

The development master plan provides a cross-section of features and amenities to meet current and anticipated recreational demands. The mix of facilities included in the master plan is in response to the Citizen Advisory Committee's program for development.

The plan strives to blend development of the park into the fabric of the environment without overwhelming it. The development will provide a platform for the park visitor's recreation and education in a natural setting. Providing activities for youth, adult and seniors, individuals and families for short, day-long, or overnight visits, the park strives to provide something for all potential users. The mix of facilities also places emphasis on year-round use of the park to allow visitors to enjoy the park all seasons of the year.

Figure 7.2 illustrates the overall development master plan for the park.

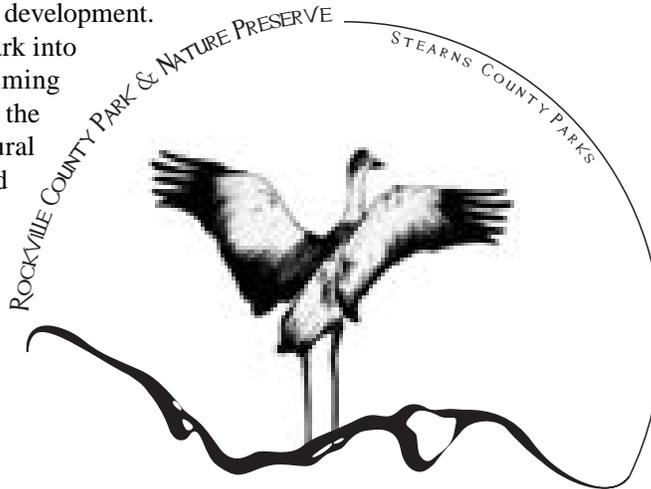


FIGURE 7.1 - LOGO IMAGE DEVELOPED FOR USE IN PARK IDENTIFICATION SIGNS

### Master Planning - A Process of Refinement

The master planning process is a progression of refinement. Each step in the planning process builds upon the other beginning with the determination of the park program and analysis of ecological parameters of the land. Preliminary alternative concepts and a preliminary master plan have been included in Appendix B in an effort to document the progression of refinement resulting in this master plan.

Just as master planning is built of logical steps it is not the end of the design process, nor should a master plan be considered a static plan. Today most public parks are developed over many years. The plan should be reconfirmed periodically and development adjusted as required to meet recreation needs of the user. The basic premise of this being a natural resource based park is unlikely to change in the future as the public's sentiment regarding saving the environment for future generations will continue to be a high priority.

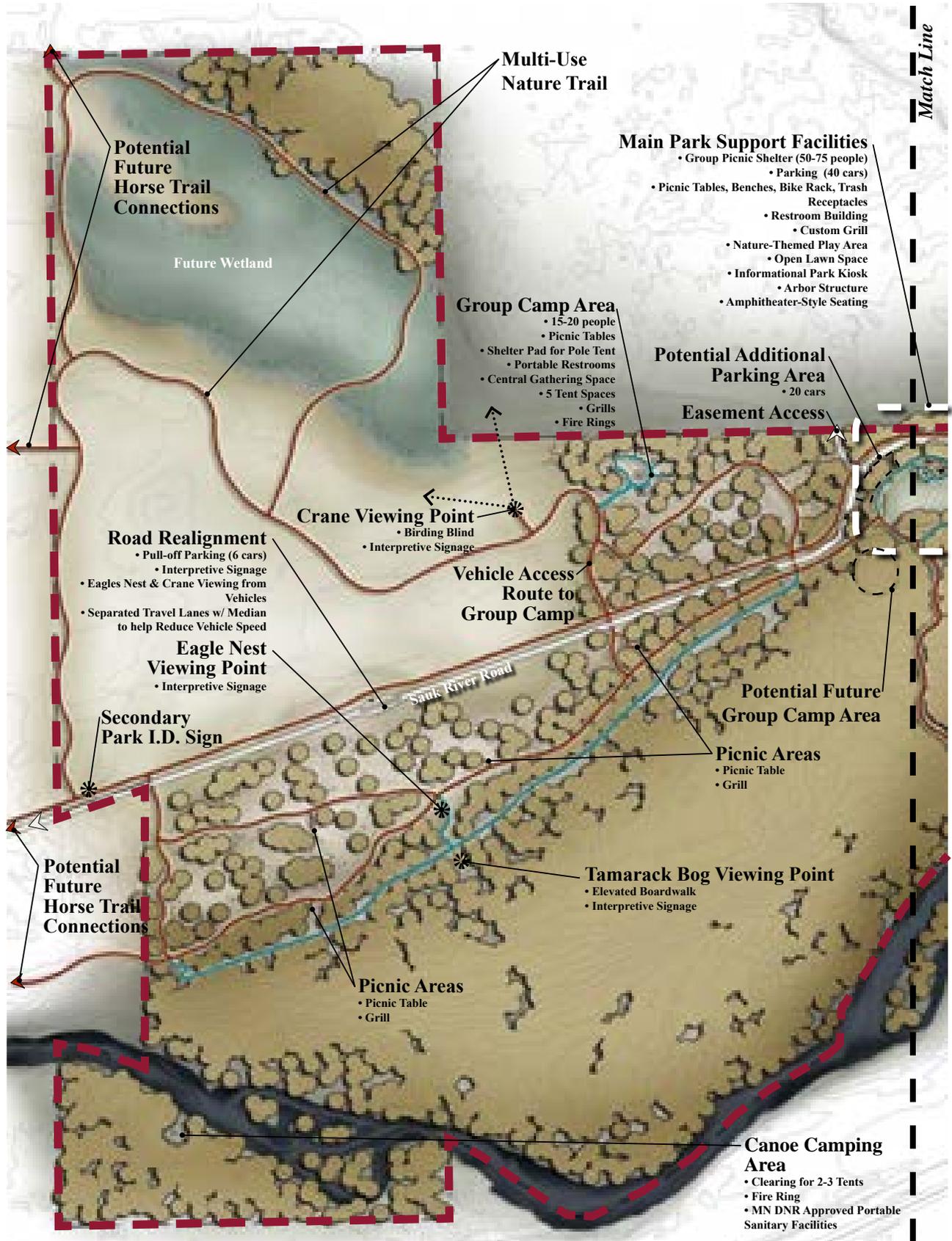
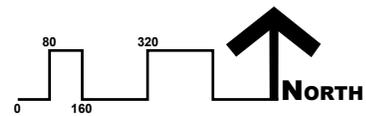
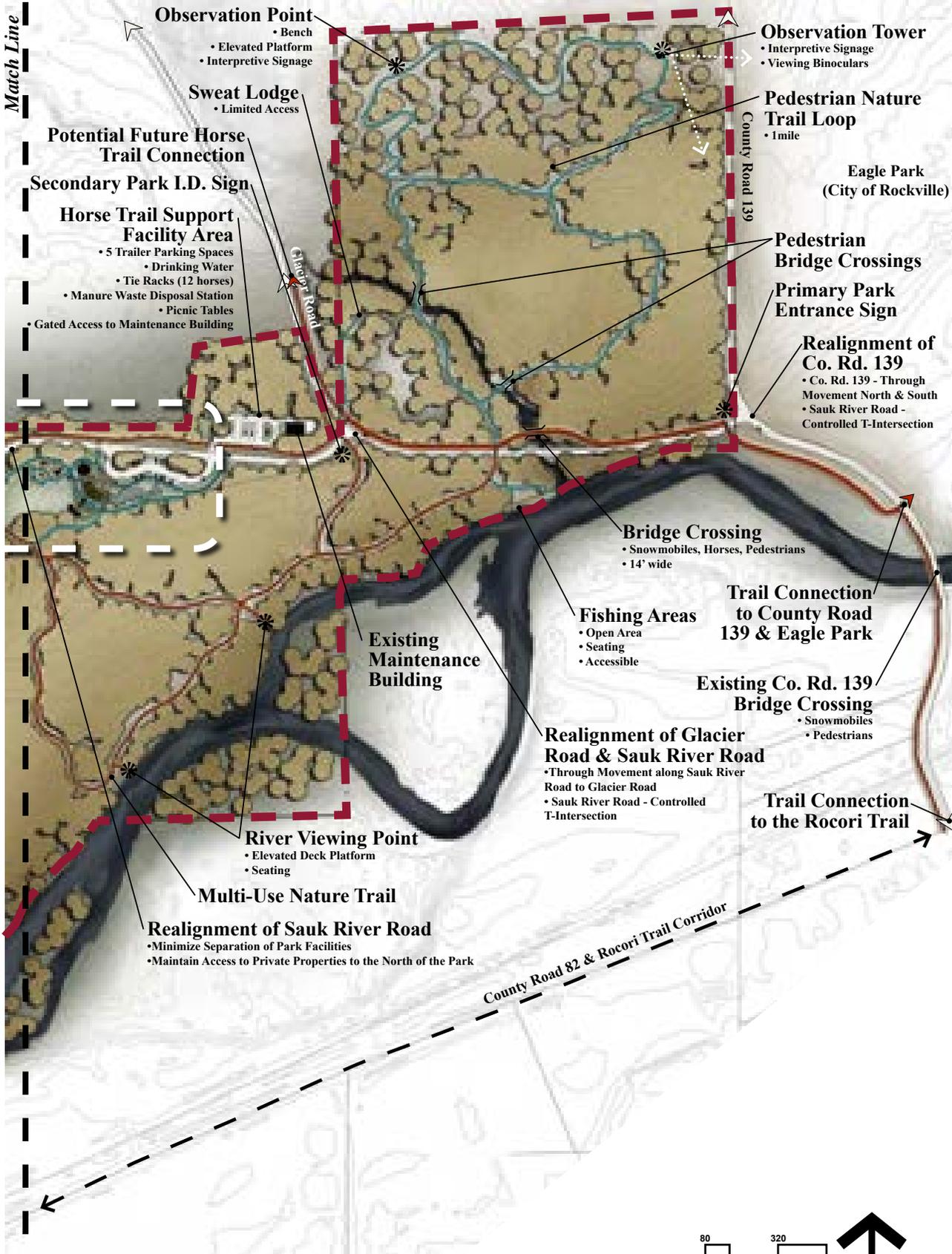


FIGURE 7.2 - OVERALL MASTER PLAN GRAPHIC



## Development Zones

The park consists of one major development zone with a number of smaller interest points and special-use areas all connected by an extensive trail system, as the following defines and highlights.

## Main Park Facilities Area

The location of major development occurs within a section of the park property that will have the least impact on the unique and high-quality ecological areas. Fortunately this places it within a central location. The facilities and amenities that can be found within this area include:

- Group Picnic Shelter
- Arbor & Amphitheater-Style Seating Area
- Labyrinth Maze
- Nature-Based Play Area
- Restroom Facilities
- Parking
- Wetland / Stormwater Runoff Infiltration Area
- Manicured Open Lawn Space
- Walking Trail Loops
- Individual Picnic Areas

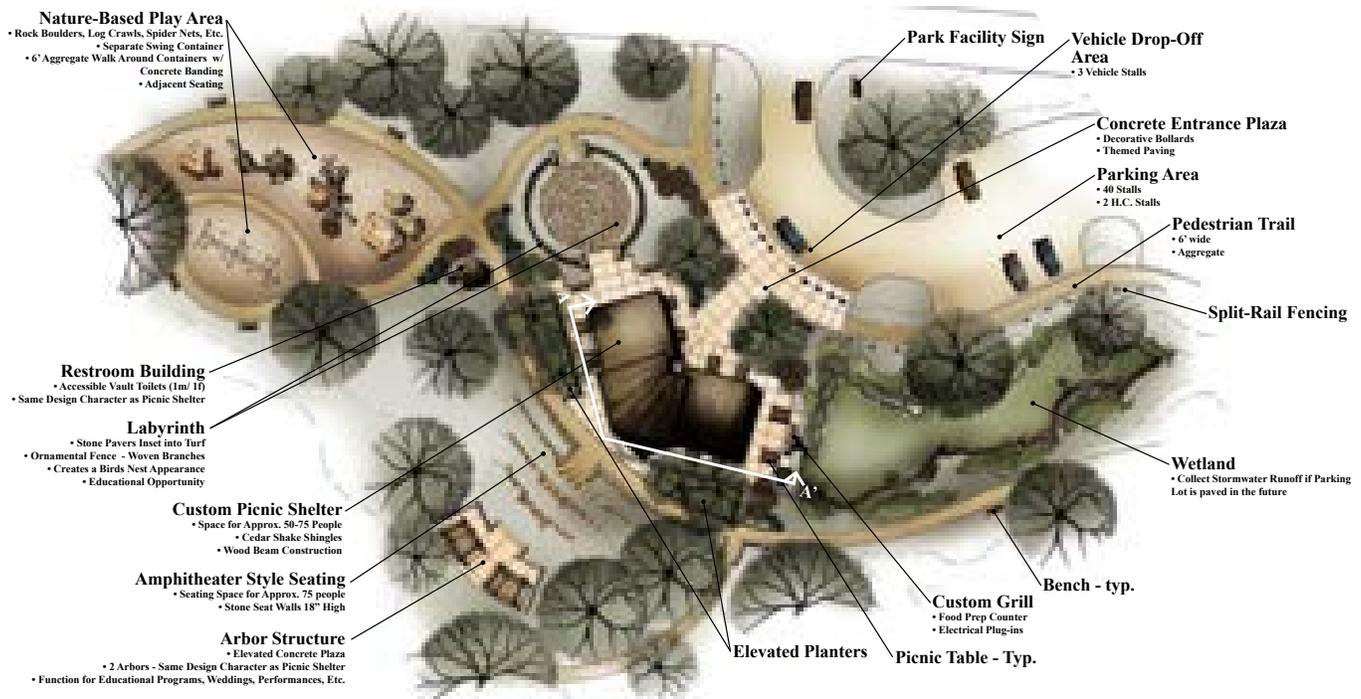


FIGURE 7.3 - LAYOUT ENLARGEMENT PLAN OF THE MAIN PARK SUPPORT FACILITY AREA

## Group Picnic Shelter

The shelter will be an open air wooden structure with the columns appearing to be set within large core stones. The custom-designed picnic shelter will accommodate up to 75 people, offering a large group gathering space. Other amenities include; picnic tables, benches, custom built-in grill, trash receptacles, and a drinking fountain. This shelter will likely require the county park staff to register and schedule large group reservations to insure equity in use of the facility.

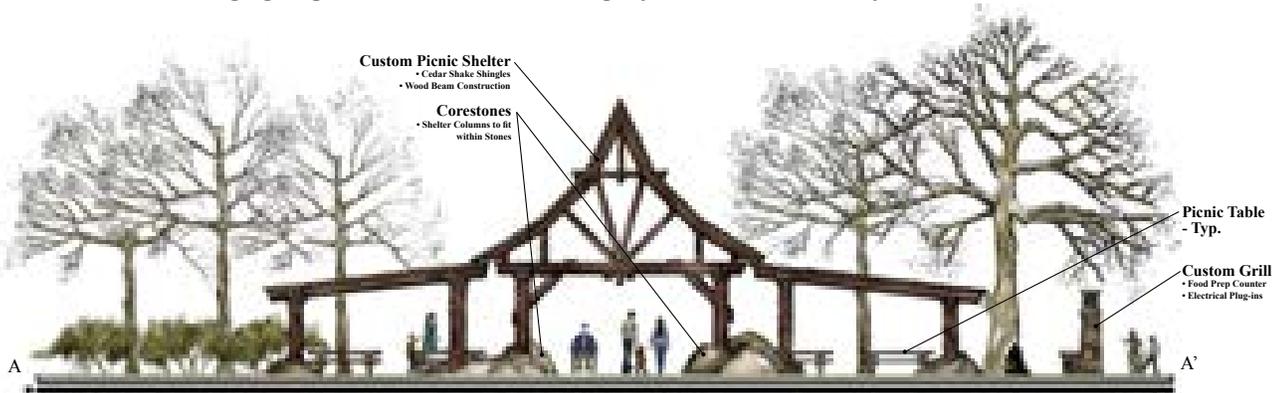


FIGURE 7.4 - CHARACTER SKETCH OF THE CUSTOM DESIGNED PICNIC SHELTER

## Arbor & Outdoor Classroom Seating Area

As illustrated on the master plan (figure 7.2), an outdoor classroom area will be provided to support the picnic shelter facility. The outdoor classroom consists of tiered stone and turf seating for up to 100 people a small raised platform or stage and an overhead arbor. The arbor should be designed to complement the architecture of the group shelter and to provide scale and focus for the classroom. This outdoor classroom can be used during the summer months for educational and social activities, including activities related to the group picnic shelter, as a starting point for field studies by youth and adult groups and perhaps small weddings.

## Labyrinth Maze

Having its origins in Celtic history, a labyrinth is a meditative space requiring the user to concentrate on walking the winding path to the center. This activity is finding its way into parks throughout the county and is well received by the public.

The labyrinth maze is a low impact, low maintenance facility that is constructed of flat stepping stones cut into the turf. To give the labyrinth and its users a sense of place, the labyrinth would be enclosed with a low suitably themed decorative fence with stone piers marking its entrances.

## Nature-Based Play Area

The play area included in the Main Park Facilities Area plan is perhaps beyond the scope of facilities normally provided in parks of this nature in Stearns County's system. It is however very common when matched with a median to large group picnic shelter. Groups attracted to the picnic shelter will include a variety of ages. It is only practical to have this facility close to the shelter where children that are too young to venture out into the greater park without adult supervision can safely play. The play area as described in the Citizen Advisory Committee's program for this park is to be in keeping with the natural theme of Rockville County Park & Nature Preserve and should introduce that theme to children using the playground. To that end the play equipment will be themed to match the vegetation, wildlife and geology of the park.

## Restroom Facilities

The geology and hydrology of this park limit the possibility of flush type facilities. Municipal sewer system is not available and is not expected to be in the foreseeable future. The county has recently installed vault type toilets in other parks and we are recommending this type facility be used at Rockville County Park & Nature Preserve. A variety of prefabricated vault toilet units are available. Some are capable of being customized to match an architectural style. Since the toilet building would be located in close proximity to the group picnic shelter it is suggested that the toilet building take its styling cues from the shelter. Facilities for both genders should be included. The location of the toilet facility should not limit access for servicing them with a large septic truck.



TYPICAL VAULT-TOILET RESTROOM BUILDING - IT IS RECOMMENDED THE EXTERIOR STYLE HAVE THE SAME CHARACTER AS THE PICNIC SHELTER STRUCTURE

## Parking & Adjacent Wetland / Stormwater Runoff Infiltration Area

Long term parking for Rockville County Park & Nature Preserve would consist of aggregate surfacing, with wheel stops to define parking spaces. In addition to the wheel stops fencing complementary to the character of the park, such as split rail fencing, should be placed between the parking lot and the Main Park Facilities Area. Forty two parking stalls are included in the lot including two designated handicapped stalls. The amount of parking was determined based upon the capacity of the Group Picnic Shelter, 75 people, and a parking ratio of 1 stall for every 2 shelter users. This amount of parking should be adequate but, to be prudent, space for an additional 20 stalls has been reserved within the park if the need to add parking arises in the future. In the event that the county decides to pave the parking lot in future, a ponding / infiltration area for storm water runoff has been reserved in the master plan immediately south of the lot. This reserved storm water area will function as a manicured turf area for lawn games until needed for stormwater use.



PHOTOS REPRESENT APPEALING SETTINGS FOR INDIVIDUAL PICNIC AREAS

## Individual/ Family Picnicking

Picnic tables and individual grills are included for family picnics within the Main Park Facilities Area. Individual picnic table locations will also be provided in select locations along the trails throughout the park located where there is a particularly nice view. The individual picnic tables along the trails will include a table and aggregate pad. Trail trash containers will be provided if needed.

# Fishing Access to Sauk River

The master plan includes access to riverbank fishing that has traditionally taken place on the large flat stones scattered along the edge of the Sauk River. To provide access to all individuals, a ramp access system and fishing platform has been provided in the master plan. The accessible fishing platform would be constructed at the river edge spanning two large existing stones. Access to the stones would be maintained for ambulatory users. Construction materials used in building the ramp and platform would be wood or recycled products fitting the character of the park.

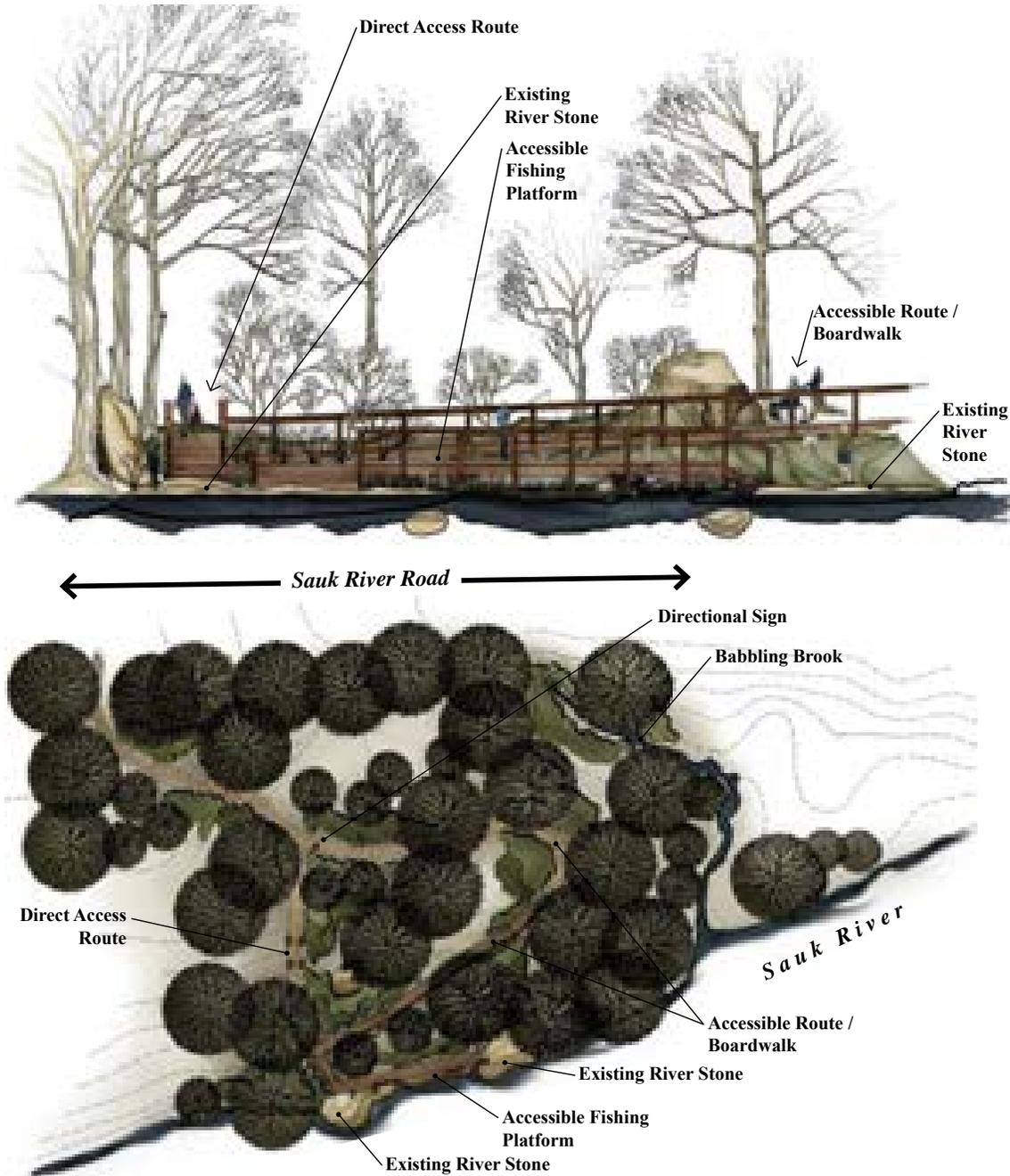


FIGURE 7.5 - LAYOUT ENLARGEMENT PLAN OF THE MAIN PARK SUPPORT FACILITY AREA & CUSTOM DESIGNED PICNIC SHELTER



ABOVE LEFT: VIEWS OF THE SAUK RIVER FROM THE EXISTING FISHING AREAS

ABOVE RIGHT: PHOTOS OF THE CORE STONES ALONG THE RIVER'S EDGE

### Sweat Lodge

As described in *Section 6 - Park Development Program*, a traditional sweat lodge is made up of supple tree saplings lashed together in a dome shape and covered with hides or other such material. The lodge is a small stick-built structure that would be constructed by the user. Infrastructure that would be required of the county for this use would be limited to a trail to the lodge location and the creation of a level clear area for the lodge and associated fire pit.



FIGURE 7.6 - EXAMPLE PHOTO OF OPEN-AIR SWEAT LODGE BRANCH STRUCTURE

## Group Camp Area

The group camp site included in the master plan is a rustic camp site suitable for scout troupes, school or other small group use. The camp site includes 5 tent pads constructed of compacted aggregate surfacing. Since the environment is fragile in the restored savanna where the group camp area is to be located, the tent pads are intended to define the appropriate locations for tents to be pitched. The tent pads would surround a central area containing a pad for a 'mess' tent, a camp fire ring and picnic tables. Access to the camp ground would be by trail and a gated unimproved vehicular roadway for maintenance, emergency and equipment use. Parking would not be provided or allowed within the camp site. Users would be expected to park vehicles in the lot provided in the Main Park Facilities Area. The campground would be a reservation facility with the access card or key to the gated vehicular access loaned only to guests with a reservation. The permanent restrooms provided at the Main Facility Area would be the primary sanitary facilities for the campground. Because the conservation easement covering the use of the parkland upon which the campground is situated does not permit permanent built structures; permanent restrooms will not be constructed at the campground. Three hundred feet is the recommended maximum distance between camp sites and restroom facilities. The parks permanent toilet facilities are approximately 1000 feet from the campground. Portable sanitary facilities should be considered for the campground. These would be moved to the site upon reservation of the campground. A well and hand pump will also be installed for potable water at the campground.

The master plan also designates a location for an additional group camp site. This future group camp area would only be developed if public demand for camping would suggest its needed.



FIGURE 7.7 - EXAMPLE PHOTO OF A RAISED TENT PAD (SOURCE: RECREATION HORSE TRAILS IN RURAL AND WOODLAND AREAS, GENE W. WOOD)

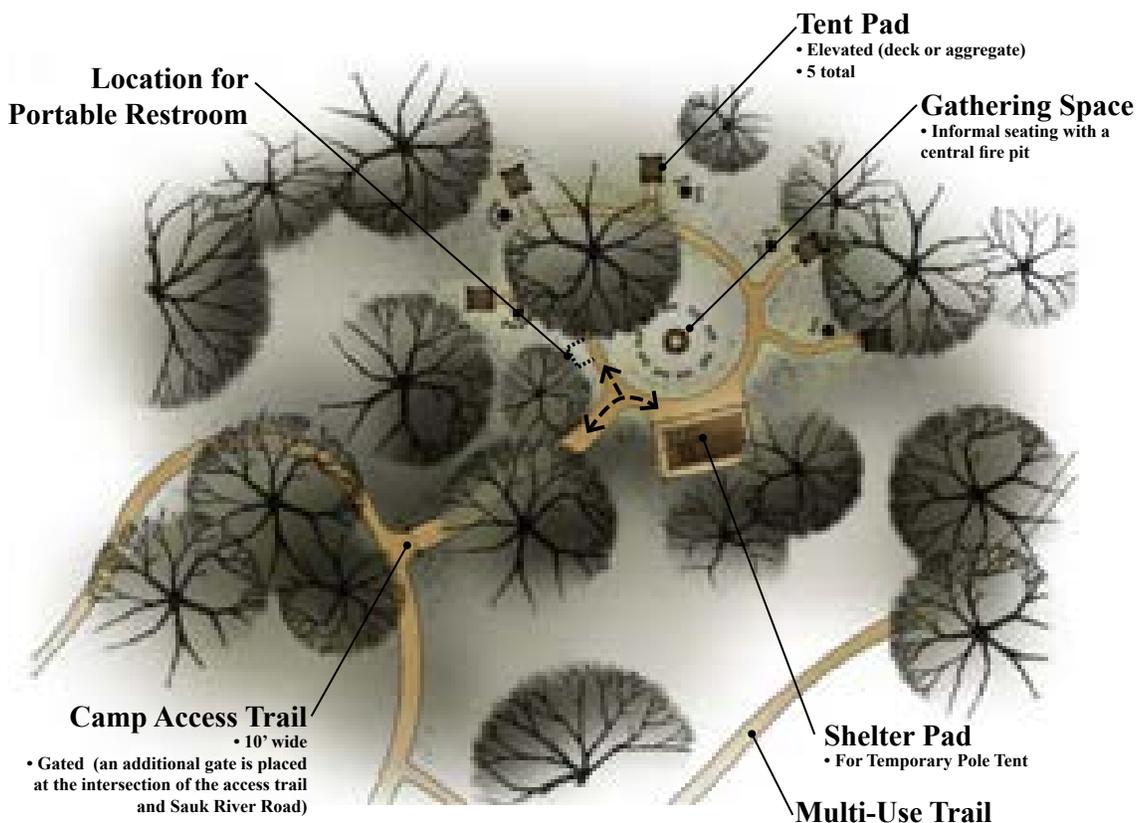


FIGURE 7.8 - LAYOUT ENLARGEMENT PLAN OF THE GROUP CAMP AREA

## Canoe Camp Area

The Sauk River is a designated State Canoe Route and currently there is a need for additional canoe campsites along the route. The location of Rockville County Park makes for a logical and convenient stopping point along the route, and therefore one primitive canoe camping site will be provided for along the Sauk River within the park property. The area will allow space for 2-3 tents and a fire pit. It would be a first come first serve campsite and would be maintained by the County. Access for maintenance purposes would be from the river, and the campsite will not be accessed by going through adjacent private properties. A portable restroom facility will be provided for within this area, in case of a flood or during historic flood periods this facility can be removed.

## Horse Trailhead Facility

The master plan has included 4.25 miles of combined pedestrian/horse trails within Rockville County Park & Nature Preserve. Equestrian trailer parking, manure compost pit, potable water and horse ties shall be provided at this park when sufficient additional off-site trails are developed. Refer to Appendix C for MnDNR standards for trail length required for 'Trailer To' facilities. The county will work with local equestrian advocates to establish these off-site routes, but will not be responsible for acquiring, maintaining, operating or insuring them. The county will also make convenient and logical connections within the park for the off-site trails. See Figure 7.13 for connection points and an off-site route suggested by equestrian advocates and Citizen Advisory Committee members. The larger trail network, if it is to happen, would be the result of the equestrian proponents seeking cooperation with local units of government and private landowners and acquiring funding for the development and management of additional trails. Given the size of the park and the ecological zones multiple short trail loops will be provided within the park. Trails within the park would be naturally surfaced and follow existing contours where possible. Refer to Graphic 7.13 for a standard Combined Use trail section. In areas where soil conditions and storm water are likely to create continuing maintenance or safety issues the trails may be re-contoured and compacted to correct maintenance or safety situations.

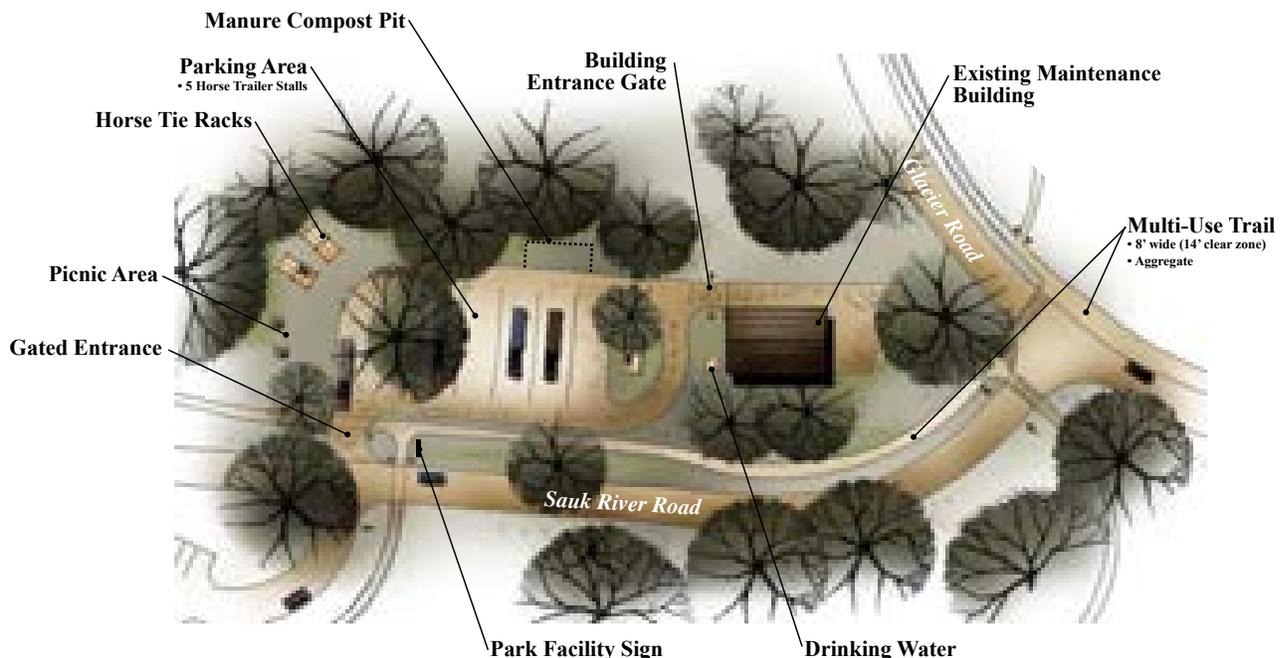


FIGURE 7.9 - LAYOUT ENLARGEMENT PLAN OF THE HORSE TRAILER PARKING AREA & SITE AMENITY LAYOUT



FIGURE 7.10 - EXAMPLE PHOTO OF DRINKING WATER SOURCE AT SIBLEY STATE PARK



FIGURE 7.11 - HORSE TIE RACK AT SIBLEY STATE PARK



FIGURE 7.12 - THE CLEMSON 4-HORSE TIE STALL DESIGN (SOURCE: RECREATIONAL TRAIL IN RURAL AND WOODLAND AREAS, GENE W. WOOD)

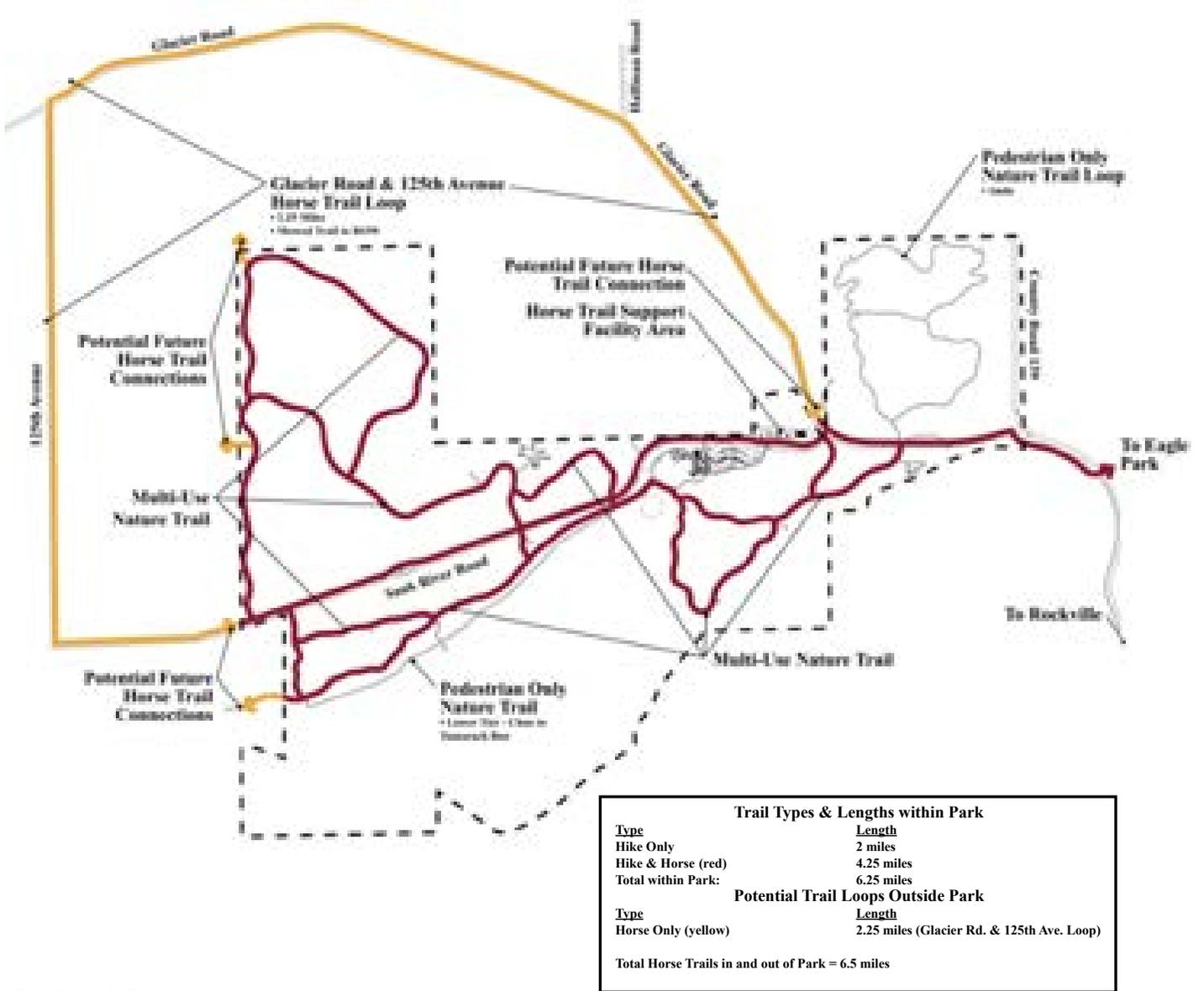


FIGURE 7.13 - HORSE TRAIL PLAN

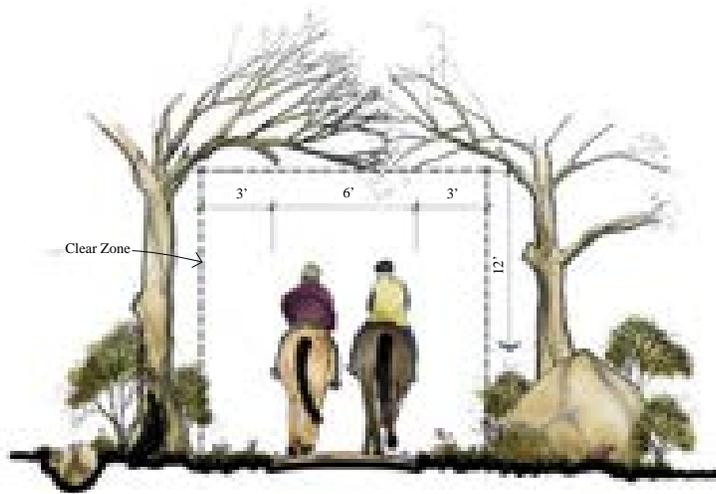


FIGURE 7.14 - 6' WIDE HORSE TRAIL WITH 3' CLEARANCE ZONES



MULTI-USE TRAIL EXAMPLES

# Pedestrian Nature Trails

In addition to the combined use equestrian trails, exclusive pedestrian trails are illustrated in the master plan for Rockville County Park & Nature Preserve. As illustrated in figure 7.2, a network of looped pedestrian-only nature trails (approximately 2 miles) will be provided within the park for year-round use. The sensitivity of the park’s ecology requires that these trails be narrow and unsuitable for any use other than pedestrian. A trail width of 48 inches is proposed to allow for users to walk side by side while still keeping the trail intimate and natural. In select locations, the trail may be narrowed in response to the terrain, especially in areas of steeper grades or sideslopes. Where the terrain is relatively flat, the preferred width of 48 inches is anticipated. Although extensive brushing adjacent to the trail is not envisioned, a reasonable clearance zone on either side of the trail will be provided to allow adequate space for sight lines and ease of passage. Figure 7.15 illustrates a typical natural trail cross-section highlighting tread and clearance zone widths.

The following photos illustrate the general character of the nature trails from similar settings that reflect the type of trail proposed for the park.

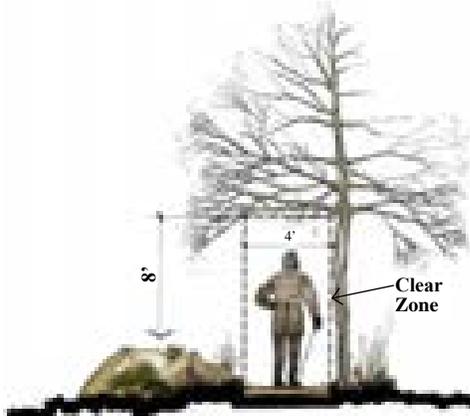


FIGURE 7.15 - TYPICAL 4' WIDE NATURE TRAIL



WHERE FEASIBLE AND WELL-SITED, THE EXISTING FOOTPATHS WILL BE USED AS THE CORRIDOR FOR THE NATURE TRAILS



IN GENERAL, THE NATURE TRAIL WILL GRAVITATE TOWARD A WIDTH OF 48 INCHES TO ACCOMMODATE TRAIL USERS WALKING SIDE BY SIDE. BEING SOFT-SURFACED, THE FINAL WIDTH OF THESE TRAILS WILL BE DICTATED AS MUCH BY USE PATTERNS VERSUS A SET DESIGN WIDTH



IN SELECT LOCATIONS, A NARROWER TRAIL WIDTH WILL BE DESIRABLE IN RESPONSE TO TERRAIN AND OTHER LANDFORMS AND VEGETATIVE PATTERNS. THIS VARIABILITY ADDS TO THE CHARACTER OF THE TRAIL

Rolling grade will be used as the primary pattern for designing and building the natural surfaced trails. This includes using a series of tread dips, crests, climbs, drainage crossings, and edge buffers to prevent erosion. The following illustrates key aspects of rolling grade design.

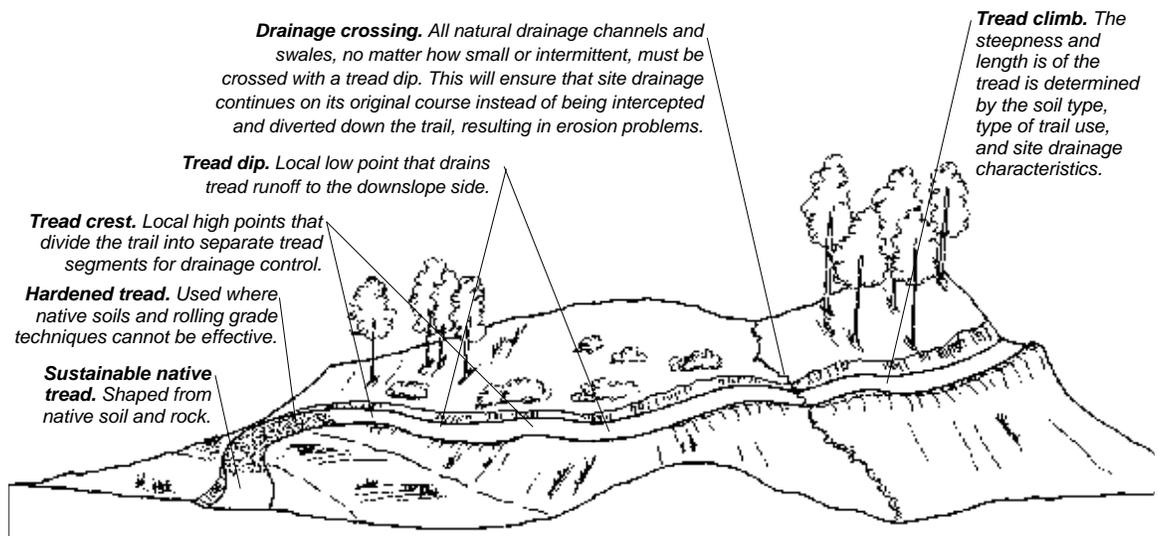


FIGURE 7.16 – OVERVIEW OF ROLLING GRADE AS THE PRIMARY DESIGN PATTERN FOR NATURE TRAILS (SOURCE: MNDNR TRAIL PLANNING, DESIGN, AND DEVELOPMENT GUIDELINES MANUAL)

### Design Standard for Natural Trails

The natural surfaced trails and rolling grade design pattern is consistent with the *Minnesota Planning, Design, and Development Guidelines* (MN DNR 2006), the baseline standards and guidelines for developing nature trails. These guidelines take into consideration the natural forces acting on natural surfaced trails, such as erosion, compaction, and displacement, and offer design techniques to offset these concerns. Adherence to these standards should result in very sustainable and enjoyable natural trails.

### Nature Trails for Recreation and Education

As illustrated on the master plan (figure 7.2), the nature trail system purposefully traverses all of the major ecological systems within the park to give trail users a real sense of the park’s natural qualities. In addition to recreation, one of the main values of the nature trails is that they can be used casually and through structured interpretive programs to inform the public about natural resources issues and the importance of active stewardship to ensure that the park’s ecological systems remain healthy for generations to come.



PROPERLY SITED OBSERVATION POINTS AND BLINDS WILL ALLOW VISITORS TO OBSERVE NATURAL FEATURES AND WILDLIFE WITHOUT UNDULY DISTURBING EITHER

## Pedestrian Bridge Crossings

Three bridges are needed to cross the brook that runs through the former Cold Spring Granite property. The bridges would vary in width and length depending on the exact locations and the designated user groups. The sketch below indicates the character, which ties in with the overall theme of the park development features.

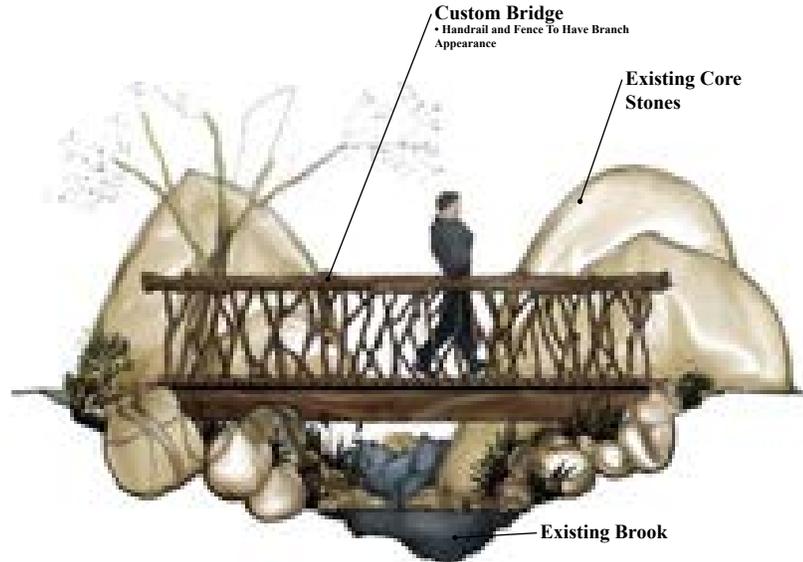


FIGURE 7.17 - CHARACTER SKETCH OF BRIDGE CROSSINGS

## Trail Observation Points & Destination Features

To complement the trail, a series of observation points and destination features will also be provided at select locations. The master plan highlights several locations that hold promise for compelling views. There are also others that will be uncovered as the natural trail system is implemented. As figures 7.18 and 7.19 illustrates, these are intended to be simple, unobtrusive features.

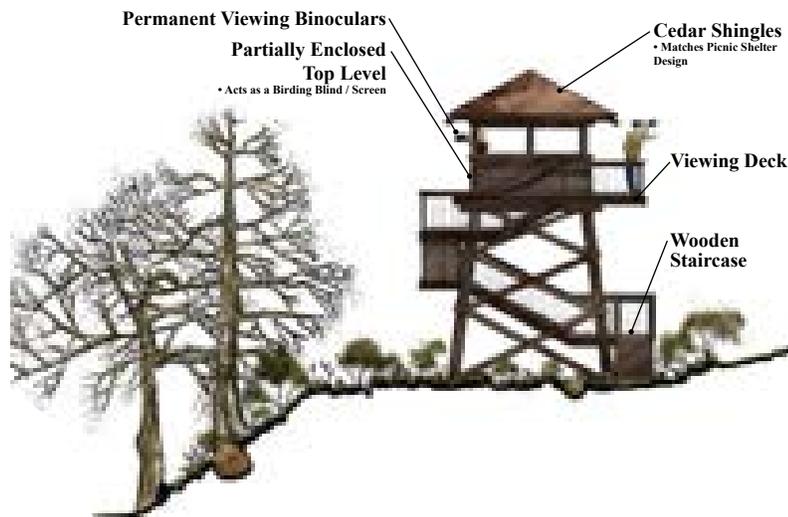


FIGURE 7.18 - DETAIL OF THE LOOKOUT TOWER - PLACEMENT OF THE TOWER IS TO BE LOCATED IN THE NORTHWEST CORNER OF THE FORMER COLD SPRING GRANITE PROPERTY.

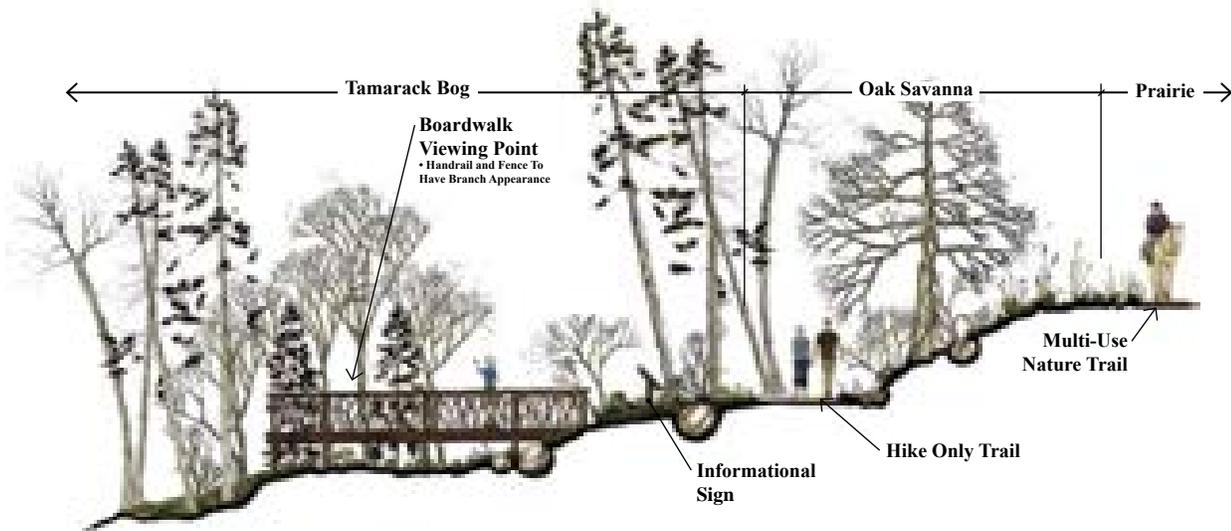


FIGURE 7.19 - DETAIL IMAGE OF THE TAMARACK BOG OBSERVATION POINT & ADJACENT NATURE TRAILS

## Park and Trail Signage

One of the more important communication tools is a comprehensive signage program that is carried uniformly throughout the park. The signage program in the park will provide a consistent message to park and trail users and provide information related to facility locations, trail routes, park rules and regulations, and other pertinent information.

The signage program is of particular value with respect to the ecological stewardship programs, where providing interpretive information to park and trail users at the point of contact has proven to be one of the most effective forms of education. The main benefit is that the park user can apply new knowledge immediately and begin to internalize its significance based on first hand experience.

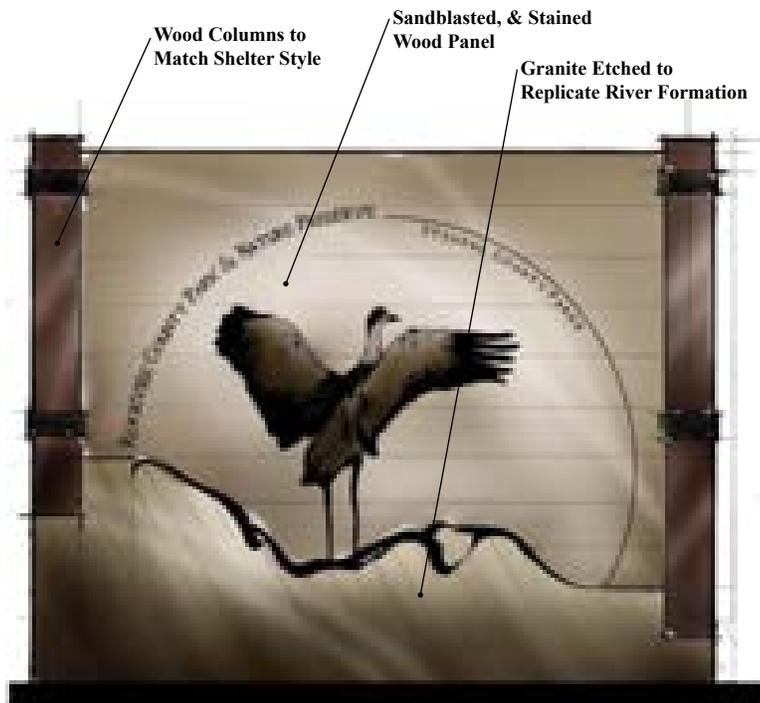


FIGURE 7.20- CHARACTER SKETCH OF THE MAIN PARK ENTRANCE MONUMENT SIGN

## Key Components of a Comprehensive Signage Program

The park signage program consists of a hierarchy of signs that give the park visitor needed information in an unobtrusive manner. From a design standpoint, a strong overall theme that is consistent with the natural qualities of the park is important.

Key components of the signage program include:

- **Park identification sign** – located at the main point of entry. This sign sets the design theme for the entire signage program.
- **Park directional signage** – located along the entrance drive and provides basic directional information.
- **Main information signs/kiosks** – located at the major use areas. This sign provides a park map, general information and rules, and an overview of the ecological stewardship program.
- **Trailhead sign** – located at the start of a trail and provides a trail map and ecological stewardship program overview.
- **Trailside exhibit sign** – located along trails and provides information on ecological restoration and management activities and plant identifications. Also focuses on cultural resources.
- **Trail intersection sign** – located at trail intersections and provides a map of the trail system and “you are here” designation. Given the size of the park, intersection signs will be most advantageous where the park trails interlink with the local and regional trails outside of the park.

The signage program will be consistent with the signage program used by Stearns County throughout its park system in order to ensure a consistent image between all parks and trails. Other commonly used signage standards and the best practices of other regional park agencies will be incorporated as appropriate as the signage program is implemented.

## Winter Uses of Park Facilities

Year-round use of the park will be encouraged by Stearns County. Specific examples include:

- Encouraging informal cross-country skiing and snowshoeing of the trails, which will provide an appealing contrast to groomed ski trails at other regional park venues.
- Continuing the use of the state snowmobile route that runs through the park.

### Snowmobile Route

The existing State Snowmobile Route will continue to traverse through the park, running parallel to Sauk River Road, linking the City of Rockville to the trail that navigates beyond the park to the west as long as the demand remains and snowmobiles continue to be allowed in the city or county by ordinance, which is the case as of 2008.

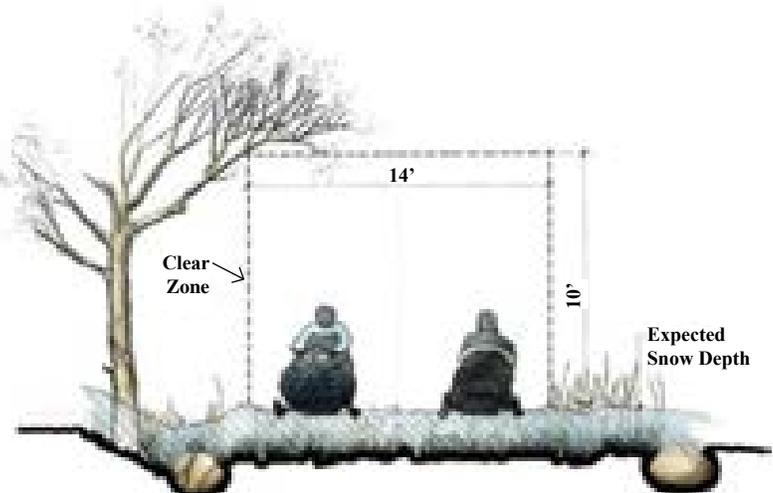


FIGURE 7.21 CHARACTER SKETCH OF A DOUBLE TRACK SNOWMOBILE TRAIL

# Vehicular Access and Park Drives

Providing safe and convenient access to Rockville County Park & Nature Preserve is of the utmost importance. Fortunately, convenient access to the park is provided by the County and two City of Rockville roads. Minor modifications to these roads are suggested in this master plan to increase driver awareness of the park, park visitor safety and road compatibility with the park environment.

## County Road 139

County Road 139 is the park’s connection to its service region and is therefore an important artery that will enable convenient vehicular access for local and regional park visitors. Sauk River Road intersects County Road 139 and continues west leading visitors to the parks’ Main Facility Area. This intersection, as currently configured, encourages high speed north and west bound traffic into the park. The master plan illustrates a modification to the Co.Rd. 139 and Sauk River Road junction to encourage north and west bound through traffic to remain on Co. Rd. 139, or to lessen its speed when entering the park. This change would lessen the sharpness of the 139 alignment at Sauk River Road allowing continuous north and south bound travel. This realignment may require a lowering of the speed limit in this area of the County Road but it would also eliminate a south bound stop. Sauk River Road in this concept would then intersect Co. Rd. 139 in a perpendicular fashion. East bound traffic on Sauk River Road would be stopped prior to continuing north or south on Co. Rd. 139. See Graphic 7.22 for a conceptual plan of this intersection modification.



REALIGNING THE INTERSECTION OF COUNTY ROAD 139 AND SAUK RIVER ROAD SO THE THE THROUGH MOVEMENT RUNS NORTH-SOUTH ALONG 139 WILL SLOW TRAFFIC AND CREATE A BETTER SENSE OF ENTRY AND IDENTITY FOR THE PARK.

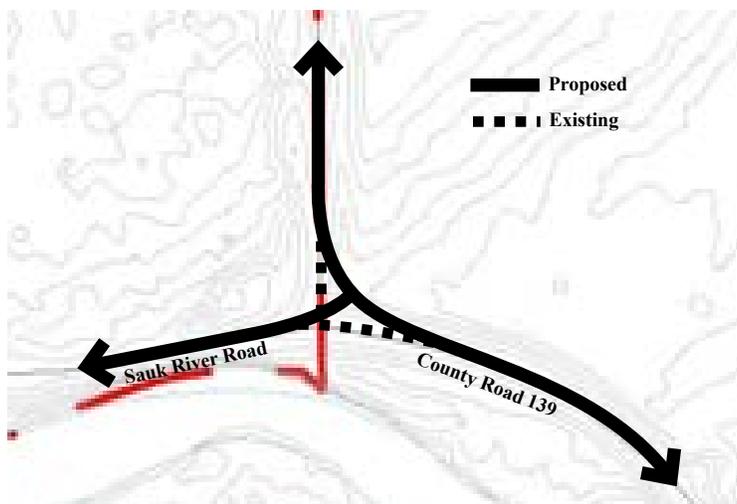


FIGURE 7.22 - ROAD REALIGNMENT OF THE INTERSECTION OF COUNTY ROAD 139 & SAUK RIVER ROAD

## Sauk River and Glacier Roads

Sauk River and Glacier Roads are City of Rockville public streets. Sauk River Road will serve as a park access road as well as continuing to be a public thoroughway for residents and businesses to the west and north of the park. The eastern portion of Sauk River Road, between the intersection of Co. Rd. 139 and Glacier Road, is a paved rural section road approximately 24 feet in width. The balance of the road, which extends to and beyond the western boundary of the park, is approximately 24 feet in width and aggregate surfaced. Changes are suggested in the master plan for the intersection of Sauk River and Glacier Roads. Glacier is also a city street and intersects Sauk River Road at an obtuse angle. This intersection is currently uncontrolled. Anecdotal evidence suggests that the majority of traffic entering Sauk River Road travels either to Glacier or Co. Rd. 139 intersections moving north or south rather than continuing west on the aggregate section of Sauk River Road. The modification of this intersection would be similar to that proposed for the County Road 139 intersection of Sauk River Road. The north / south movement between Sauk River and Glacier Roads would be continuous. Sauk River Road to the west of the Glacier Road would intersect the new alignment in a perpendicular fashion and be a controlled stop.

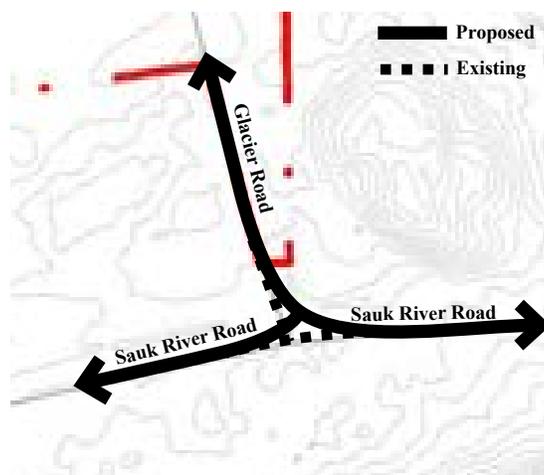


FIGURE 7.23 - ROAD REALIGNMENT OF THE INTERSECTION OF SAUK RIVER ROAD & GLACIER ROAD



THE SECTION OF SAUK RIVER ROAD BETWEEN CO. RD. 139 AND GLACIER WILL REMAIN THE SAME - THE MULTI-USE TRAIL WILL RUN PARALLEL ALONG THE NORTH SIDE OF THE SIDE OF THE ROAD



REALIGNING THE INTERSECTION OF SAUK RIVER ROAD & GLACIER ROAD SO THE THROUGH MOVEMENT RUNS NORTH-SOUTH ALONG GLACIER ROAD WILL SLOW TRAFFIC AND CREATE ANOTHER POINT FOR TRAFFIC CALMING AND A PARK IDENTIFICATION LOCATION

Minor modifications to the western portion of Sauk River Road would include a realignment of the road in the area of the Main Park Facility Area. Through this area the road would be relocated to the north park boundary creating an area for park facilities that is not separated from the balance of the park by a road. See Graphic 7.24. Private easements to property to the north of the park would need to be reconfigured to insure access is maintained.



THE SECTION OF SAUK RIVER ROAD BETWEEN GLACIER ROAD AND THE CONSERVATION EASEMENT PORTION OF THE PARK WILL BE REMOVED AND REALIGNED ALONG THE NORTHERN PROPERTY LINE OF THE PARK ALLOWING THE MAIN PARK FACILITY AREA TO HAVE A DIRECT CONNECTION WITH THE BALANCE OF THE PARK PROPERTY.

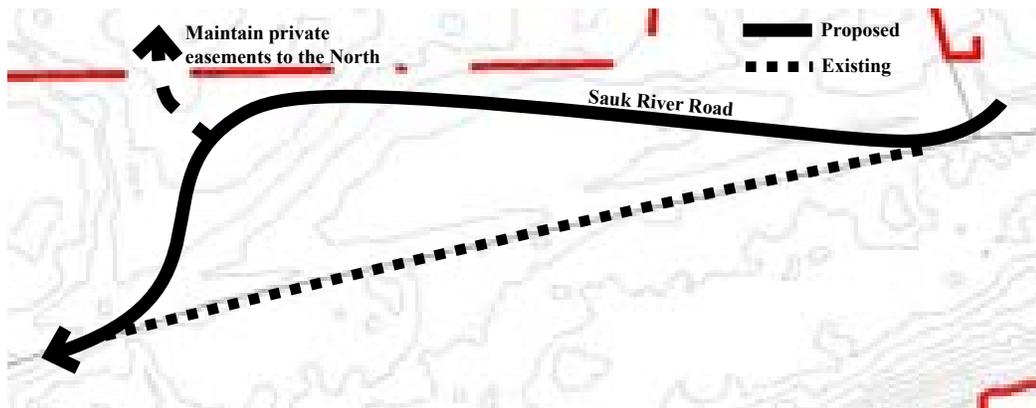


FIGURE 7.24 SAUK RIVER ROAD RE-ALIGNMENT GRAPHIC

From the Main Facilities Area of the park Sauk River Road would continue in its current alignment. To provide persons traveling through the park an opportunity to learn about and view the restored landscape and wildlife a short section of the roadway would become divided with a few pull-off parking spaces and interpretive signage provided on each side of the roadway. The median created in this area would also serve a traffic calming purpose. The median area is to be revegetated as native prairie.

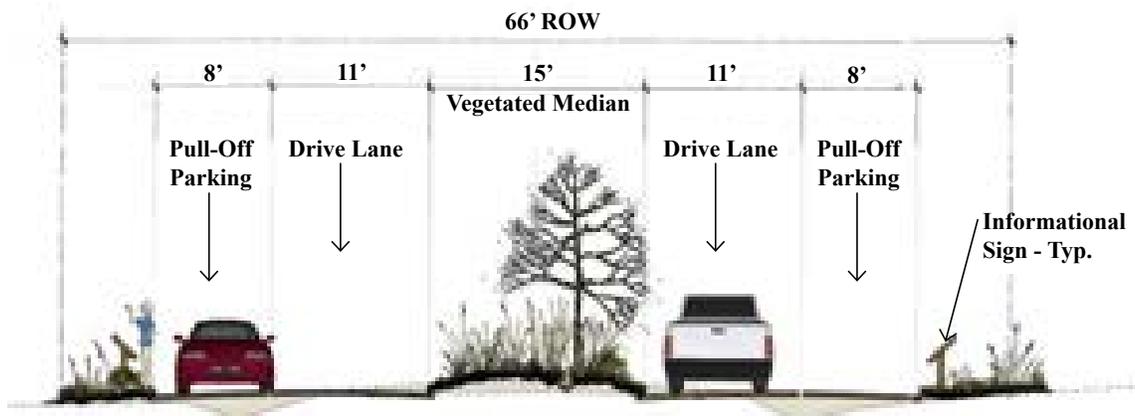


FIGURE 7.25 - ROAD PULL-OFF AREA ALONG SAUK RIVER ROAD

## Potential Future Park Expansion

Two areas of future land acquisition for the park are suggested by this master plan. These are areas that would complement and protect the unique environmental qualities of the park. Refer to Figure 7.26 for area locations. Please note Stearns County only works with willing sellers for acquisition of land or easements.

### Potential Expansion Area One

The Peck homestead and crop land abutting the western boundary consisting of approximately 66 acres is included in the same conservation easement as the 194 acres of parkland donated in 2007 to the park. Potential uses for this land might include the logical expansion of the savanna and prairie ecologies, the extension of trails and preservation of additional river shoreland. Since there are structures, including a home and outbuildings on the property that are grandfathered into the conservation easement, perhaps an expansion of the nature learning facilities for the park could be located in the out buildings associated with the homestead. It is unlikely that the home itself would be of value to the park as a program building. As a public agency the county would need to insure that the home met access standards required by the American's with Disabilities Act. This would likely require significant physical modification to the home and a large investment of money. The conservation easement allows replacement and/or expansion of up to 25% of the existing building footprint/

### Potential Expansion Area Two

Expansion area two would increase the park size by approximately 80 acres. The land to the north of the park's Main Facility Area if obtained in the future would allow for an extension of the wetland restoration suggested in this master plan. Refer to *Section V - Natural Resource Restoration and Management Plan - Wetland Restoration Options - Option B* for more information. This restoration will restore a historic wetland meadow, increase flow and reduce low or no flow times in the Babbling Brook. It will also restore the historic subsoil flow of ground water to the Tamarack Bog.

This suggested expansion could be accomplished through out right purchase of the land. It could also be accomplished by obtaining an easement agreement with the property owner(s).

### Additional Land to be Considered

Additional land that should be considered for park expansion would include any adjacent land with Sauk River frontage that is or will be contiguous with park boundaries. The river floodway is a sensitive environment with considerable habitat and functions as an important corridor for wildlife movement.

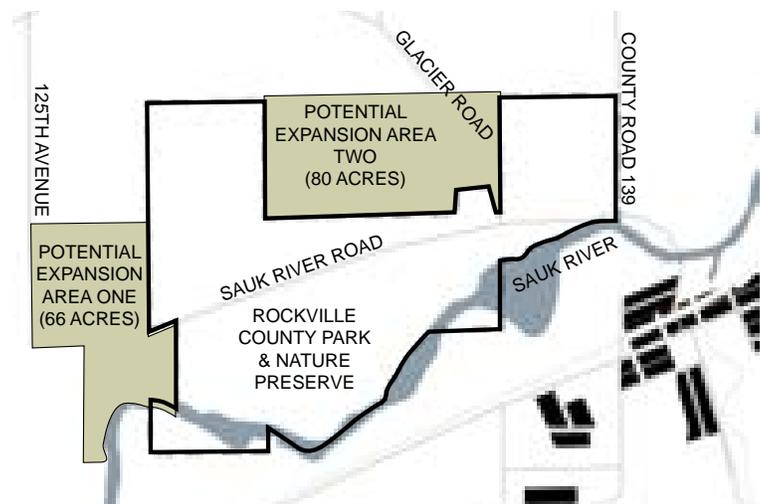


FIGURE 7.26 - POSSIBLE FUTURE PARK EXPANSION AREAS GRAPHIC

# SECTION 8

## IMPLEMENTATION & MANAGEMENT PLAN

### Overview

Implementing the master plan for Rockville County Park & Nature Preserve will require significant initial and long-term capital investments for development, ecological stewardship, operations, and maintenance. Realistically, implementation will occur over a number of years as funding and other resources are made available. This section considers an overall strategy for implementing the plan that takes these factors into consideration.

### Implementation Cost Projections

The following provides an overview of the potential costs to implement each aspect of the master plan.

#### Site Development-Related Cost Projections

The cost analysis defines the potential costs associated with each development component of the master plan. It is based on a combination of site-specific development requirements and projects of similar size and complexity. The costs are also based on having the work completed by private contractors and specialists. It does not take into consideration work that could be performed by County staff, volunteer groups, or by other means.

The cost figures are based on master plan level evaluation, which brings with it inherent limitations. The cost figures are meant for general budgeting purposes, project phasing, and comparing the relative cost of one item to that of another. The costs are in 2008 dollars. Although intended to be conservative, actual costs will vary depending on the year that each aspect of the master plan is implemented, implementation parameters, economic conditions affecting bidding, and the actual site conditions found in the field during construction

### Initial Investments

The initial investments would focus on relatively low cost items that would allow the public access to the park and generate public interest and support for further development of the park. The table below defines these items and the costs associated.

TABLE 8.1 INITIAL DEVELOPMENT INVESTMENT DESCRIPTION AND COST ESTIMATE

NO.	GENERAL DEVELOPMENT DESCRIPTION	COST ESTIMATE
1	TEMPORARY PARKING	\$10,000.00
2	PARK ENTRANCE MONUMENT SIGN	\$40,000.00
3	3 MILES MOWED / SOFT SURFACE TRAILS	\$125,000.00
4	ECOLOGICAL RESTORATION	\$75,000.00*
	<b>INITIAL DEVELOPMENT SUBTOTAL:</b>	<b>\$250,000.00</b>

\* THIS INITIAL INVESTMENT IN ECOLOGICAL RESTORATION, INCLUDING SAVANNA AND PRAIRIE RESTORATION, IS INCLUDED IN PHASE ONE - UNIT 2 & 3 COSTS - SEE TABLE 8.5.

TABLE 8.1 INITIAL DEVELOPMENT INVESTMENT DESCRIPTION AND COST ESTIMATE



NATURE TRAILS ARE RELATIVELY LOW COST AMENITIES TO ADD TO A PARK COMPARED TO THE VALUE THEY ADD TO THE PARK

# Phase One Development

NO.	GENERAL DEVELOPMENT DESCRIPTION	COST ESTIMATE
<b>1</b> 1.1 1.2 1.3 1.4	<b>ROADWAY MODIFICATIONS</b> RE-ALIGNMENT OF CO RD 139 & SAUK RIVER ROAD RE-ALIGNMENT OF GLACIER ROAD & SAUK RIVER ROAD REMOVAL & RE-ALIGNMENT OF SAUK RIVER ROAD REMOVAL & RE-ALIGNMENT OF SAUK RIVER ROAD @ ONE-WAY	\$290,200.00
<b>2</b> 2.1	<b>PARK ID SIGNS</b> SECONDARY ENTRANCE MONUMENT SIGNS	\$30,000.00
<b>3</b> 3.1 3.2 3.3	<b>PARKING &amp; ASSOCIATED FENCING</b> AGGREGATE PARKING SPLIT-RAIL FENCING STORMWATER POND	\$99,950.00
<b>4</b> 4.1 4.2 4.3 4.4 4.5 4.6	<b>TRAILS/ BRIDGES</b> AGGREGATE TRAILS (CONNECTION TO CO. RD 139 - INCLUDES GRADING) TRAIL SIGNAGE (DIRECTIONAL) 1.2 MILES MOWED / SOFT SURFACE TRAILS PEDESTRIAN BRIDGE CROSSINGS MULTI-USE BRIDGE CROSSING VEHICLE GATES FOR TRAILS	\$219,000.00
<b>5</b> 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8	<b>GROUP CAMP AREA</b> TENT PADS LOG BENCHES FIRE PITS POLE TENT PAD GATED ENTRY INTERNAL TRAIL LOOP & TRAIL CONNECTION RESTORATION WELL & HAND PUMP	\$39,100.00
<b>6</b> 6.1 6.2 6.3 6.4	<b>CANOE CAMP AREA</b> CLEARING LOG BENCHES FIRE PIT PORTABLE RESTROOM (DNR APPROVED)	\$3,300.00
<b>7</b> 7.1 7.2	<b>SWEAT LODGE</b> GRADING / CLEARING FOR TRAIL AND STRUCTURE TRAIL CONNECTION	\$1,500.00
<b>PHASE 1 SUBTOTAL:</b>		<b>\$683,050.00</b>

TABLE 8.2 PHASE ONE DEVELOPMENT DESCRIPTION AND COST ESTIMATE

## Phase Two Development

NO.	GENERAL DEVELOPMENT DESCRIPTION	COST ESTIMATE
<b>1</b>	<b>OBSERVATION POINTS / PICNIC AREAS</b>	
1.1	REMOTE PICNIC AREAS	
1.2	VIEWING POINTS (EAGLES NEST, CRANE, NE PARCEL)	\$18,200.00
<b>2</b>	<b>FISHING ACCESS POINT</b>	
2.1	STAIRS	
2.2	BOARDWALK	
2.3	ACCESSIBLE TRAIL	
2.4	RESTORATION	\$92,500.00
<b>3</b>	<b>MAIN PARK FACILITY AREA</b>	
3.1	SHELTER FACILITY SIGN	
3.2	AGGREGATE TRAIL LOOP	
3.3	SHELTER STRUCTURE	
3.4	CUSTOM GRILL	
3.5	CONCRETE WALK / PADS	
3.6	BOLLARDS	
3.7	RETAINING WALLS	
3.8	STONE SEAT WALLS	
3.9	RESTROOM BUILDING	
3.10	BENCHES	
3.11	PICNIC TABLES (UNDER SHELTER)	
3.12	PICNIC TABLES (ADJACENT TO TRAIL LOOP)	
3.13	CONCRETE BANDING (FOR AGGREGATE WALKS)	
3.14	LANDSCAPING	
3.15	SEEDING	\$642,380.00
	<b>PHASE 2 SUBTOTAL:</b>	<b>\$753,080.00</b>

TABLE 8.3 PHASE TWO DEVELOPMENT DESCRIPTION AND COST ESTIMATE



THE MAJORITY OF DEVELOPMENT WILL OCCUR WITHIN THE AREA SHOWN ABOVE

# Phase Three Development

NO.	GENERAL DEVELOPMENT DESCRIPTION	COST ESTIMATE
<b>1</b>	<b>PLAY AREA</b>	
1.1	CONTAINER CURBING	
1.2	SAFETY SURFACING	
1.3	EQUIPMENT	
1.4	BENCHES	
1.5	AGGREGATE WALK	
		\$177,100.00
<b>2</b>	<b>OBSERVATION POINTS / PICNIC AREAS</b>	
2.1	ELEVATED TAMARACK BOG BOARDWALK (INCLUDING INTERPRETIVE SIGN)	
2.2	LOOKOUT TOWER (INCLUDES BINOCULARS)	
		\$194,000.00
<b>3</b>	<b>AMPHITHEATER</b>	
3.1	AMPHITHEATER STRUCTURE	
3.2	CONCRETE FOR AMPHITHEATER	
		\$55,000.00
<b>4</b>	<b>LABYRINTH</b>	
4.1	STONE COLUMNS FOR LABYRINTH	
4.2	WOVEN FENCING AROUND LABYRINTH	
4.3	LABYRINTH	
		\$50,000.00
<b>5</b>	<b>HORSE FACILITY AREA</b>	
5.1	AGGREGATE DRIVE & PARKING	
5.2	GRADING	
5.3	RESTORATION	
5.4	HORSE FACILITY SIGN	
5.5	DRINKING WATER	
5.6	3 TIE-RACKS	
5.7	PICNIC TABLES	
5.8	MANURE WASTE COMPOST STATION	
5.9	GATED ACCESS TO MAINTENANCE BUILDING	
		\$68,300.00
	<b>PHASE 3 SUBTOTAL:</b>	<b>\$544,400.00</b>

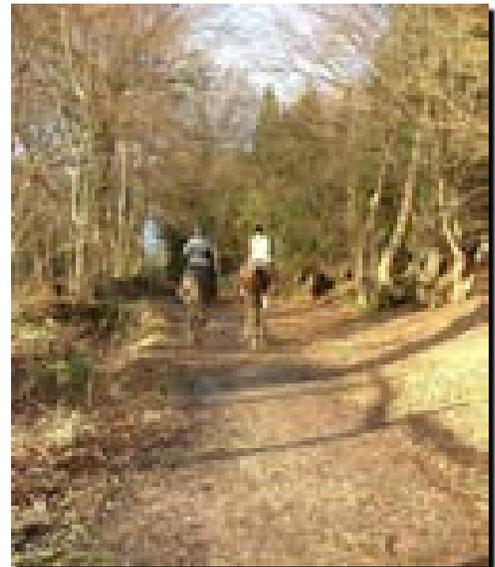
TABLE 8.4 PHASE THREE DEVELOPMENT DESCRIPTION AND COST ESTIMATE

**TOTAL MASTER PLAN COST ESTIMATE NOTE!**

THE TOTAL MASTER PLAN COST ESTIMATE FOR DEVELOPMENT AS DEFINED IN THIS TABLE DOES NOT INCLUDE COSTS ASSOCIATED WITH THE ECOLOGICAL STEWARDSHIP PROGRAM, WHICH ARE DEFINED ON PAGE 7.5. THE TOTAL COST FOR IMPLEMENTING THE MASTER PLAN IS A COMBINATION OF DEVELOPMENT AND STEWARDSHIP COSTS.

**ADJUSTING FOR INFLATION!**

A 10% PER-YEAR COST ESTIMATE INCREASE IS RECOMMENDED FROM DATE OF PLAN ADOPTION TO ACCOUNT FOR INFLATION.



ADDITIONAL HORSE TRAILS OUTSIDE OF THE PARK BOUNDARY SHOULD BE ESTABLISHED BEFORE "TRAIL TO" HORSE FACILITIES ARE DEVELOPED

## Ecological Restoration Cost Projections

Ecological restoration is a labor intensive and expensive process. Cost estimates assume that tasks will be carried out by outside contractors with the following exceptions:

- Deer herd management.
- Thinning of Oak Woodland and Savanna areas (to be done as part of a firewood or pulpwood contract).
- Hand collection of seed on site to augment wetland seed mix.

See Table 8.5 for a breakdown of costs by unit and phase.

	PHASE I	PHASE II	PHASE III	TOTAL
<b>UNIT 1 (WETLAND RESTORATION)</b>	\$16,491.00	\$96,784.00	\$25,013.00	\$138,288.00
<b>UNIT 2 (PRAIRIE RESTORATION)</b>	\$42,602.00**	\$85,957.00	\$2,070.00	\$130,629.00
<b>UNIT 3 (SAVANNA &amp; WOODLAND RESTORATION)</b>	\$50,180.00**	\$6,245.00	\$1,035.00	\$57,460.00
<b>UNIT 4 (OAK WOODLAND)</b>	\$0.00	\$84,985.00	\$518.00	\$85,503.00
<b>UNIT 5 (TAMARACK SWAMP, ROCK OUTCROP &amp; WET FOREST &amp; MESIC FOREST RESTORATION)</b>	\$402,040.00	\$123,338.00	\$4,140.00	\$529,518.00
<b>UNIT 6 (FLOODPLAIN FOREST RESTORATION)</b>	\$0.00	\$0.00	\$313,145.00	\$313,145.00
<b>ANNUAL INSPECTION</b>	\$6,900.00	\$6,900.00	\$2,300.00	\$16,100.00
<b>TOTAL*</b>	<b>\$518,213.00</b>	<b>\$404,208.00</b>	<b>\$348,220.00</b>	<b>\$1,270,641.00</b>

TABLE 8.5 PRELIMINARY RESTORATION COST ESTIMATE

\*NUMBERS INCLUDE 15% CONTINGENCY. WETLAND RESTORATION OPTION B USED FOR ESTIMATION PURPOSES.

\*\* THESE COSTS INCLUDE THE INITIAL INVESTMENT ECOLOGICAL RESTORATION (\$75,000.00) - SEE TABLE 8.1

## Perpetual Maintenance

Perpetual maintenance is necessary to maintain the investment of the restoration effort. Invasive species will always be a threat, and fire disturbance is necessary to maintain the parks target plant communities and wildlife populations. See Table 8.6 for a breakdown of perpetual maintenance costs.

	COST
<b>UNIT 1 (WETLAND RESTORATION)</b>	\$1,200.00
<b>UNIT 2 (PRAIRIE RESTORATION)</b>	\$1,800.00
<b>UNIT 3 (SAVANNA &amp; WOODLAND RESTORATION)</b>	\$900.00
<b>UNIT 4 (OAK WOODLAND)</b>	\$450.00
<b>UNIT 5 (TAMARACK SWAMP, ROCK OUTCROP &amp; WET FOREST &amp; MESIC FOREST RESTORATION)</b>	\$3,600.00
<b>UNIT 6 (FLOODPLAIN FOREST RESTORATION)</b>	\$1,200.00
<b>BURN, 1 UNIT EVERY 2 YEARS</b>	\$4,000.00
<b>ANNUAL INSPECTION</b>	\$2,000.00
<b>TOTAL*</b>	<b>\$15,150.00</b>

TABLE 8.6 PRELIMINARY PERPETUAL MAINTENANCE ESTIMATE

### Potential Cost Savings

There are a number of ways to creatively manage restoration projects in order to reduce cost. In addition to cost saving measures incorporated into the estimate above there are several other ways cost savings can be achieved (see Table 8.7).

COST SAVING MEASURE	MANAGEMENT UNIT	POTENTIAL COST SAVINGS
HAVE FIRE DEPARTMENT CONDUCT PRESCRIBED BURNS UNDER COUNTY SUPERVISION	UNITS 1-4	\$21,000.00
HIRE A LOCAL FARMER TO DO THE PLANTING, SITE PREPARATION & MOWING	UNIT 1	\$6,512.00
	UNIT 2	\$15,112.00
	UNIT 3	\$3,045.00
	SUBTOTAL	\$24,669.00
DEFER SEEDING SUBUNIT B TO PRAIRIE. LEAVE AS AN ALFALFA FIELD WITH HAYING ALLOWED AFTER AUGUST 1 TO ENSURE FLEDGING SUCCESS OF GRASSLAND NESTING BIRDS.	UNIT 2	\$69,545.00
ENLIST SENTENCE-TO-SERVE LABOR FOR BUCKTHORN CONTROL (ASSUMES 5% OF COST SAVING WILL BE NEEDED FOR HERBICIDE & SUPERVISION)	UNIT 1	\$21,150.00
	UNIT 4	\$70,000.00
	UNIT 5	\$411,650.00
	UNIT 6	\$272,300.00
	SUBTOTAL	\$775,100.00
REMOVE ONLY BUCKTHORN SEED TREES FROM UNIT 6	UNIT 6	\$136,150.00
UTILIZE VOLUNTEER CREWS TO CONTROL BUCKTHORN RESPROUTS	UNIT 5	\$23,000.00
<b>SUBTOTAL</b> .....		<b>\$204,819.00 -- \$905,758.00</b>
<b>TOTAL WITH CONTINGENCY</b> .....		<b>\$235,542.00 - \$1,041,622.00</b>

TABLE 8.7 COST SAVINGS FROM ALTERNATIVE TECHNIQUES & IMPLEMENTATION APPROACHES

### Implementation Strategy and Priorities

As illustrated in figure 8.8, the implementation plan is broken down into two categories.

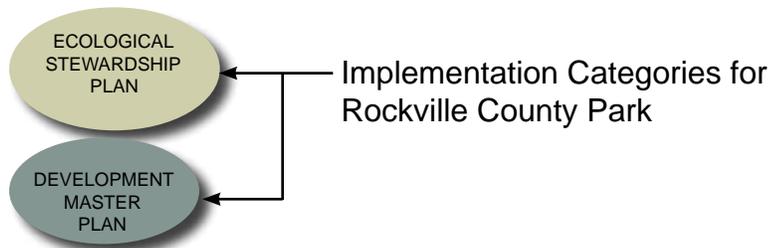


FIGURE 8.8- IMPLEMENTATION CATEGORIES FOR ROCKVILLE COUNTY PARK

The following considers the overall priorities between categories, which is followed by discussion related to the priorities within each category.

### Implementation Priorities Between Categories

Given the nearer-term likelihood of development occurring around the park, implementing the boundary expansion plan ranks at the top of the implementation priorities. Thereafter, implementing the development plan is of equal priority to that of the ecological stewardship program. By taking a balanced approach to implementation, both development and ecological stewardship goals can be simultaneously pursued to take advantage of funding opportunities that may arise from various sources. This approach also provides greater flexibility in developing effective implementation sequences that link physical development and ecological restoration objectives together whenever it is advantageous to do so. The following table provides a strategy statement for each of the categories to establish a starting point for developing specific implementation priorities.

## Priorities Relative to Implementation Categories

PRIORITY	CATEGORY	OVERALL STRATEGY STATEMENT
1	DEVELOPMENT MASTER PLAN	PHASED IMPLEMENTATION OF THE DEVELOPMENT PLAN IS A PRIORITY TO EXPAND RECREATIONAL AND EDUCATIONAL OPPORTUNITIES AS DEFINED BY THE MASTER PLAN. DEVELOPMENT OF THE MAIN PARK FACILITIES AREA AND THE TRAIL SYSTEM ARE TOP PRIORITIES.
2	ECOLOGICAL STEWARDSHIP PLAN	ON PAR WITH DEVELOPMENT OF THE PARK, MOVING FORWARD ON ECOLOGICAL STEWARDSHIP IS A HIGH PRIORITY, ESPECIALLY ADDRESSING THE TOP PRIORITIES AS DEFINED IN SECTION V – NATURAL RESOURCES MANAGEMENT PLAN.

By focusing on a balanced implementation approach, the recreational and ecological values of the park will grow in relative equilibrium. However, inherent to the implementation strategy is the need for flexibility to react to the real conditions, circumstances, and opportunities that present themselves. The greatest utility of the implementation plan is that it provides a framework for Stearns County to develop funding packages and grant applications to achieve the vision for the park as defined by the master plan.

## Operations and Management Plan

Stearns County is charged with the planning, acquisition, operation, and maintenance of county parks, trails, and open spaces.

The Stearns County Board of Commissioners establishes policies and goals for the County's parks, trails, and open space system and provides capital and operating funds through an annual budgeting process. The Park Commission, appointed by the County Board of Commissioners serves as a citizens advisory committee for the development and operation of the county system, making recommendations to the County Board on policy and budget. The specific responsibilities of the Park Commission include:

- Reviewing and making recommendations concerning the development of the County's parks, trails and open space policies
- Providing input to the park and trail development master plans
- Recommending the annual budget
- Providing leadership and direction to staff and elected officials in the area of parks, trails and open space planning and implementation
- Representing the citizens of Stearns County

## Ordinances

Park uses will be controlled by existing ordinances that are in place by Stearns County and the City of Rockville for parkland and park facilities. The Ordinances are consistent with pertinent Minnesota statutes and address pertinent issues, including regulation of:

- Public use and recreational activity
- General conduct
- General parkland operation
- Protection of property, structures, and natural resources
- Use of motorized Vehicles, traffic control, and parking
- Restrictions of guns, bows & arrows, and projectiles in general

## Enforcement

Local law enforcement agencies and the Sheriff's Department respond to emergencies and criminal complaints. Future plans will include discussion with the Stearns County Sheriffs Office related to security and enforcement issues. As this park is developed, park visitors will be informed of park rules and regulations. For example, kiosks will be strategically located to provide information about park hours, trails, permitted and prohibited activities, fees, and directions. County Sheriff's Department patrols will educate visitors, and enforce park rules and laws.

## Maintenance

Maintenance of facilities and lands is essential to protect public investment, enhance natural resource qualities and to protect the landscape for future development. An annual work plan should be developed to document Rockville County Park & Nature Preserve's maintenance needs for various agricultural and natural lands and facilities. The plan should outline the work to be completed and establish responsibilities. Predominant categories of maintenance tasks include:

- Facility monitoring and repair (maintenance building)
- Property stewardship (boundary signs, encroachment monitoring, fencing)
- Natural resource and wildlife management

## Master Plan Revisions and Updates

The master plan is a dynamic planning tool that will evolve and be fine-tuned as it moves through implementation steps. Over time, there may be justification for revisions and updates to the master plan in response to new information, trends, and general demands. Among the issues that could prompt review of the master plan are the following:

- Recreation trend information uncovers a need that has not been adequately addressed by the master plan
- Changed circumstances pertaining to existing uses warrants review of the master plan
- Existing built facilities have proven inadequate to meet demand or require design changes to improve their capacity to meet recreational needs or address maintenance and safety concerns
- Requests from citizens and special interest groups to review a particular aspect of the plan, which would only be accepted if the Park Commission or County Board has determined that an issue has enough justification to warrant review prior to scheduled master plan updates

If a review is found to be warranted, Stearns County will undertake an appropriate public process that includes input from the Park Commission and groups that are directly impacted by a given concern, as well as other groups that have a general interest in the park. This approach to reviewing a given situation ensures that conclusions drawn are ones that can be supported by the broader community. It also ensures that a balance between recreational uses and ecological preservation is maintained.



**PREPARED FOR:**

STEARNS COUNTY PARKS DEPARMTENT  
1802 COUNTY ROAD 137  
WAITE PARK, MN 56387

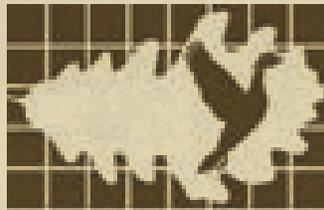
**PREPARED BY:**



BRAUER & ASSOCIATES, LTD.  
LAND USE PLANNING AND DESIGN

BRAUER & ASSOCIATES, LTD.  
10417 EXCELSIOR BOULEVARD, SUITE ONE  
HOPKINS, MN 55343

**IN COLLABORATION WITH:**



Applied Ecological Services, Inc.™

APPLIED ECOLOGICAL SERVICES  
21938 MUSHTOWN ROAD  
PRIOR LAKE, MN 55372