

Peck Farm Park Extension Master Plan

Prepared for: The Geneva Park District
July 2002

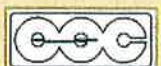


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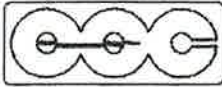
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The Kestrel Design Group, Inc.
Peck Farm Park Extension Master Plan

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EXECUTIVE SUMMARY

Peck Farm Park, an Illinois Heritage Park, is a showcase of biorestation techniques, a cross-section of all-northern Illinois plant communities, and a recreation and learning amenity for a rapidly expanding community in the fastest growing county in Illinois. The property was once surrounded by only agricultural land, but is now being encroached on all sides by development. The Geneva Park District recognized that the original 131 acre core, designed by the Kestrel Design Group, Inc., could be greatly enhanced with an expansion into a total of 378 acres of adjacent undeveloped land. The Geneva Park District retained the Kestrel Design Group, Inc. (KDG) to prepare this Master Plan of the Peck Farm Park Extension.

The Peck Farm Park Extension Master Plan builds upon the design goals of the original Peck Farm Park core. In addition to Illinois native plant community restoration and water quality improvements, the Peck Farm Park extension will seamlessly connect the old and new parcels into a single park, provide an additional active recreation component, take cues from the historic agricultural use of the site, and provide a vision for future acquisition.

A site analysis by the KDG examined the existing land and vegetation cover and compared it to the original public land survey notes taken in 1839. The topography, hydrology, and soils were examined for an understanding of how water moves across the site and how it might affect plant restoration and human use. The context of Peck Farm Park within the dynamic landscape and impacts from neighboring land uses was examined.

The planning process is outlined in this report; it was a cooperative effort between the Geneva Park District (GPD) staff and board, the Geneva Park Foundation, residents of Geneva, and KDG. The planning process produced several design alternatives. KDG prepared four concept alternatives. The options were further developed through several reiterations based on feedback from Geneva Park District staff. The final master plan represents a hybrid of the best aspects of each concept. The selection of the final concept was a unanimous decision by GPD staff, it's Board, Foundation, and GPD residents during a 100+ person Open House.

The Peck Farm Park extension Master Plan includes large, contiguous natural areas that will benefit area-sensitive wildlife species. The natural areas will provide unique opportunities for walking, bird watching, and accessibility to natural features not found in any of the other parks within the district.

The ecological importance of Peck Farm Park will become even more important in the future. As suburban development continues, Peck Farm Park will be a haven for wildlife and an oasis of native Illinois landscape, with a particular focus on endangered plants and animals.



INTRODUCTION

The Geneva Park District retained The Kestrel Design Group, Inc. in the Fall of 2001 to begin the Master Planning process for a 247-acre extension to the Geneva Park District's Peck Farm Park (PFP). The original 131 acre core of PFP is the only large natural area and passive recreation park in the Geneva Park District. The purchase of an additional 247 acres of land will greatly increase the habitat quality of the park for area sensitive wildlife species that need large unbroken areas of habitat. Passive recreation will also be enhanced by expansion of the natural areas of the 131 acre core. Expanding the active recreation opportunities in the Peck Farm Park expansion through the addition of 4 more soccer fields and a gymnasium will also enable the Geneva Park District to adequately serve the needs of the growing community on its western boundary. Additionally, a 24 acre agricultural demonstration parcel included in the expansion will help preserve the agricultural history of PFP and the surrounding community and continue to build on the educational opportunities in the Peck's farmstead buildings preserved in the PFP core.

Peck Farm Park has grown through several phases as the Geneva Park District has acquired land. The following table describes the parcel and acreage of each addition.

PFP ACREAGE		
	Unit	Acreage
PFP Core	Developed & restored prior to Extension Master Plan production	63
PFP Extension Master Plan	A	44
	B	62
	C	60
	D	47
	E	40
	F	38
	Southeast Agricultural Parcel	24
		TOTAL: 378

The original core of PFP ties together three goals: one, a cross section of the northern Illinois landscape before European settlement; two, a demonstration of low impact development techniques that show how to protect the environment in a developing situation within the fastest growing county (Kane) in the state of Illinois; and three, provide facilities for active recreation. The two design directives of the original 131 acre core of PFP were to:

- Create a cross section of northern Illinois plant communities as seen through the eyes of Eli and Jerusha Peck when they first stepped from their carriage onto this land in 1844.
- Maximize water quality by using sustainable stormwater management methods, employing the principle that "Every rain drop that falls here stays here."

The new design directives for the Peck Farm Park extension build on the goals for the original PFP core:

1. Seamlessly connect the newly acquired lands to Peck Farm Park in the minds of the visitors and staff, creating a single park with a unified core at the center,
2. Protect the environmental quality of the Peck Lake subwatershed portion of the Mill Creek Watershed through appropriate stormwater management, best management practices for reduced erosion, and low impact development directives with the goal that all water that falls here stays here,
3. Set aside the largest portion of the new acquisition as natural areas so that the landscape looks as Eli and Jerusha Peck saw it when they stepped off their carriages in 1844; that will flow easily from one side of Kaneville Road to the other; that will preserve high quality wildlife and plant communities and include trails, overlooks, and hands-on interpretive components for visitors,
4. Provide an active recreation component to serve the needs of the growing community,
5. Acknowledge the agricultural history of the site through farming demonstration and education,
6. Include a vision for additional lands to acquire in the Master Plan, including a connection to the adjacent Mill Creek.



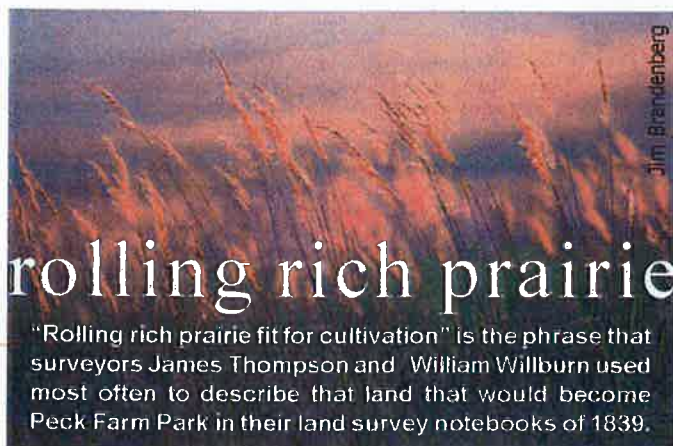
SITE ANALYSIS

Site analysis by KDG provided a basis for how to implement the design directives for the Peck Farm Park Extension Master Plan.

Past and Present Land Cover

The United States Government required that a Public Land Survey be completed by the General Land Office before public sale of lands that were part of the western territory. Because they were completed largely before European settlement, the survey notes and plats created by the General Land Office provide valuable information about plant communities and land cover before European settlement. Surveyors were required to describe land cover, soils, and topography along the section lines. At each section corner, they were to record four witness trees; at each quarter section corner, they were to record two witness trees. When no trees were present near a section or quarter section corner, they were to mark the point by creating a raised mound.

Most of the Peck Farm Park Core and Extension Land was described in the 1839 Public Land Survey by surveyors James Thompson and William Wilburn as "rolling rich prairie, fit for cultivation" (see Figure 1). As the surveyor raised a mound and no witness trees were recorded at any of the section or quarter section corners in this prairie, trees were most likely very scarce in this landscape. Only the intersection of sections 7, 8, 18, and 17 was described as Timber, with White Oak, Bur Oak, Linden, and no undergrowth. This record of presettlement vegetation was used to help inform the restoration of natural areas in the extension master plan.



PFP PUBLIC LAND SURVEYORS NOTES

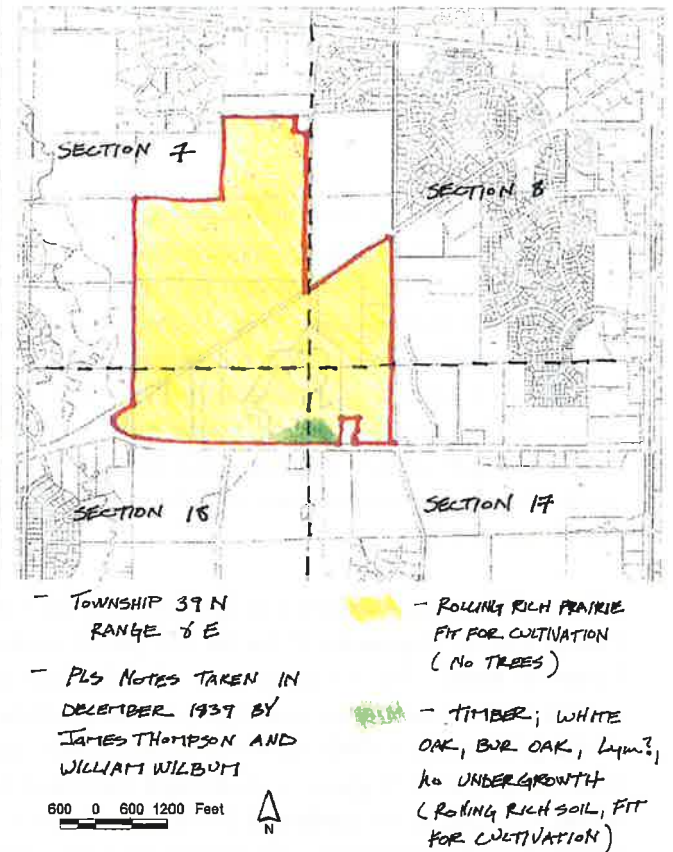


Figure 1. Current interpretive map of Public Land Survey notes from December, 1839

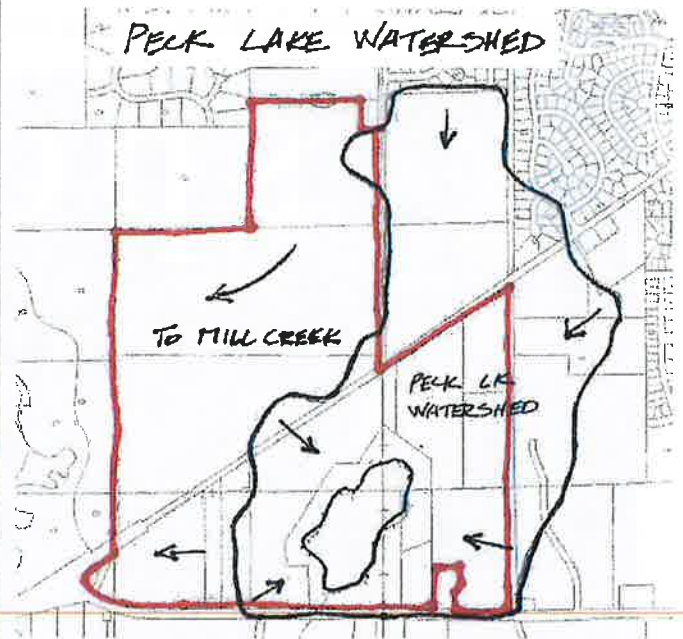


Figure 2. Schematic diagram of surface drainage in the Peck Lake Watershed.



The PFP extension land has been farmed since European settlement and will continue to be farmed until it is developed according to the Extension Master Plan. Accordingly, most of the weeds to be expected during the natural areas creation will be agricultural weeds.

Hydrology and Topography

Figure 2 shows an overview of how surface water moves through PFP. Runoff from the western half of PFP flows to nearby Mill Creek. The eastern half of PFP flows to Peck Lake, which then outlets to Mill Creek via the southern outlet of Peck Lake. The downstream half of the Peck Lake watershed is contained by PFP. The upper portion of the watershed is mostly residential and future residential. Subtleties in the mostly flat landscape can be sensitively used in various ways to enhance the visitor's experience at PFP.

A Farmed Wetland Inventory was completed by the Kane County SWCD (Appendix A) for the PFP parcel north of Kaneville Road. No wetlands were identified for this portion of PFP during the investigation. The National Wetland Inventory (NWI) however indicates two wetlands in this parcel (Figure 6). A detailed wetland delineation will need to be conducted for all parcels prior to construction documentation. All wetlands and other "low" areas will be targeted for wetland restoration/creation under the PFP Extension Master Plan.

Drain tile layout also informs wetland restoration plans.

Appendix B shows a survey of drain tiles installed in the past century to drain the farmland at Peck Farm Park to increase annual row crop production. A number of strategies to disable the drain tile were employed in the PFP core.

Soils

Soils in Peck Farm Park are primarily the Milford-Varna-Markham association, and to a lesser degree the Drummer-Elbern association. Soils textures are silt loam and clay loam, and range from poorly to moderately drained. Isolated sand lenses and side slopes exist within the soil matrix that are moderately well drained. Drainage must be managed in these soils with tile and ditches for agricultural cultivation. Figure 6 indicates the location of hydric and potentially hydric (wet or saturated) soils. While these soils are suitable for wetland and natural area restoration, development of structures and roads in these soils is cumbersome and costly. Therefore the sited structures have been appropriately located on non-hydric soils.

Context

Because environmental quality and visitor experience at PFP is affected not only by planning at PFP itself, but also by the surrounding watershed, site analysis for the extension master plan extends beyond the park boundaries. Figure 5 shows the immediate context of PFP.

To the east of PFP is Geneva Middle School. Over half of the Middle School's property drains to Peck Lake. PFP



Brad Sillarsen

spotlight:

grasshopper sparrow

Ammodramus saviannarum

The grasshopper sparrow inhabits prairies in the U.S. and southern Canada. They are an interior prairie species that needs 40 acres or more of undisturbed grassland, without any trees, shrubs, buildings, or utility poles. Habitat loss, fragmentation, and degradation are the primary reasons for Grasshopper sparrow populations declining in North America; >99% of native prairie has been converted to agriculture in Wisconsin, Minnesota, and Illinois. Populations of the grasshopper sparrow have decreased by >85% since 1966 (Herkert 1994) in Illinois. Grasshopper sparrows have been identified at nearby Nelson Lake Marsh and are likely to return to Peck Farm Park if the prairie areas are expanded.





Figure 3. Regional Context Map
PFP is located in northeast Illinois, 50 miles inland from Lake Michigan. It is at the northern edge of the Illinois Grand Prairie ecoregion. Much of the area has historically been agricultural, and is now being suburbanized.



Figure 4. Local Context Map
PFP is on the western fringe of the Chicago suburbs, within the city of Geneva. Geneva is an important city in the historic Fox River Valley. The area is growing rapidly due to development and suburbanization.

and the adjacent middle school have a mutually beneficial relationship. To protect the water quality of Peck Lake at PFP, the school uses sand rather than salt for de-icing. In return, the middle school students benefit from their geographic connection with a living laboratory and classroom in their own backyard at PFP. Enthusiastic participation by teachers has led to many student-monitored projects, including a LANDSAT ground-truthing station that received NASA sponsorship. Students have been monitoring the quality of stormwater coming from Geneva Middle School as it travels through wetlands toward Peck Lake. Summer camps and interpretive programs teach students about Illinois' natural heritage and living diversity. The cultural component of the park teaches lessons ranging from history to fine arts. Peck Farm Park is a recreation amenity for students as well. The athletic fields, walking trails, and open space at Peck Farm Park present opportunities that most schools do not have. The expansion of Peck Farm Park will create even more diverse learning opportunities for students, scouts, outdoor enthusiasts, and the entire community.

PECK FARM PARK "NEIGHBOR IMPACTS"

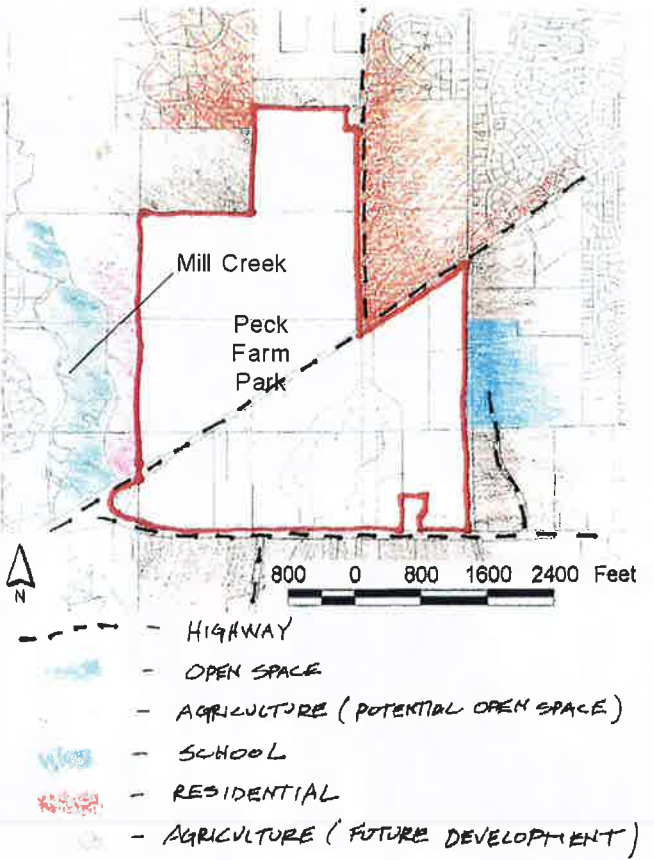
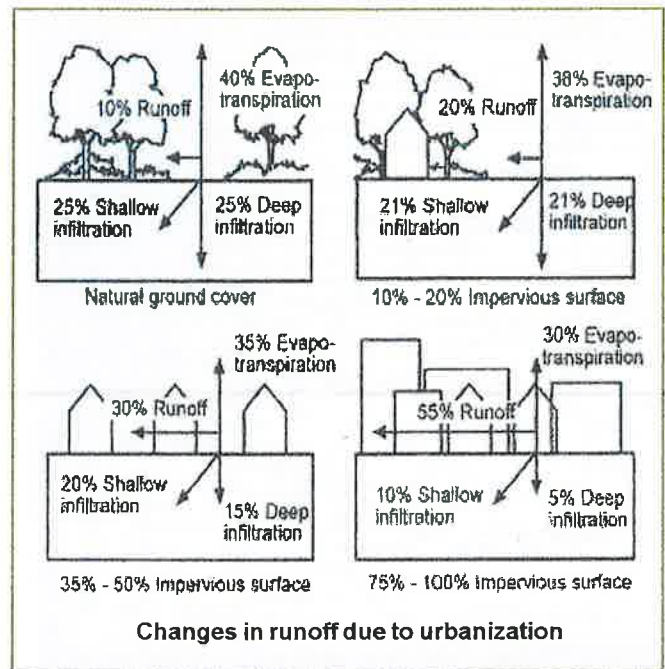


Figure 5. Peck Farm Park Site Context



Residential neighborhoods border Peck Farm Park on the north and northeast sides (see Figure 5). Additional neighborhoods are being developed in outlying areas surrounding the park. Residential development has a potentially large impact on the water quality because of the high amount of impervious surface and resulting stormwater runoff generated. Natural plant communities with zero impervious surface typically cause 10% or less of rainfall to become surface runoff. Residential developments may have as much as half of all landcover as impervious surface and result in up to 50% or more of rainfall to become surface runoff. Runoff includes sediment, pollutants, and excess nutrients that degrade water quality. The realities of the site's context in a suburban landscape do not mean that all the low areas of Peck Farm Park must become collectors of runoff and pollution from surrounding development. The Geneva Park District and KDG have worked closely with planners of the surrounding developments to ensure protection of water quality at Peck Farm Park through sound stormwater runoff management within the boundaries of the surrounding developments.



spotlight:

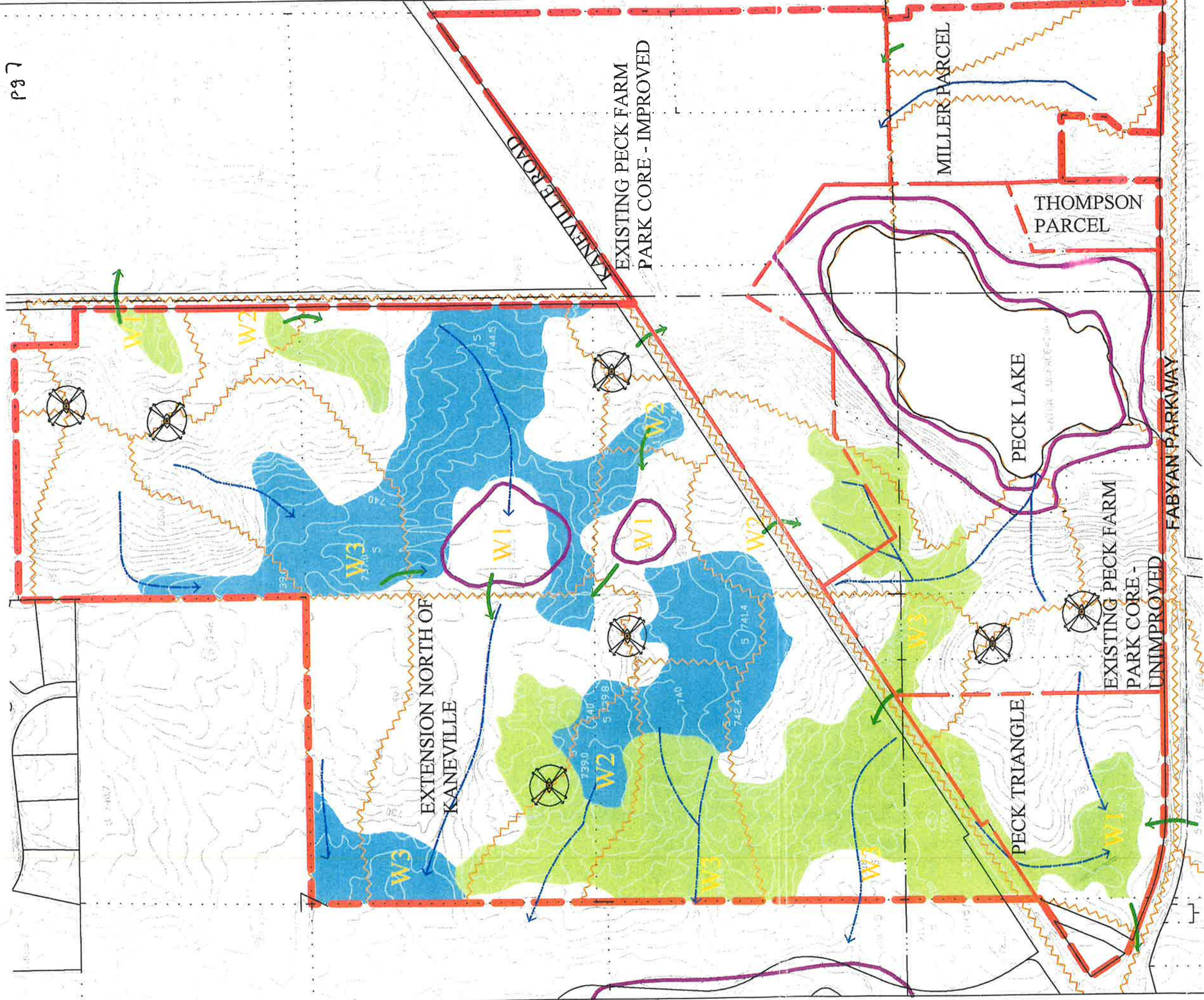
Black-crowned night-heron
Nycticorax nycticorax

Yellow-headed blackbird
Xanthocephalus xanthocephalus



ENDANGERED

Black-crowned night-herons and yellow-headed blackbirds are both state listed endangered species found in northeast Illinois. Both inhabit marshes associated with open water. Populations declined dramatically because of destruction of wetlands for agriculture and urban development. Restoration of Peck Lake and the installation of nesting platforms may attract these and other wetland bird species.



KEY

- Hydric Soil
- Non-Hydric Soil With Potential Hydric Inclusions

- Potential Wetland Restoration: Wetland Most Likely to Be Present or Needed for Development
- Potential Wetland Restoration: Wetland More Likely to Be Present or Needed for Development
- Potential Wetland Restoration: Wetland Likely to Be Present or Needed for Development
- Vista or High Point

- Watershed Boundary
- Defined Drainage Way
- Subcatchment Drainage
- NWI Wetland
- Parcel Boundaries

Scale 1" = 200'

PECK FARM PARK
Geneva IL

SITE ANALYSIS

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Date: Fall 2001
Project No.: 01158

PLANNING PROCESS TIMELINE

Table 1.

MASTER PLAN EVOLUTION

1994	Initial PFP Master Plan Created by The Kestrel Design Group, Inc. (KDG) for the original 131 acre core.
1997 - Present	Geneva Park District (GPD) staff recording information and thoughts about expansion. GPD acquires 247 additional acres by referendum from the Pecks, Millers, and Thompsons.
03 October 2001	KDG retained by GPD to develop Master Plan for PFP Extension.
03 October 2001 - Present	KDG developing and revising Master Plan Alternatives based on input and revisions by GPD staff.
31 January 2002	GPD Staff presented Master Plan Options to Park Foundation (Foundation unanimously approved Option 4C).
18 February 2002	Initial GPD Board Presentation (Board unanimously approved Option 4C).
February 2002	Presentation to Citizens Advisory Committee.
18 February 2002 – 18 March 2002	Finalization of Master Plan by KDG based on review by GPD Board, Park Foundation and the Citizens Advisory Committee.
18 March 2002	Presentation to GPD Board.
April 2002	Public Open House. Unanimous approval by GPD residents.
July 2002	Public presentation of final PFP Extension Master Plan by KDG.



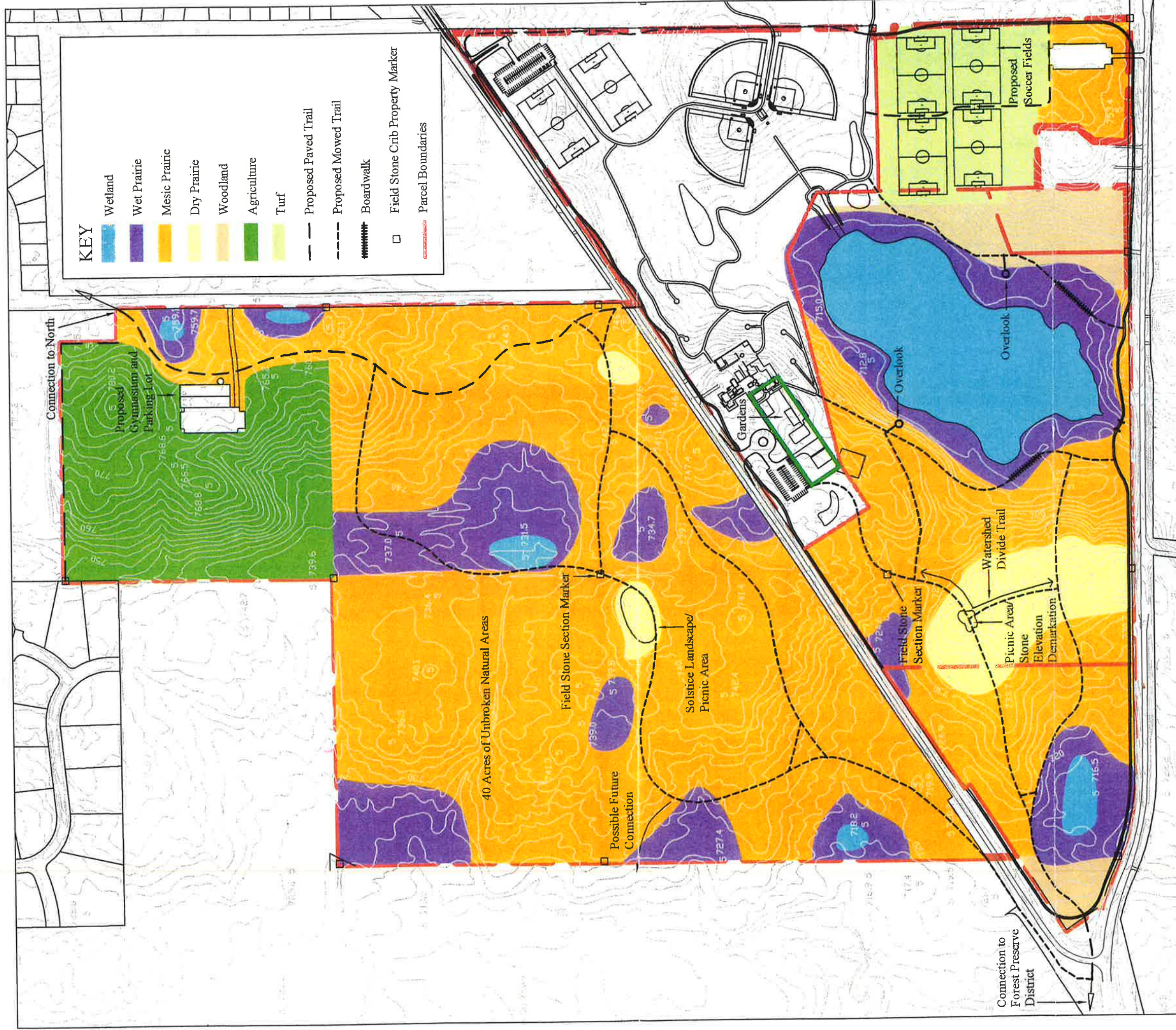
MASTER PLAN DEVELOPMENT

The Kestrel Design Group prepared four schematic master plan alternatives for the Peck Farm Extension (see Table 2 and Figures 7 through 10) . The following synopsis expresses some advantages and disadvantages of each option.

Table 2. Concept Alternative Summary

Option A <ul style="list-style-type: none"> - No Teeple Barn - Active Agriculture and Gym Located in North Parcel of Kaneville/Peck - Soccer Located in Miller Parcel 	Advantage	• proposed and existing athletic fields and corresponding activity located together
	Advantage	• short access road to Gym Facilities
	Advantage	• vast amount of unbroken natural areas
	Advantage	• least amount of grading required of options
	Advantage	• agriculture encompasses Gym Facility
Option B <ul style="list-style-type: none"> - Gym & Soccer Combined - Teeple Barn and Active Agriculture Located in Miller Parcel 	Advantage	• Shared parking lot and facilities between Gym and Soccer fields
	Advantage	• Shared access road between Gym and Soccer fields
	Advantage/Disadvantage	• Teeple Barn and Active Agriculture are separated from "PFP"
	Advantage/Disadvantage	• Less than 16 acres of active agriculture
	Disadvantage	• More paved trails required
Option C <ul style="list-style-type: none"> - Gym & Soccer Semi Combined - Teeple Barn and Active Agriculture Located in Miller Parcel 	Disadvantage	• Grading restrictions force the combined facilities of Gym and Soccer to be located deep into Kaneville/Peck Parcel thus segregating the natural areas
	Advantage	• shared access road
	Advantage	• proposed and existing athletic fields and corresponding activity located together
	Advantage/Disadvantage	• Teeple Barn and Active Agriculture are separated from "PFP"
	Advantage/Disadvantage	• Less than 16 acres of active agriculture
Option "D" <ul style="list-style-type: none"> - Teeple Barn and Gym Combined on North 40 acres - Soccer located in Miller Parcel 	Advantage	• agriculture encompasses Gym Facility
	Disadvantage	• due to grading restrictions long access road is required to service Gym and Soccer parking lot
	Advantage	• shared access road for Gym & Teeple
	Advantage	• short access road
	Disadvantage	• different style barns may clash
	Disadvantage	• grading restrictions force the buildings to be closer together than preferred





SCHEMATIC MASTER PLAN OPTION A

Figure 7

PECK FARM PARK
Geneva, IL

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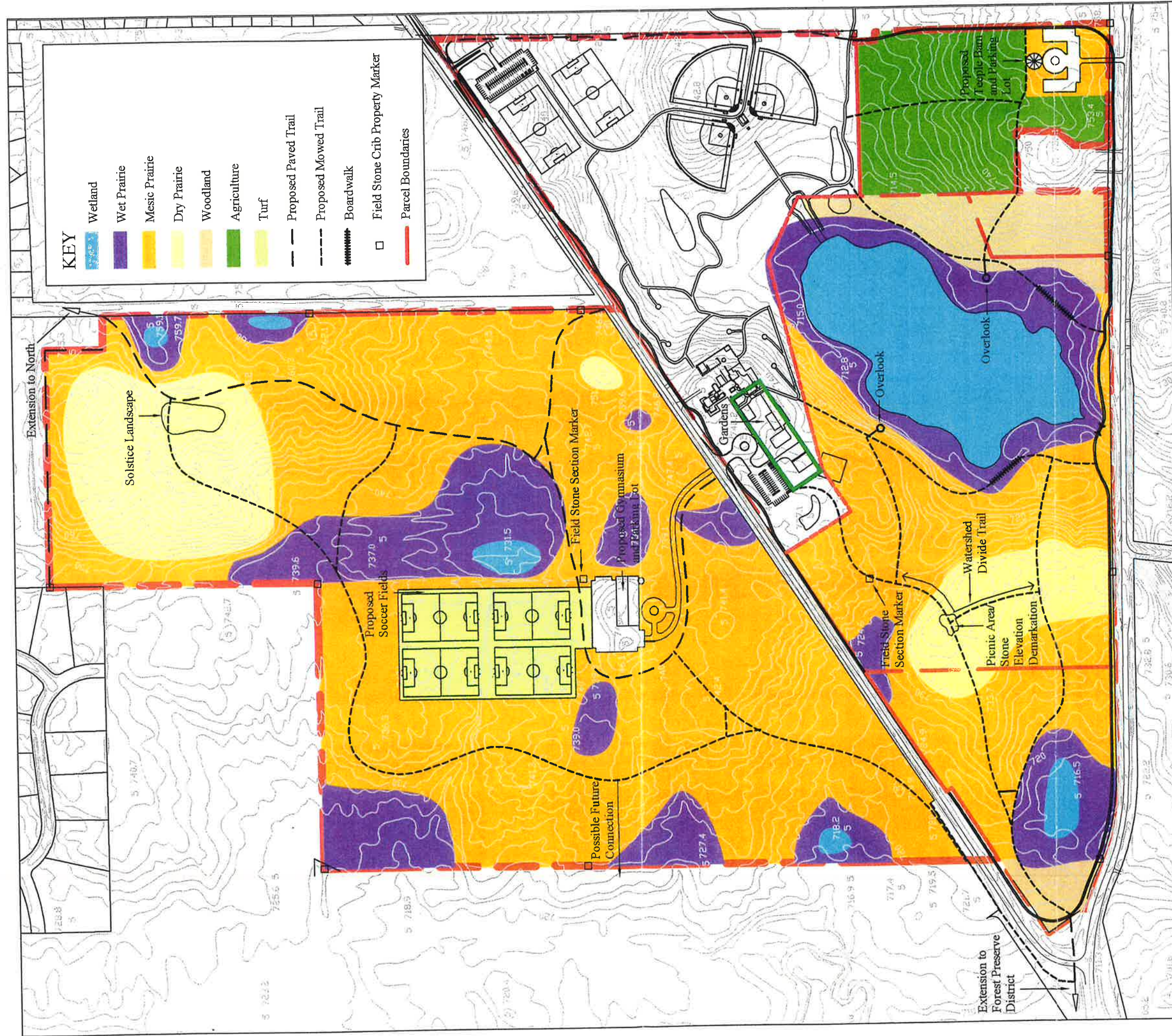
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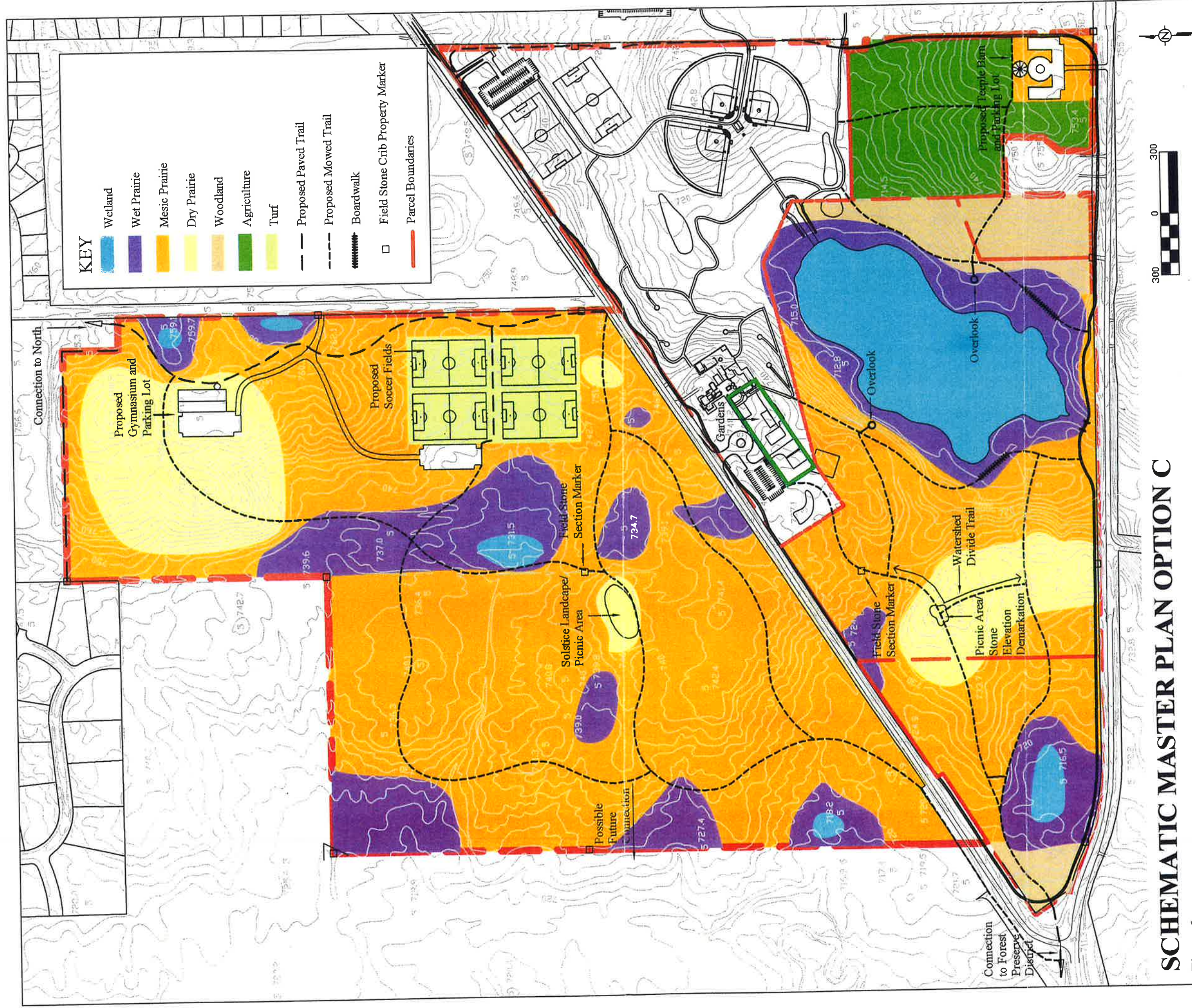
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Checked by: L.P.M. &
K.D.B.
Date: 7 December 2001
Project No.: 01158



SCHEMATIC MASTER PLAN OPTION B

Figure 8

<p>PECK FARM PARK Geneva, IL</p> <p>Geneva Park District 710 Western Ave. Geneva IL 60134 630 232-4542 630 232-4569</p>	<p>Prime Consultant: The Kestrel Design Group, Inc. <i>Landscape Architecture Ecological Design Natural Areas Planning Soil Bioengineering</i></p> <p>5136 Hankerson Ave. Suite 1 Edina MN 55436 Ph. 952 928-9600 Fax 952 928-1939</p>	<p>Sub-Consultant: Environmental Systems Inc.</p> <p>134 N. Washington Street Naperville IL 60640 Ph. 630 961-1800 Fax 630 355-7752</p>	<p>Drawn by: N.M.H. Checked by: L.P.M. & K.D.B. Date: 7 December 2001 Project No.: 01158</p> <p>Page 11</p>
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SCHEMATIC MASTER PLAN OPTION C

Figure 9

PECK FARM PARK
Geneva, IL

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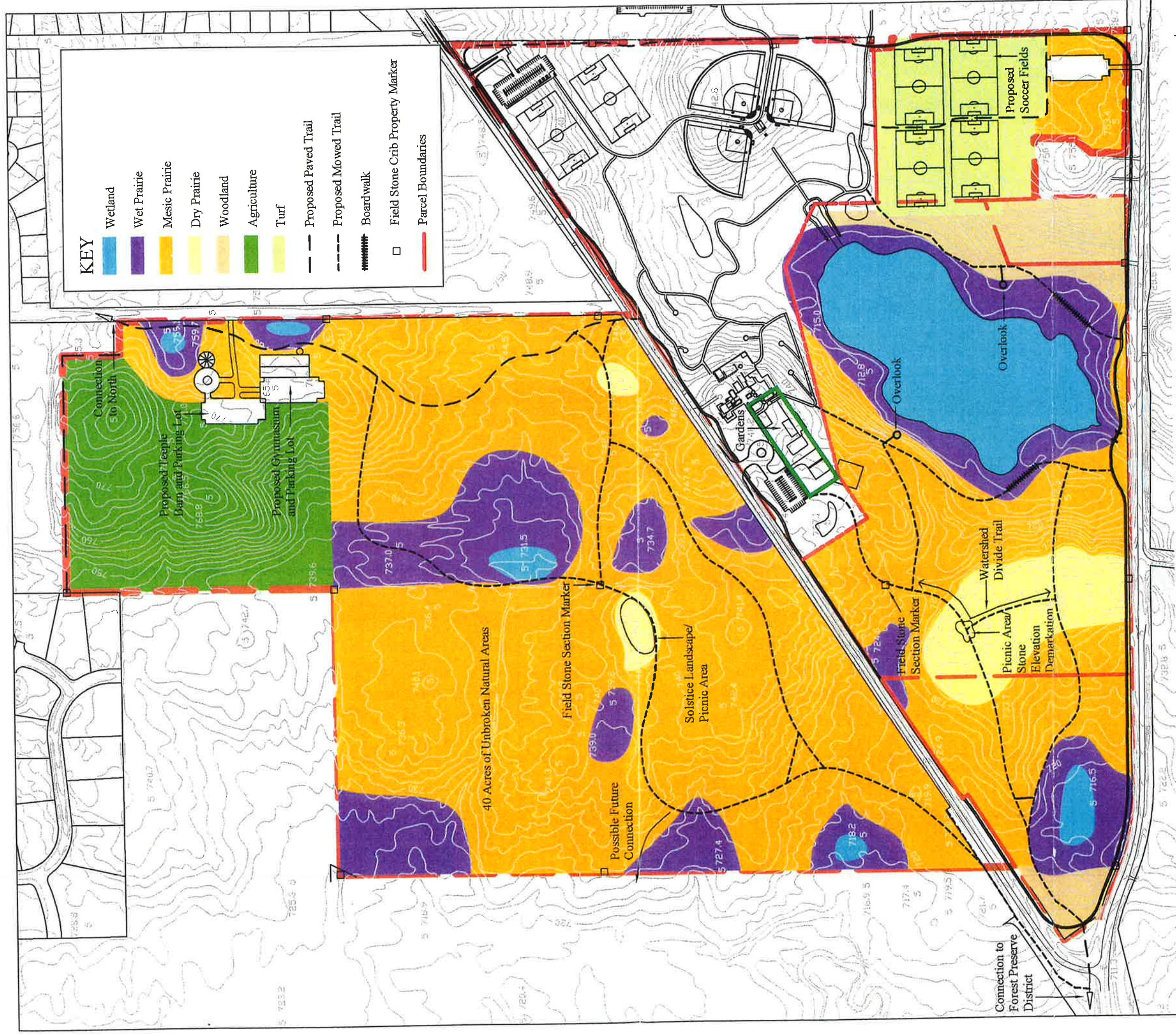
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Geneva, IL

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The options were further developed through several re-iterations based on feedback from Geneva Park District Staff. The final Master Plan (see Figure 11) represents a hybrid of options B and C that capitalizes on the advantages and eliminates the disadvantages of both B and C. This option was unanimously selected as the final master plan by Geneva Park District Staff, Park Board, and Consultants because of the following reasons:

- Minimizing road length for proposed soccer fields and gym minimizes cost and environmental impact,
- The location of the “barn” gym facility establishes a farmstead at the core of PFP;
- The location of the proposed Gym/Soccer facilities strengthens the existing “PFP Farmstead Core”,
- Farmstead core establishes a powerful bond of the parcels segregated by Kaneville Road,
- The location of the “barn” gym facility completes a “framed farmstead” while traveling along Kaneville Road (essentially linking the North and South parcels as one),
- This alternative combines existing & proposed active program elements,
- There are shared parking lot and facilities between soccer fields and gymnasium,
- Location of gym would allow for over-flow parking at PFP core and vice versa,
- This option provides a large area of uninterrupted contiguous natural areas, maximizing wildlife habitat value as well as passive recreation and educational opportunities.



MASTER PLAN COMPONENTS

Paved Trails

The plan proposes an asphalt trail that connects the existing core of PFP to the proposed expansion area north of Kaneville Road, following the eastern side of the property. The trail will connect to new parking facilities, soccer fields, and gymnasium north of Kaneville Road.

Mowed Trails

A secondary network of mowed trails will meander along ridgelines throughout the proposed natural areas of the expansion area. The trails will provide views of the gently undulating topography of the site. The trail system will be interwoven into the circulation system and landscape of the existing Peck Farm Park. Possible future connections are on the west and north sides of the property. Informal seating will be provided at key locations along the mowed and paved trails.

The Watershed Divide Trail is a mowed trail through the restored prairie that follows a high ridge west of Peck Lake. The east side trail will drain to the Peck Lake subcatchment, and the west side of the trail will drain to Mill Creek. The observable change in topography and interpretive signage will educate visitors about watersheds.

Trail Connections

Three trail crossing connections at Kaneville Road will link the proposed trails with the existing loops, and strengthen the conceptual and physical connections across the road.

Gymnasium

The plan proposes an athletic/recreation complex to be built north of the existing PFP core, across Kaneville Road. The gymnasium will be built with a barn appearance that fits into the visual and cultural context of the site. The relationship of the proposed gymnasium to the existing Peck Farm Park Core will create a framed farmstead along Kaneville Road that links the north and south parcels of PFP into a unified whole. The GPD has retained Williams Associates Architects to design the multipurpose facility.

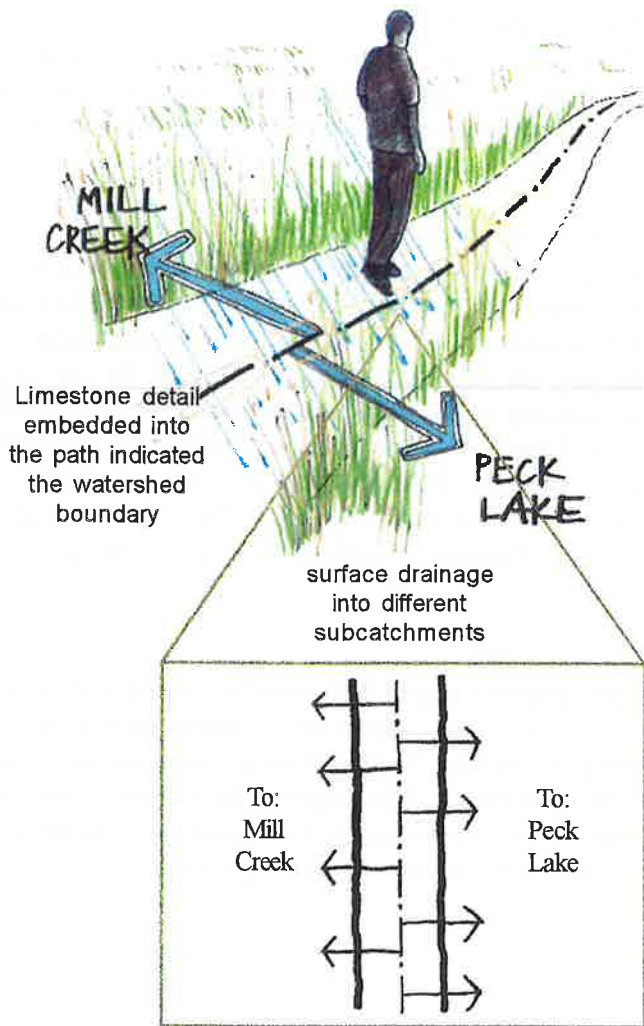
Soccer Fields

Four proposed soccer fields will be located north of the gymnasium. They will be surrounded by prairie on four sides, an athletic “field of dreams” emerging out of the native grassland. The proposed four fields are located near the existing two soccer fields and three softball fields to create an “active recreation” complex.



Watershed Divide Trail





Watershed Divide Trail in a rain storm

Parking

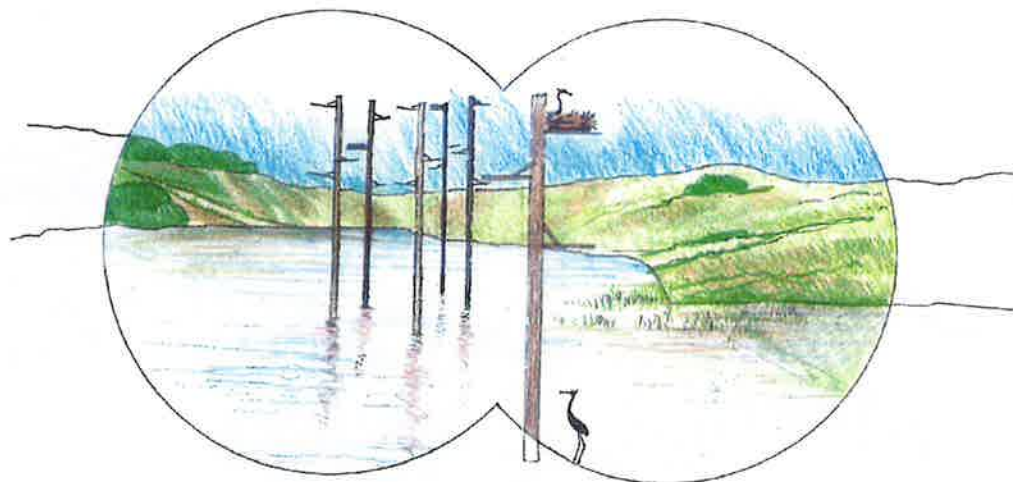
New parking facilities are located between the barn and soccer fields, partially screened by the gymnasium from views of Kaneville Road. In addition to providing parking for the gym and soccer fields, this new parking will accommodate overflow parking for events at the farmstead area Interpretive Center, and the farmstead area parking will be available for athletic event overflow. This is a low impact development technique which will be used to lessen the environmental impacts of this new impervious surface.

Overlooks

The trail system connects to three boardwalk overlook areas at Peck Lake and one overlook on a ridge north of the soccer fields.

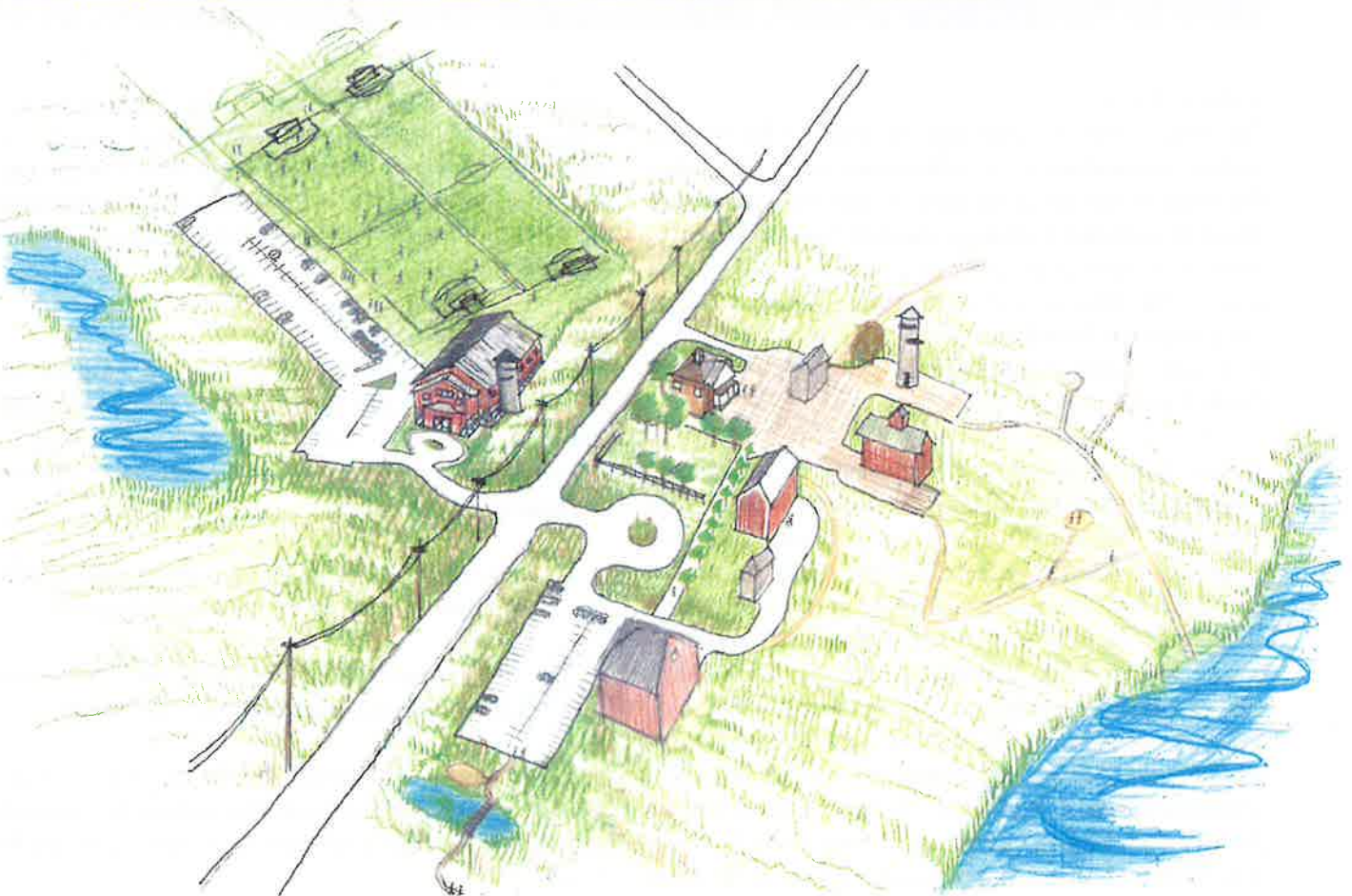
Wildlife Habitat Enhancements

The overlook at the south end of Peck Lake will face a number of Heron Roosting Platforms several hundred feet from shore. The roosts will be constructed of wooden platforms mounted to telephone poles and set into the bottom of the lake during winter. The platforms are designed for use by communal water birds (herons, egrets, cormorants) as nesting and roosting platforms. Visitors can view the rookery through binoculars from the shore without disturbing the birds. The roosting platforms were completed as part of an Eagle Scout project.



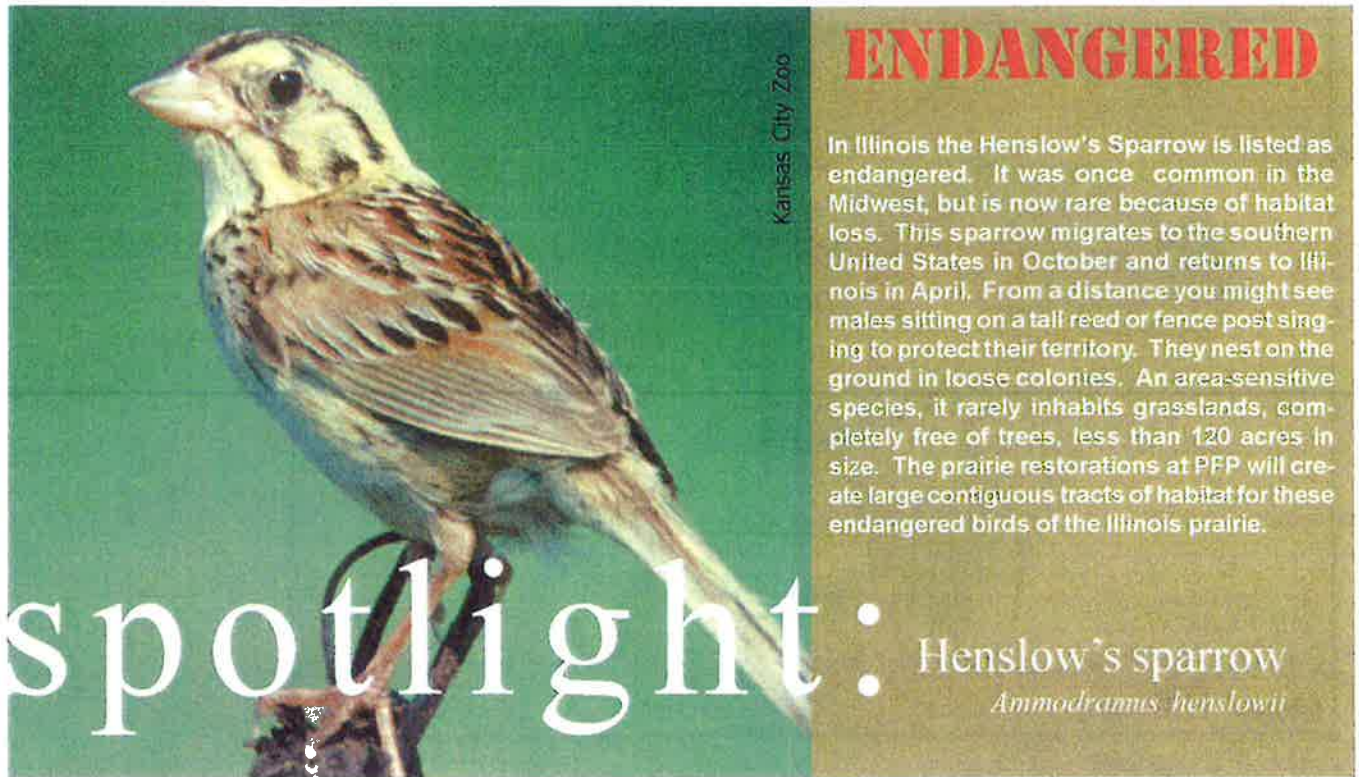
Habitat structures- seen through binoculars

The roosts may be visually enhanced with sculptural elements, such as heron silhouettes in the water or artistic engravings of the poles.



Aerial view of proposed Peck Farm Park core





Natural Areas

The Master Plan proposes that the areas of the site designated "natural areas" be restored to plant communities that were on the site at the time of European settlement. Based on soils and hydrology, most of these areas will be restored as mesic prairie, dry prairie, wet prairie, or wetlands. The prairies will be interspersed with scattered oak groupings. Woodland will be established southeast of Peck Lake, where a woodland existed at the time of the Public Land Survey in 1839.

Native plant restoration of the natural areas will provide habitat to wildlife and enhance the experience of visitors to the site. The expansive contiguous natural areas will especially benefit area-sensitive wildlife species, such as Henslow's sparrow and grasshopper sparrow, which require large tracts of unbroken grassland, free of disturbances such as roads, buildings, and trees. Even a fence post can be a disturbance. The Henslow's sparrow requires a patch of grassland of at least 120 contiguous acres to nest. Many other species will not utilize a patch of habitat unless it is at least 100 yards away from any disturbance. Human experience at Peck Farm Park will also benefit from the large expansion in natural areas. The prairie and oak openings will filter out noise and light

pollution from the core part of the park. The large stretch of prairie will visually and conceptually link the north and south parcels across Kaneville Road into a single park. As development continues to envelop the area surrounding Peck Farm Park, the value of these natural areas will continue to increase.

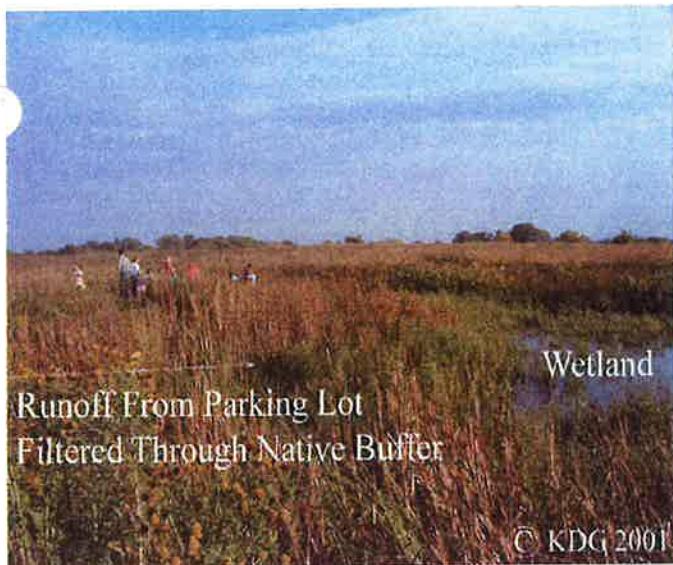
Stormwater Wetlands

As in the existing Peck Farm Park Core, stormwater runoff will be slowed and cleansed in stormwater wetlands before it flows into Peck Lake and Mill Creek. As stormwater runoff flows through the wetlands, water will be cleansed in two ways:

1. As water slows down, sediments and attached pollutants settle to the bottom of the pond.
2. Microorganisms on the roots of these plants break down pollutants in the stormwater runoff.

Filtering stormwater runoff in various ways, such as through stormwater wetlands, throughout the watershed will help protect the water quality of Peck Lake and Mill Creek.





A stormwater wetland uses native plants to treat runoff from a parking lot, protecting water quality and improving habitat. The plants and microbes in the system consume nutrients and chemicals in the runoff. Many species of birds, amphibians, reptiles, and mammals depend on wetlands for habitat.

Watershed Picnic Area

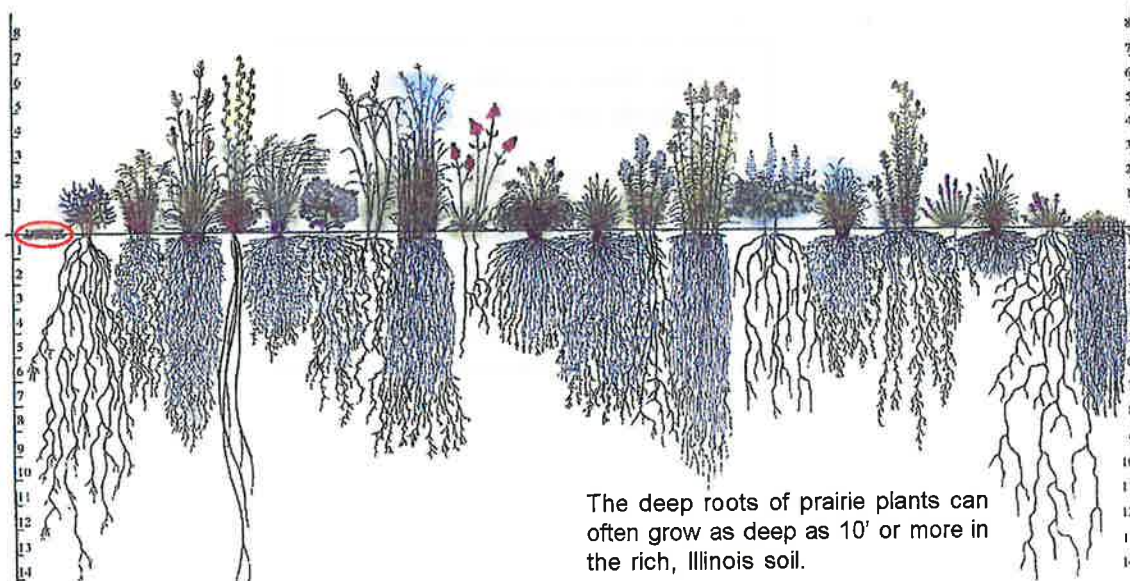
A picnic area will be located at the confluence of the Watershed Divide trail and the mowed trail on the high ridge west of Peck Lake. The view of the lake and prairie from this high point will be a backdrop for visitors to gather and enjoy the vistas.

Field Stone Section Markers and Property Markers

The agricultural and cultural history of the site will be reflected in field stone markers located at the intersection of section- and quarter section-lines on the property. The markers will recall the rectangular grid system that farm fields once followed on the site. Field stone section markers will include a plaque which depicts historical survey or interpretive information. Posts will be placed in the ground, outlining a 6' x 6' square and a hog wire fence will be attached. Field stones will be placed inside the enclosure, similar to the rock piles that farmers leave at the ends of their fields. These markers will also effectively identify the property boundaries of PFP without fully enclosing the site.

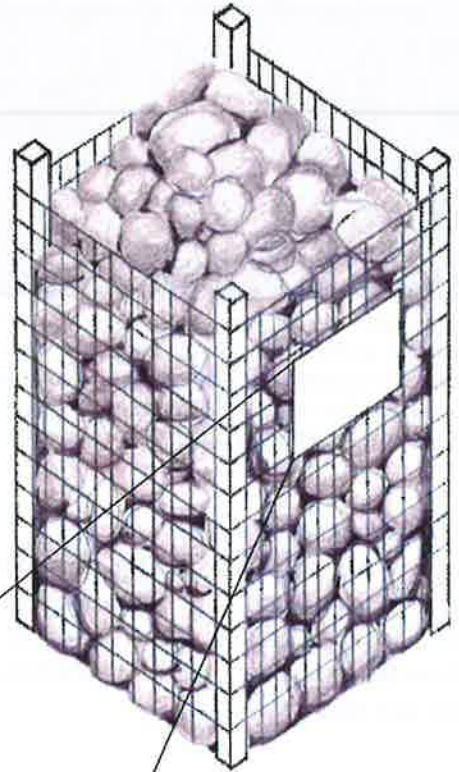
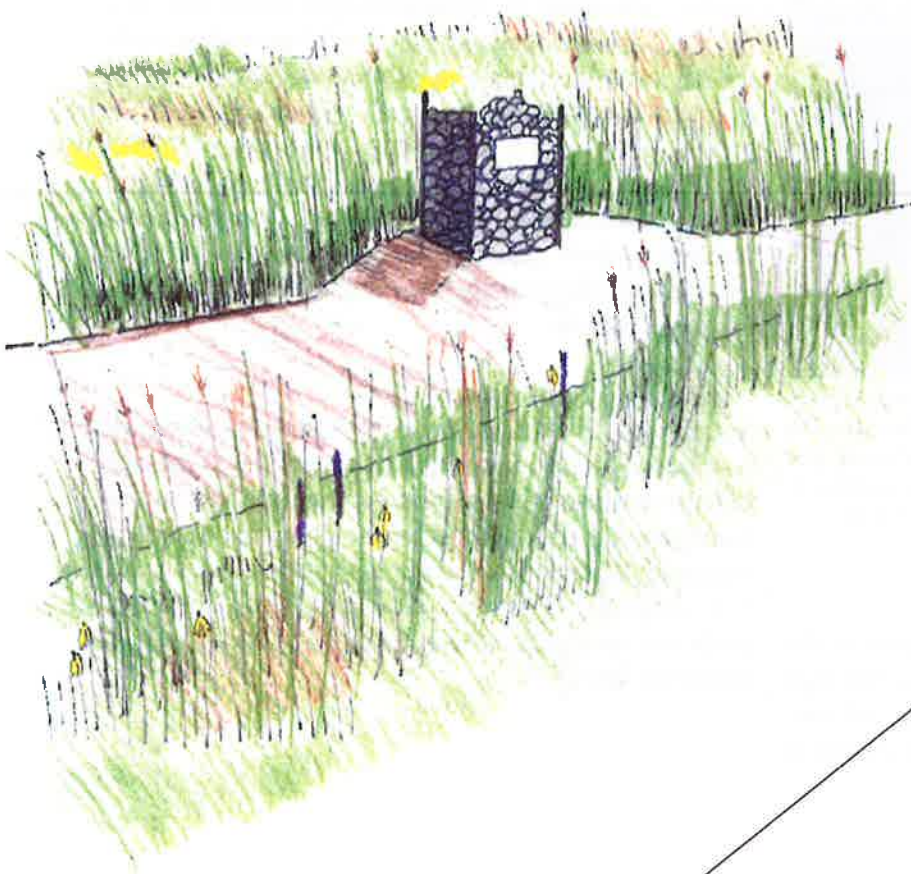
Agricultural Demonstration

Twenty-one acres of the Peck Farm Park extension will continue to be actively farmed as a memorial to the agricultural heritage of Peck Farm Park and the surrounding community already evident in the preserved farmstead buildings. While this land is currently in row crop agriculture, Appendix C shows 2 alternative agricultural concepts that strengthen the conceptual tie of the agricultural memorial with PFP.



The deep roots of prairie plants can often grow as deep as 10' or more in the rich, Illinois soil.





***"... The land is rolling, rich
prairie fit for cultivation..."***

- James Thompson, surveyor
Federal Field Notes volume 434
December 21, 1839

TOWNSHIP 39 NORTH, RANGE 8 EAST OF THE 3RD PRIME MERIDIAN

Fieldstone Markers

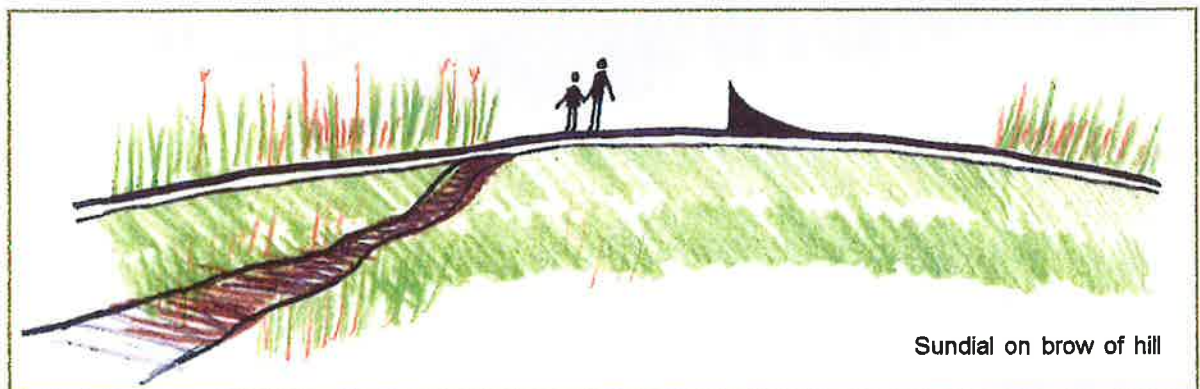
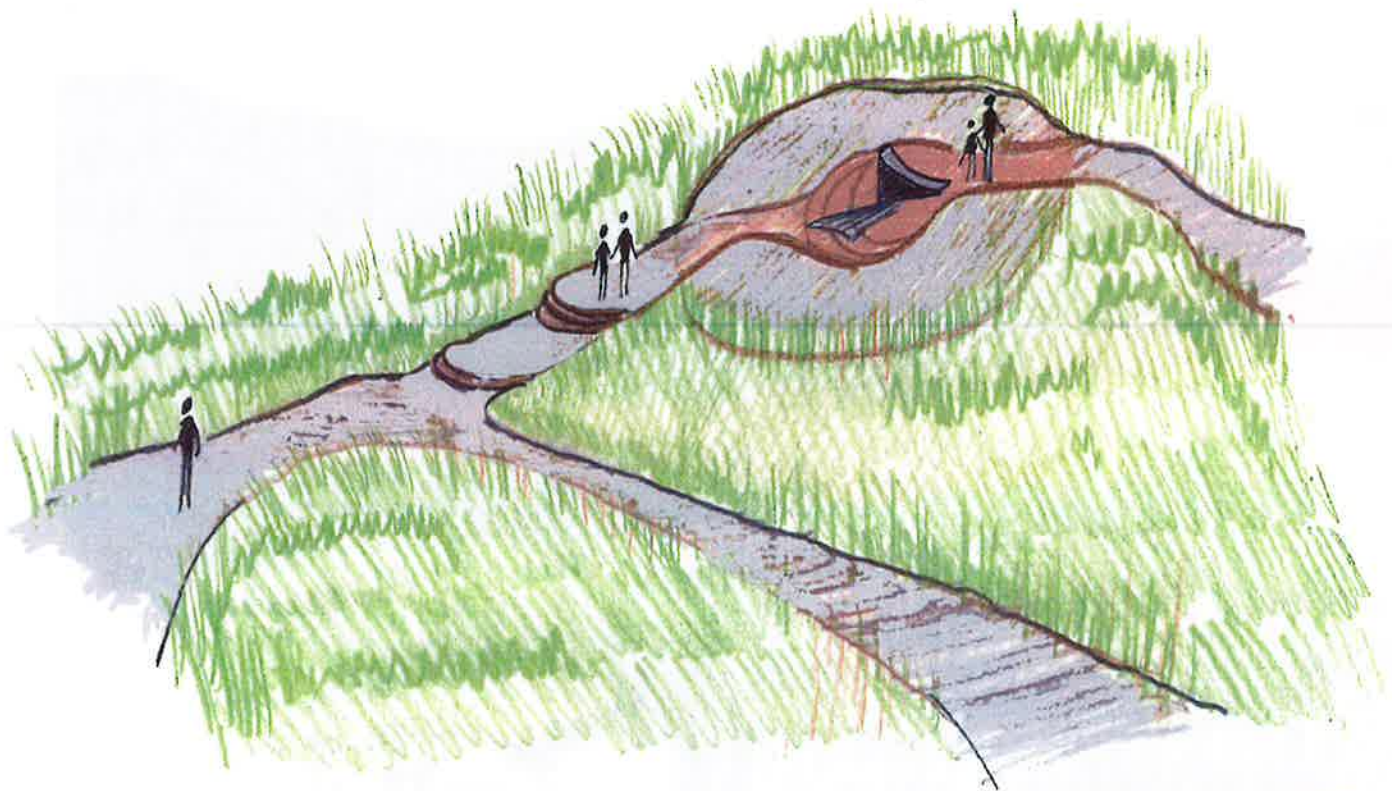


Solstice Picnic Area

Solstice Picnic Area

A picnic area is proposed along the mowed trail in the northwest corner of the property. The sun is the energy source of all living things, and is especially important to the prairie, where life is exposed to the elements. The picnic area will include stone sculptural elements that enhance the experience of the rising and setting sun, particularly at the summer solstice, the longest day of the year. The picnic area will include seating, tables, and other features for people to gather.





Sundial on brow of hill

Sundial Picnic Area

Sundial Picnic Area

Another picnic area that acknowledges the importance of the sun to prairie ecosystems is the proposed Sundial Picnic Area, located at the northern part of the property and linked to the mowed trail. A sundial will cast shadows that move with the sun across the landscape. Seating, tables, and other features will enhance this gathering space for visitors.

spotlight:

Oak Openings Plant Community

Prairie is a fire dependent plant community. Prior to European settlement of the Midwestern prairies, fires caused by lightning and Native Americans were common. Without fire, tallgrass prairies are invaded by woody trees and shrubs that shade out the sun loving prairie plants. Some trees are able to survive the prairie fires. Bur oak (*Quercus macrocarpa*) and black oak (*Quercus velutina*) have thick bark and deep roots that protect against fast moving prairie fires. If the above ground crowns of the oaks are burned off by stronger fires, the trees are able to resprout with shoots that form shrub thickets or "grub oaks." Fires burn best across flat ground and in hilly areas they are likely to extinguish on downhill slopes. If a bur oak was able to withstand a fire long enough, other woody plants would begin to grow around it, forming a grove. American plum (*Prunus americana*) and hazelnut (*Corylus americana*) are subcanopy shrubs that were associated with bur oaks in moderate fire regimes. The groundlayer consisted of the prairie grasses and forbs that surrounded the oak groupings, along with plants more typical of open woodlands that can tolerate partial shade. The scattered groups of oaks were dotted across the landscape. Frequent fires sometimes led to a mosaic of prairie and scattered oak trees called savanna, or "oak openings" by the early settlers. Chicagoland has over 30 communities that have either "oak" or "grove" in their name. It was an aesthetically appealing landscape to the early settlers. Oak savannas are a classic example of "prospect and refuge" in the landscape; the settlers enjoyed the protection (refuge) provided by the majestic open grown oaks and yet still had the ability to see wide expanses across the land (prospect).

Oak Groupings are proposed by the PFP Extension Master Plan to be scattered across the mesic and dry prairies. They will be located on the tops of knolls, where historically fire would not have been as frequent. The oak knolls will stand as large landmarks in the prairie landscape. The microclimate around the oaks will add to the diversity of habitats found at PFP.



A typical grove surrounding a mature bur oak (*Quercus macrocarpa*) in a prairie/savanna community.





“The view... beggars all description. An ocean of prairie surrounds the spectator whose vision is not limited to less than thirty or forty miles. This great sea of verdure is interspersed with delightfully varying undulations, like the vast waves of the ocean, and every here and there, sinking in the hollows or cresting in the swells, appears spots of trees, as if planted by the hand of art for the purpose of ornamenting this naturally splendid scene.” W.R. Smith, 1837



Oak Openings in the Prairie

TARGET PLANT SPECIES

The following target species are rare or endangered plants in Illinois. They are "indicator species," meaning that they are characteristic of high-quality plant communities, and their presence indicates an intact, biologically diverse site. Each example is from a different plant community currently found or being restored at Peck Farm Park. The target species show the potential quality of restoration at PFP as a measuring stick of plant diversity.



Ear-leaved Foxglove
Tomanthera auriculata

The ear-leaved foxglove is a target species for the savanna plant community at Peck Farm Park. It is listed as threatened in Illinois. An annual forb, it blooms in August with pink blossoms and dark green foliage.



Nodding Wild Onion
Allium cernuum

A target species for the dolomite prairie plant community at Peck Farm Park. The nodding wild onion can thrive in moist or mesic sites, as well as the dry soils of the dolomite prairie. It has white to rose colored flowers that bloom in early summer. The city of Chicago was named after the Native American word for this plant.

Yellow Monkey Flower
Mimulus glabratus

The yellow monkey flower is a target species for the fen plant community. It is listed as an endangered species in Illinois. It has a wide range in North America but has become rare in Illinois because of habitat destruction. The yellow monkey flower is found growing in calcareous seeps characteristic of fen communities.



Blue-Eyed Grass
Sisyrinchium montanum

Blue-eyed grass is a target species for the mesic prairie plant community. It has state endangered species status in Illinois. It is not a grass at all, but a diminutive member of the iris family. Its pale blue flowers have yellow center, or "eye."



BUDGET AND IMPLEMENTATION

The Peck Farm Park Extension Master Plan will be installed in phases over time. Installation may be in an order as shown in Figures 14 and 15.

The budget below and in detail in the following pages presents a cost estimate for each of the phases of the Peck Farm Park Extension Master Plan. Some of the costs in this budget have work performed by GPD staff.

Table 3. Peck Farm Park Extension Master Plan Construction Budget

	Summary	
	<u>Phase I</u>	<u>Phase II</u>
Unit "A"	\$471,396	\$127,600
Unit "B"	\$549,850	\$3,850
Unit "C"	\$664,793	\$12,075
Unit "D"	\$340,040	\$10,235
Unit "E"	\$273,427	\$26,910
Unit "F"	\$284,982	\$107,012
Formal Gardens	<u>\$82,311</u>	<u>\$134,668</u>
Total	\$2,666,799	\$422,350

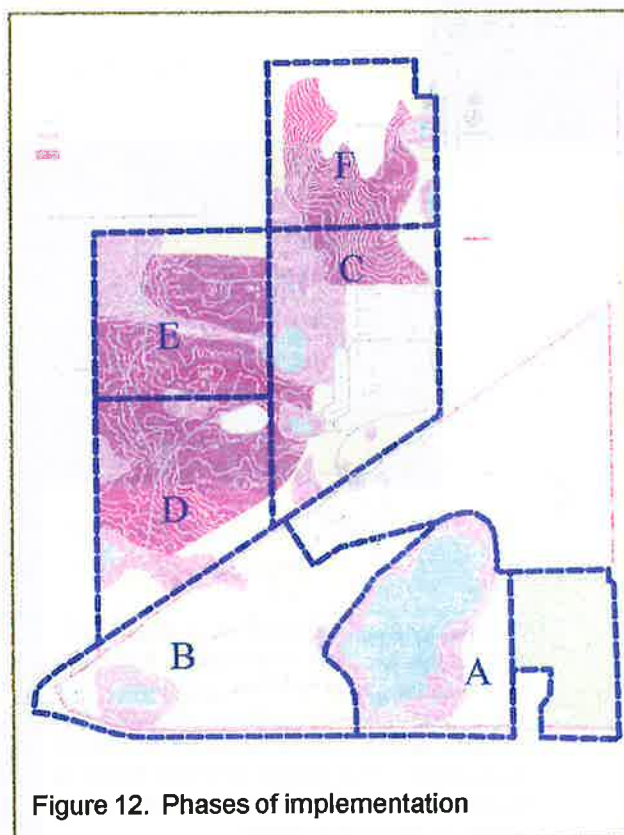
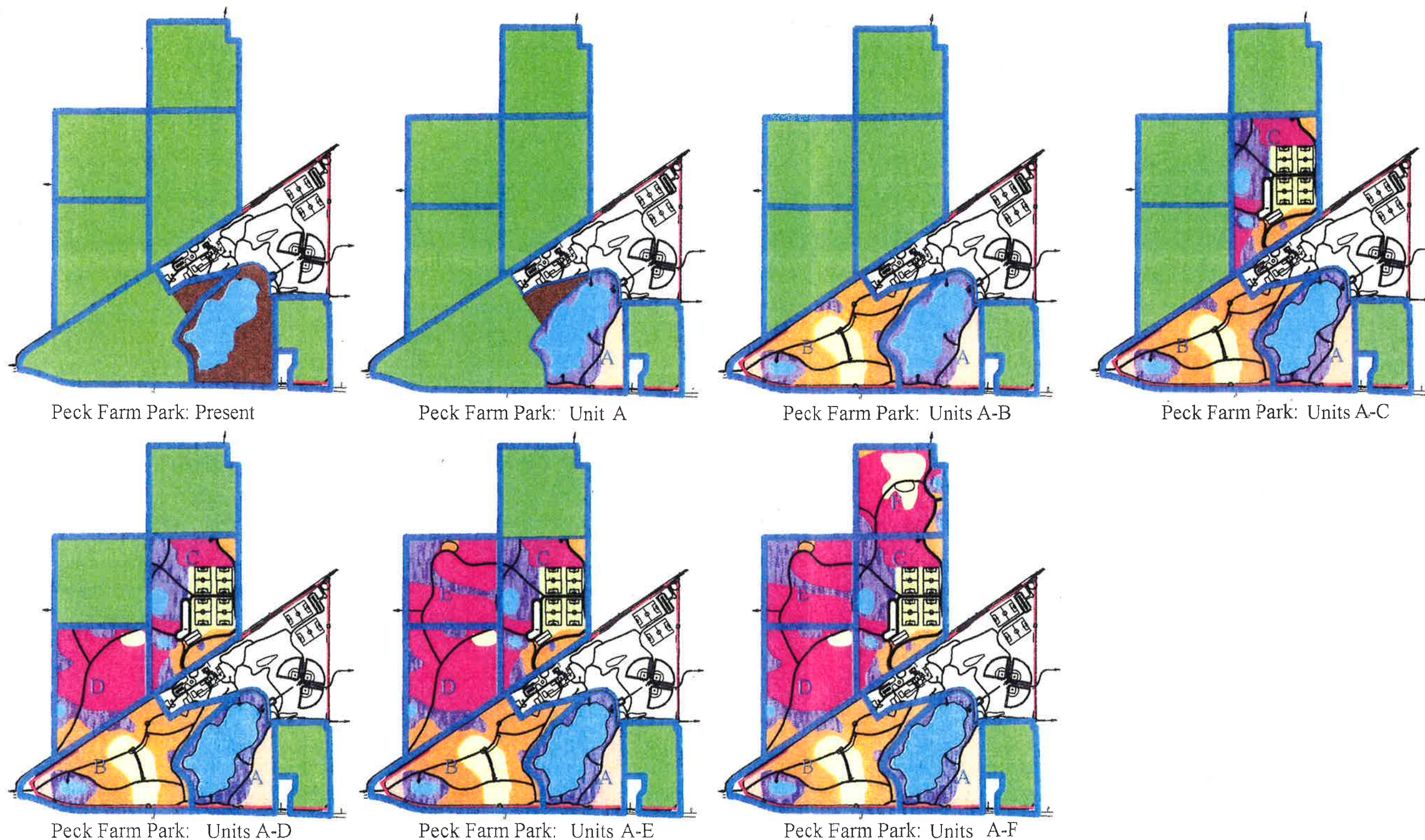


Figure 12. Phases of implementation

(Fitness Center and Soccer Facility costs not included - See Williams Associates Cost Estimates)

FOOTNOTE: Inflationary cost estimates for future projects on Phase II is not part of this budget.



PECK FARM PARK EXTENSION PHASE PROGRESSION

Figure 13

KEY

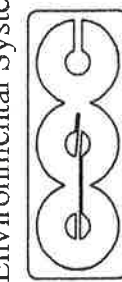
- Entry Sign
- Proposed Paved Trail
- Proposed Mowed Trail
- Boardwalk
- Field Stone Section and Property Markers
- Parcel Boundaries

PROPOSED RESTORED NATURAL AREAS (All parcels are to continue to be farmed until developed according to the Master Plan)

- Wetland (Restoration/ Creation)
- Wet Prairie
- Mesic Prairie
- Mesic Prairie With Scattered Oak Groupings
- Dry Prairie With Scattered Oak Groupings
- Woodland
- Turf
- Agriculture
- Open Space

Drawn by: N.M.H.
Checked by: L.P.M.
and K.D.B.
Date: April 2002
Project No.: 01158
Drawing File No.:

Sub-Consultant:
Environmental Systems, Inc.



134 N. Washington Street
Naperville IL 60540
Ph. 630 961-1800
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Prime Consultant:
The Kestrel Design Group, Inc.

Landscape Architectural Design
Natural Areas Planning Engineering



5136 Hankerson Ave. Suite 1
Edina MN 55436
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Fax 952 928-1939

PECK FARM PARK
Geneva IL

Geneva Park District

710 Western Ave.
Geneva IL 60134
630 232-4542
630 232-4569

Peck Farm Park Extension Master Plan Construction Budget

UNIT "A" and EXISTING CORE IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$1,000	\$1,000	
1.2 Field tile removal/demolition	Lump Sum	1	\$3,000	\$3,000	
1.3 15" Re-inforced Culvert, 2 FES	Linear Feet	20	\$28	\$560	
			SUBTOTAL:	\$4,560	\$0
2) MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	1.75	\$5,500	\$9,625	
2.2 Large Native Tree Planting (3" +/- caliper)	Each	3	\$350	\$1,050	
2.3 Small Native Tree Planting (1" +/- caliper)	Each	5	\$300	\$1,500	
2.4 Native Shrub Planting	Each	20	\$50	\$1,000	
2.5 Native Forb & Grass Planting	SY	100	\$8	\$800	
			SUBTOTAL:	\$13,975	\$0
3) WOODLAND REFORESTATION					
3.1 Native Seeding	Acre	9.25	\$5,500	\$50,875	
3.2 Large Native Tree Planting (3" +/- B&B) - 15 per acre	Each	138	\$350	\$48,300	
3.3 Early Successional Tree Planting (1" b. root) - 60 per acre	Each	555	\$70	\$38,850	
3.4 Liner Stock Native Tree Planting - 400 per acre	Each	3,700	\$5	\$18,500	
3.5 Native Shrub Planting - 60 per acre	Each	555	\$20	\$11,100	
			SUBTOTAL:	\$167,625	\$0
4) PECK LAKE SHORELINE RESTORATION					
4.1 Initial Reed Canary Grass Control (minimum of 5 appl.)	Acre	3.25	\$3,500	\$11,375	
4.2 Completion of Reed Canary Grass Control (min. of 5 appl.)	Acre	9.5	\$3,500	\$33,250	
4.3 Initial Wet Prairie Seeding	Acre	3.25	\$7,000	\$22,750	
4.4 Completion of Wet Prairie Seeding	Acre	9.5	\$7,000		\$66,500
4.5 Peck Lake Rough Fish Control Structure	Lump Sum	1	\$2,000	\$2,000	
			SUBTOTAL:	\$69,375	\$66,500
5) TRAILS					
5.1 5ft Grass Trail	Linear Feet	1657	\$1	\$1,657	
5.2 8ft Bituminous Trail adjacent Barn in Existing PFP Core	Linear Feet	181	\$27	\$4,887	
5.3 8ft Bituminous Trail to Parking Lot Existing PFP Core	Linear Feet	200	\$27	\$5,400	
5.4 Concrete Demolition Costs 400' x 20' x 6"	Lump Sum	1	N/A	\$10,000	
5.5 Clean Fill 400' x 20' x 6"	Cubic Yard	150	\$3.75	\$563	
5.6 Excavation				\$10,000	
			SUBTOTAL:	\$32,507	\$0
6) AMENITIES/FEATURES					
6.1 Overlook-Viewing Platform w/ seating and Bird Blind	Each	2	\$15,000	\$30,000	
6.2 Fieldstone Section Marker	Each	2	\$750		\$1,500
6.3 Fieldstone Property Marker	Each	3	\$500		\$1,500
6.4 Interpretive Signage	Each	3	\$2,500	\$7,500	
6.5 Seating (rest area for ex. & pr. trails) @ bike overlook	Each	1	\$1,250	\$1,250	
6.6 East Boardwalk	Linear Feet	186	\$250		\$46,500
6.7 Southeast Boardwalk	Linear Feet	241	\$250	\$60,250	
6.8 Boardwalk in Existing PFP Core	Linear Feet	140	\$250	\$35,000	
6.9 Council Ring - Existing Core Near Proposed Boardwalk	Each	1	\$6,500	\$6,500	
			SUBTOTAL:	\$140,500	\$49,500
UNIT A SUB TOTAL:				\$428,542	\$116,000
10% CONTINGENCY				\$42,854	\$11,600
UNIT A TOTAL:				\$471,396	\$127,600



Peck Farm Park Extension Master Plan Construction Budget

UNIT "B"

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$2,000	\$2,000	
1.2 Field tile removal/demolition	Lump Sum	1	\$3,000	\$3,000	
1.3 Fence-line removal (NW corner of Peck Lake)	Lump Sum	1	\$750	\$750	
1.4 15" Re-inforced Culvert, 2 FES	Linear Feet	20	\$28	\$560	
SUBTOTAL:				\$6,310	\$0
2) WET, MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	59	\$5,500	\$324,500	
2.2 Large Native Tree Planting (3" +/- caliper)	Each	25	\$350	\$8,750	
2.3 Claudia Johnson Memorial Grove Tree Planting (3" +/- caliper)	Each	10	\$350	\$3,500	
2.4 Small Native Tree Planting (1" +/- caliper)	Each	50	\$150	\$7,500	
2.5 Native Shrub Planting	Each	150	\$50	\$7,500	
2.6 Native Forb & Grass Planting	SY	1500	\$8	\$12,000	
SUBTOTAL:				\$363,750	\$0
3) WETLAND RESTORATION/CREATION					
3.1 Excavation/Grading/Haul	Lump Sum	1	\$25,000	\$25,000	
3.2 Seeding & Planting	SY	6000	\$10	\$60,000	
SUBTOTAL:				\$85,000	\$0
4) TRAILS					
4.1 5ft grass trail	Linear Feet	6029	\$1	\$6,029	
4.2 Watershed Divide Trail (5ft grass)	Linear Feet	775	\$1	\$775	
4.3 Road crossing signage (2 trail & 2 road signs per crossing)	Each	2	\$1,500	\$3,000	
4.4 Excavation				\$20,000	
SUBTOTAL:				\$29,804	\$0
5) AMENITIES/FEATURES					
5.1 Fieldstone Section Marker with Plaque	Each	2	\$1,500		\$3,000
5.2 Fieldstone Property Marker	Each	1	\$500		\$500
5.3 Interpretive Signage	Each	2	\$2,500	\$5,000	
5.4 Seating (rest area for existing & proposed trails)	Each	4	\$1,250	\$5,000	
5.5 Hilltop Picnic Area	Lump Sum	1	\$5,000	\$5,000	
SUBTOTAL:				\$15,000	\$3,500
UNIT B SUB TOTAL:				\$499,864	\$3,500
10% CONTINGENCY				\$49,986	\$350
UNIT B TOTAL:				\$549,850	\$3,850



Peck Farm Park Extension Master Plan Construction Budget

UNIT "C"

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$3,000	\$3,000	
1.2 Field Tile Removal/ Demolition/ Control Valves	Lump Sum	1	\$3,000	\$3,000	
1.3 15" Re-inforced Culvert, 2 FES	Linear Feet	40	\$28	\$1,120	
			SUBTOTAL:	\$7,120	\$0
2) WET, MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	36.5	\$5,500	\$200,750	
2.2 Large Native Tree Planting (3" +/- caliper)	Each	52	\$350	\$18,200	
2.3 Small Native Tree Planting (1" +/- caliper)	Each	175	\$150	\$26,250	
2.4 Native Shrub Planting	Each	350	\$50	\$17,500	
2.5 Native Forb & Grass Planting	SY	2500	\$8	\$20,000	
			SUBTOTAL:	\$282,700	\$0
3) WETLAND RESTORATION/CREATION					
3.1 Excavation/Grading	Lump Sum	1	\$55,000	\$55,000	
3.2 Water control structure	Each	2	\$1,500	\$3,000	
3.3 Seeding & Planting	SY	7000	\$10	\$70,000	
			SUBTOTAL:	\$128,000	\$0
4) TRAILS					
4.1 8ft bituminous trail	Linear Feet	4948	\$27	\$133,596	
4.2 5ft grass trail	Linear Feet	2665	\$1	\$2,665	
4.3 Road crossing signage (2 trail & 2 road signs per crossing)	Each	4	\$1,500	\$6,000	
4.4 Excavation				\$10,000	
			SUBTOTAL:	\$152,261	\$0
5) AMENITIES/FEATURES					
5.1 Overlook-Viewing Platform w/ seating	Each	1	\$6,000		\$6,000
5.2 Fieldstone Section Marker	Each	2	\$750		\$1,500
5.3 Fieldstone Section Marker With Plaque	Each	2	\$1,500		\$3,000
5.4 Entry Signage	Each	1	\$500	\$500	
5.5 Interpretive Signage	Each	1	\$2,500	\$2,500	
5.6 Seating (rest area for ex. & prop. trails) - 2 in Natural Areas & 2 in Fitness Center	Each	4	\$1,250	\$5,000	
			SUBTOTAL:	\$8,000	\$10,500
UNIT C SUB TOTAL:				\$578,081	\$10,500
15% CONTINGENCY				\$86,712	\$1,575
UNIT C TOTAL:				\$664,793	\$12,075



Peck Farm Park Extension Master Plan Construction Budget

UNIT "D"

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$1,000	\$1,000	
1.2 Field Tile Removal/ Demolition/ Control Valves	Lump Sum	1	\$3,000	\$3,000	
1.3 15" Re-inforced Culvert, 2 FES	Linear Feet	20	\$28	<u>\$560</u>	
			SUBTOTAL:	\$4,560	\$0
2) WET, MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	43.25	\$5,500	\$237,875	
2.2 Large Native Tree Planting (3" +/- caliper)	Each	2	\$550		\$1,100
2.3 Small Native Tree Planting (1" +/- caliper)	Each	6	\$300		\$1,800
2.4 Native Shrub Planting	Each	10	\$50		\$500
2.5 Native Forb & Grass Planting	SY	500	\$8	<u>\$4,000</u>	
			SUBTOTAL:	\$241,875	\$3,400
3) WETLAND RESTORATION/CREATION					
3.1 Excavation/Grading	Lump Sum	1	\$20,000	\$20,000	
3.2 Seeding & Planting	SY	1500	\$10	<u>\$15,000</u>	
			SUBTOTAL:	\$35,000	\$0
4) TRAILS					
4.1 5ft grass trail	Linear Feet	3002	\$1	\$3,002	
4.2 Excavation				<u>\$10,000</u>	
			SUBTOTAL:	\$13,002	\$0
5) AMENITIES/FEATURES					
5.1 Fieldstone Section Marker	Each	2	\$750		\$1,500
5.2 Fieldstone Section Marker With Plaque	Each	1	\$1,500		\$1,500
5.3 Interpretive Signage	Each	1	\$2,500		\$2,500
5.4 Seating (rest area for existing & proposed trails)	Each	1	\$1,250	<u>\$1,250</u>	
			SUBTOTAL:	\$1,250	\$5,500
UNIT D SUB TOTAL:				\$295,687	\$8,900
15% CONTINGENCY				\$44,353	\$1,335
UNIT D TOTAL:				\$340,040	\$10,235



Peck Farm Park Extension Master Plan Construction Budget

UNIT "E"

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$1,000	\$1,000	
1.2 Field Tile Removal/ Demolition/ Control Valves	Lump Sum	1	\$3,000	\$3,000	
1.3 15" Re-inforced Culvert, 2 FES	Linear Feet	20	\$28	\$560	
			SUBTOTAL:	\$4,560	\$0
2) WET, MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	40	\$5,500	\$220,000	
2.2 Native Tree Planting (3" +/- caliper) - Boundary Planting North only	Each	2	\$550		\$1,100
2.3 Native Tree Planting (1" +/- caliper) - Boundary Planting North only	Each	6	\$300		\$1,800
			SUBTOTAL:	\$220,000	\$2,900
3) TRAILS					
3.1 5ft grass trail	Linear Feet	1953	\$1	\$1,953	
3.2 Excavation				\$10,000	
			SUBTOTAL:	\$11,953	\$0
4) AMENITIES/FEATURES					
4.1 Fieldstone Section Marker	Each	2	\$1,500		\$3,000
4.2 Interpretive Signage	Each	1	\$2,500		\$2,500
4.3 Seating (rest area for existing & proposed trails)	Each	1	\$1,250	\$1,250	
4.4 Solstice Landscape/ Picnic Area	Each	1	\$15,000		\$15,000
			SUBTOTAL:	\$1,250	\$20,500
UNIT E SUB TOTAL:				\$237,763	\$23,400
15% CONTINGENCY				\$35,664	\$3,510
UNIT E TOTAL:				\$273,427	\$26,910



Peck Farm Park Extension Master Plan Construction Budget

UNIT "F"

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) GENERAL					
1.1 Erosion Control	Lump Sum	1	\$1,000	\$1,000	
1.2 Field tile removal/demolition	Lump Sum	1	\$3,000	\$3,000	
1.3 15" Re-inforced Culvert, 2 FES	Linear Feet	20	\$28	\$560	
			SUBTOTAL:	\$4,560	\$0
2) WET, MESIC & DRY PRAIRIE RESTORATION (includes R.O.W)					
2.1 Native Seeding	Acre	35.5	\$5,500	\$195,250	
2.2 Large Native Tree Planting (3" +/- caliper)	Each	30	\$550		\$16,500
2.3 Small Native Tree Planting (1" +/- caliper)	Each	30	\$300		\$9,000
			SUBTOTAL:	\$195,250	\$25,500
3) WETLAND RESTORATION/CREATION					
3.1 Excavation/Grading	Lump Sum	1	\$30,000	\$30,000	
3.2 Seeding	SY	2000	\$5	\$10,000	
			SUBTOTAL:	\$40,000	\$0
4) TRAILS					
4.1 8ft bituminous trail	Linear Feet	1325	\$27		\$35,775
4.2 5ft grass trail	Linear Feet	1279	\$1		\$1,279
4.3 Road crossing signage (2 trail & 2 road signs per crossing)	Each	1	\$1,500		\$1,500
4.4 Excavation					\$10,000
			SUBTOTAL:	\$0	\$48,554
5) AMENITIES/FEATURES					
5.1 Fieldstone Section Marker	Each	1	\$750		\$750
5.2 Fieldstone Property Marker	Each	3	\$500		\$1,500
5.3 Entry Signage	Each	1	\$500	\$500	
5.4 Interpretive Signage	Each	2	\$2,500	\$5,000	
5.5 Seating (rest area for existing & proposed trails)	Each	2	\$1,250	\$2,500	
5.6 Wildlife Habitat Structures	Each	10	\$175		\$1,750
5.7 Sundial Landscape / Picnic Area	Each	1	\$15,000		\$15,000
			SUBTOTAL:	\$8,000	\$19,000
UNIT F SUB TOTAL:				\$247,810	\$93,054
15% CONTINGENCY				\$37,172	\$13,958
UNIT F TOTAL:				\$284,982	\$107,012



Peck Farm Park Extension Master Plan Construction Budget

FORMAL GARDENS

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
1) WASTEWATER SCREEN					
1.1 Native Trees - Oak	Each	16	\$100	\$1,600	
1.2 Native Trees - Sumac	Each	46	\$25	<u>\$1,150</u>	
			SUBTOTAL:	\$2,750	\$0
2) GRAY SHED SCREENING					
2.1 Screening Trees - Pine	Each	12	\$100	\$1,200	
2.2 Espalier Trees	Each	3	\$150	\$450	
2.3 Misc. Hardware and Trellising	Lump Sum	1	\$150	<u>\$150</u>	
			SUBTOTAL:	\$1,800	\$0
3) NEW MAINTENANCE BARN SCREEN, LANDSCAPE, ORCHARD					
3.1.1 Trees - Oak	Each	3	\$350	\$1,050	
3.1.2 Shrubs	Each	9	\$50	\$450	
3.1.3 Shrubs	Each	9	\$30	\$270	
3.2.1 Orchard Trees, 3-5 feet, Bareroot Stock, Apple	Each	20	\$17	\$340	
3.2.2 Orchard Trees, 3-5 feet, Bareroot Stock, Apple	Each	10	\$16	\$160	
3.2.3 Orchard Trees, 3-5 feet, Bareroot Stock, Cherry	Each	5	\$20	\$100	
3.3 Historic Trees	Each	6	\$45	\$270	
3.4 Mulch	Cubic Yard	15	\$10	\$150	
3.5 Topsoil	Cubic Yard	30	\$10	\$300	
3.6 Signage	Each	1	\$400	<u>\$400</u>	
			SUBTOTAL:	\$3,490	\$0
4) SERENITY GARDEN					
4.1.1 Soil	Cubic Yard	20	\$10	\$200	
4.1.2 Compost	Cubic Yard	15	\$18	\$270	
4.1.3 Mulch	Cubic Yard	10	\$10	\$100	
4.2 Brick Paving	Sq. Feet	500	\$17	\$8,500	
4.3 Water Feature	Lump Sum	1	\$2,000	\$2,000	
4.4 Large Tree Screening	Each	51	\$160	\$8,160	
4.5 Shrubs, Plants, Seeds	Lump Sum	1	\$2,250	\$2,250	
4.6 Amentities, Chairs, Signage, Benches	Lump Sum	1	\$5,150	\$5,150	
4.7 Utility Connections	Lump Sum	1	\$1,700	<u>\$1,700</u>	
			SUBTOTAL:	\$28,330	\$0
5) WOODLAND GARDEN					
5.1 Stone for Edging	Tons	4	\$170	<u>\$680</u>	
			SUBTOTAL:	\$680	\$0
6) SENSORY GARDENS					
6.1 Stone	Tons	7	\$170	\$1,190	
6.2 Soil	Cubic Yard	20	\$16	\$320	
6.3 Compost	Cubic Yard	4	\$22	\$88	
6.4 Masonry Construction	Lump Sum	1	\$2,500	\$2,500	
6.5 Plant Material, Small Trees, Shrubs	Each	300	\$6	\$1,800	
6.6 Signage Allowance	Lump Sum	1	\$6,000	\$6,000	
6.7 Hardscape Structure Allowance	Lump Sum	1	\$2,000	<u>\$2,000</u>	
			SUBTOTAL:	\$13,898	\$0



Peck Farm Park Extension Master Plan Construction Budget

FORMAL GARDENS (CONTINUED)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	PHASE 1	PHASE 2
7) BUTTERFLY HOUSE					
7.1 Structure and Related	Lump Sum	1	\$2,500	\$2,500	
7.2 Walkway Materials and Related	Lump Sum	1	\$400	\$400	
7.3 Plants / Flowers	Each	80	\$6	\$480	
7.4 Small Trees to Pot	Each	5	\$200	\$1,000	
7.5 Identification Sign	Each	1	\$400	\$400	
7.6 Butterflies (includes \$100 Shipping and Handling)	Each	1400	\$4	\$5,600	
7.7 Interpretive Signage	Each	5	\$1,500	\$7,500	
7.8 Water Feature				\$1,000	
7.9 Consultant Fee	Lump Sum	1	\$5,000	\$5,000	
			SUBTOTAL:	\$23,880	\$0
8) BACKYARD WILDLIFE DEMO					
8.1 Large Trees	Each	18	\$350		\$6,300
8.2 Small Native Trees	Each	5	\$300		\$1,500
8.3 Shrubs	Each	10	\$50		\$500
8.4 Water Feature Unit and Installation	Lump Sum	1	\$2,500		\$2,500
8.5 Exterior Microphone and Interior Sound System	Lump Sum	1	\$1,500		\$1,500
8.6 Hardscape Amenities: Birdhouse, Butterfly Feeders	Lump Sum	1	\$500		\$500
8.7 Interpretive Panels	Each	2	\$1,500		\$3,000
8.8 Prep and Finish Material: Chemicals, Soil Mulch	Lump Sum	1	\$1,500		\$1,500
8.9 Plant Allowance	Each	25	\$5		\$125
			SUBTOTAL:	\$0	\$17,425
9) PAVING					
9.1 Brick Paving To Increase Courtyard	Sq. Feet	7000	\$15		\$105,000
			SUBTOTAL:	\$0	\$105,000
FORMAL GARDENS SUB TOTAL:				\$74,828	\$122,425
10% CONTINGENCY				\$7,483	\$12,242.50
FORMAL GARDENS TOTAL:				\$82,311	\$134,668

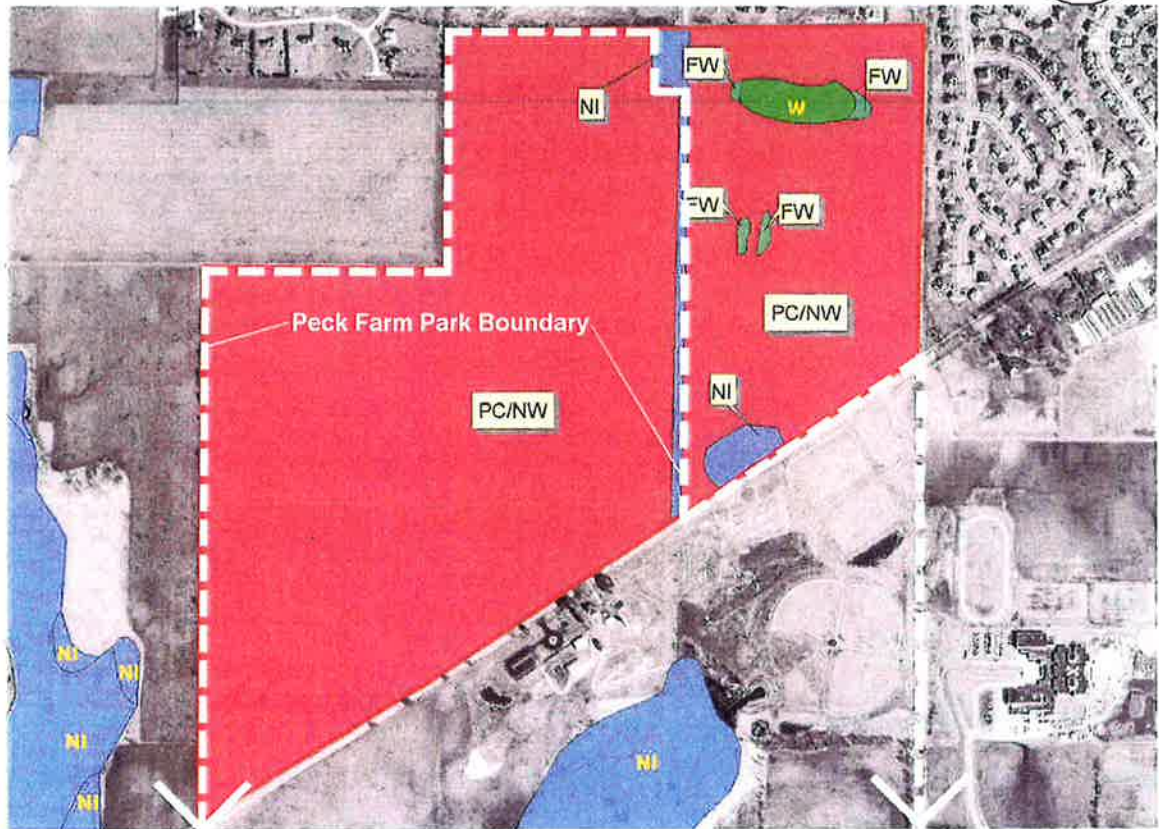


APPENDIX

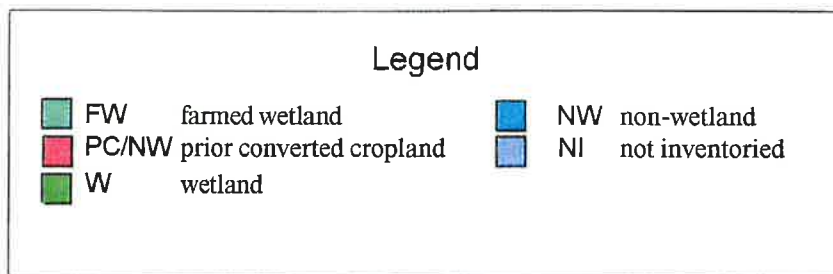
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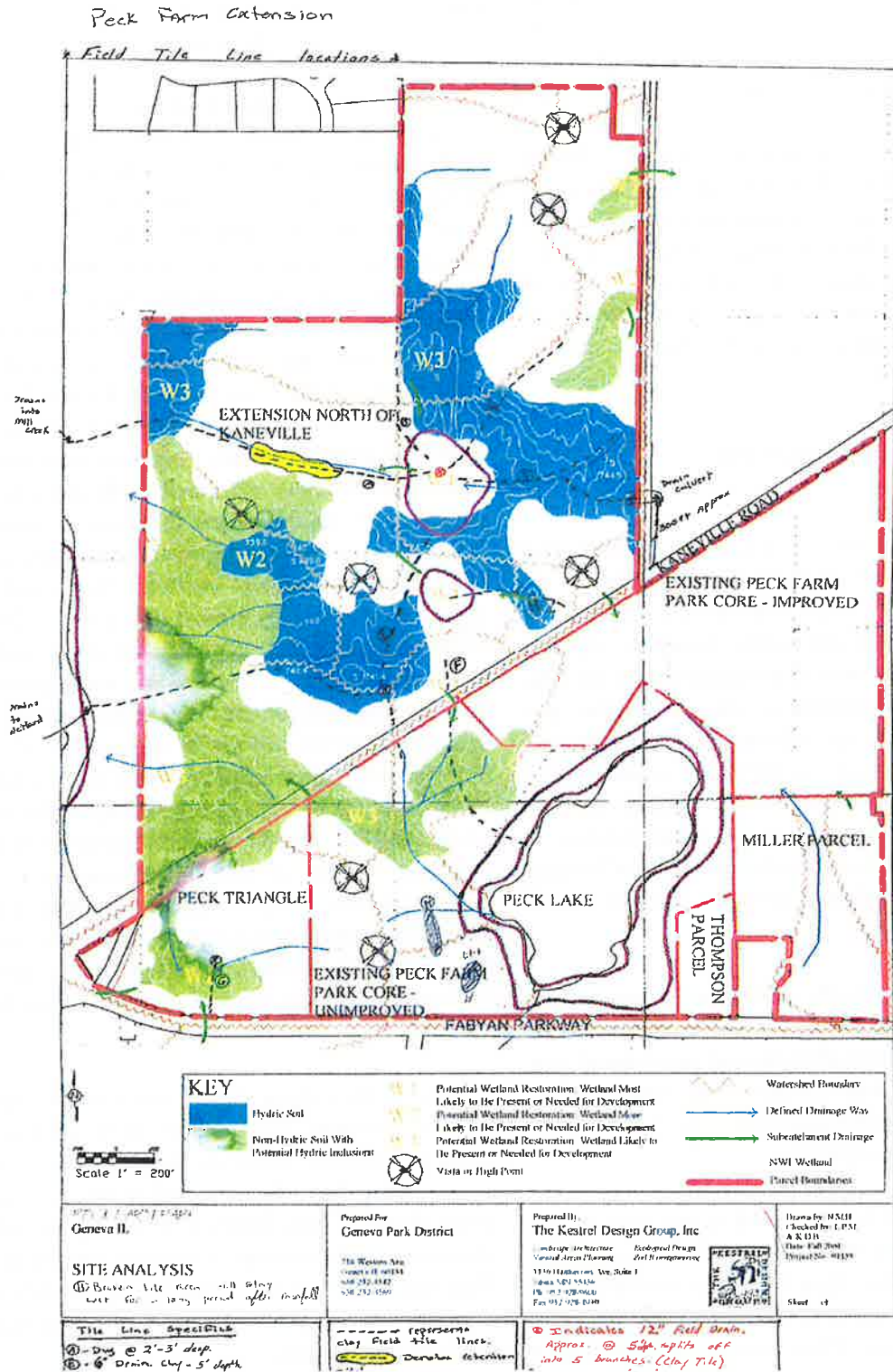
CERTIFIED WETLAND MAP



1000 0 1000 2000 3000 4000 Feet



APPENDIX B. Informal Drainage Survey



APPENDIX C.

Agriculture Demonstration Options

To strengthen the meaning of the requested "Active Agricultural" component of the Master Plan we have come up with a few alternative themes for this program element in order to support its purpose. It is our intention to provide the traditional characteristics of farming desired by the community but to strengthen the bond of this element with the Peck Farm Park Mission and improve its "usability" through a more dynamic and interactive alternative. Please review the following alternatives and provide us with some feedback. We will continue to work and refine an option, with your input, so that this component is a supporting part of the Master Plan.

Alternative 1: Prairie Agriculture

Description:

Traditional farming is very dependent on weather. One hailstorm or one day of unusually heavy winds can destroy an entire season's crops. Similarly, an outbreak of just one agricultural pest can destroy an entire crop field in a very short period of time. Native prairies, on the other hand, are much more resilient to unusual weather patterns and herbivore damage. Additionally, native prairies do not require outside inputs of fertilizers, pesticides and irrigation to produce consistent yields. For the past 17 years, a group of researchers at the Land Institute in Kansas has been studying alternative methods of farming that incorporate some of these strengths of native prairie ecosystems into farming.

First of all, they have closely studied native prairie ecosystems to discover what makes prairies so resilient to the problems that are part of traditional agricultural systems. These strengths arise not only from characteristics of the individual plants but also from how they grow together in the prairie ecosystem.

Because prairie plants have evolved in the local conditions, they are adapted to the local climate and soils. Their deep roots, for example, allow the plants to draw water from 5-15' deep in the soils, so that the plants can thrive even in drought conditions. These roots also hold rain water in the soil and protect the soil from erosion. Additionally,

as some of the deep roots are constantly being sloughed off and replaced with new roots, organic matter is constantly added to the soils and the plants are fertilizing themselves. Also, because the plants have evolved with the local plants and animals, they have developed checks and balances that prevent one species in the local food chain from eliminating all the others.

In addition to the strengths derived from having evolved under the local growing conditions, many of the strengths of the prairie result from growing as a polyculture, as opposed to the monoculture of traditional agricultural systems. Because the different species occupy different niches in the community, i.e., they obtain food and water in different ways and different places in the soil, or at different times of the year, they are not directly competing against each other, unlike traditional agricultural crops. Experiments at the Land Institute showed that this characteristic did indeed allow the prairie polyculture systems to attain higher yields than traditional agriculture monocultures. Additionally, the structural diversity created in the prairie by combining plants that grow in many different niches give prairie polycultures higher resistance to structural damage by adverse weather. The diversity of plants within the prairie polyculture also allows different plants to thrive depending on the yearly variations in climate and growing conditions. I.e., in years when growing conditions are less ideal for one crop, another species will thrive and overall yields will not be drastically affected. Additionally, polyculture crops are much less attractive to herbivores than monocultures because agricultural pests generally consume only one or a few species. For example, a field that consists of 100% of a target species is much more attractive to a pest than a field that has less than 10% of that target species. Also, in a polyculture, the entire field is not demolished by one pest if only less than 10% of the field was planted with the species targeted by the pest.

Secondly, researchers at the Land Institute have studied what traits plants need to have to be good agricultural crops and studied, based on these findings, which native prairie plants have the potential to be good agricultural crops. Some of these characteristics include reduced seed shattering, uniform time of maturity, and large seed size. They found several native prairie species that have these characteristics and are currently doing experiments with many of these plants.



Incorporating "prairie agriculture" into Peck Farm Park would both visually and conceptually tie together Peck Farm Park's agricultural component and the existing core. Visually, the "prairie agriculture" system would look similar to the restored prairie natural areas, which are, in turn, reminiscent of the vegetation that naturally occurred in this area before European settlement. Conceptually, the "prairie agriculture" system would comply with the goals to develop this land sustainably and keep all the water that falls here on the site. Conceptually, the "prairie agriculture" system could also be considered the logical next step in the succession of land uses on this land, converting a piece of land that was converted from prairie to traditional agriculture over 100 years ago to a more sustainable form of agriculture that grew out of the prairie that originally grew on this land.

Pros of Prairie Agriculture:

- Sustainable Land Use:
 - No Pesticides, Herbicides or Fertilizers, or Irrigation Needed
 - Deep Prairie Roots Hold Water in Soil, Maintaining Presettlement Hydrology
 - Perennial Prairie Roots Build Up Rather than Depleting Soil
- Conceptually and Visually Ties Together Prairie and Agriculture Parcels
- Land Use More Compatible With OLT Grant than

Traditional Agriculture

- Progressive, Cutting Edge Agricultural Practices Give Peck Farm Park Unique Asset Found Nowhere Else in Illinois
- Astounding Educational Value
- Good Potential to Obtain Grants for Operation of Cutting Edge Agricultural Practices
- Use of Native Crops in Natural Growing Patterns Strengthens Unique Regional Identity at Peck Farm Park

Cons of Prairie Agriculture:

- Does not look like traditional agriculture (but sets a new and higher standard for what agriculture can look like!)
- Difficult to market at first, but lack of competition will be an advantage once a market is established



Alternative 2: Prairie Reclamation

Description:

The "Prairie Reclamation" theme is an active phased transition of traditional row crops restored to its native flora. This active reclamation of the prairie is an invert depiction of the process by which it was removed (see Figure 16).

How it works:

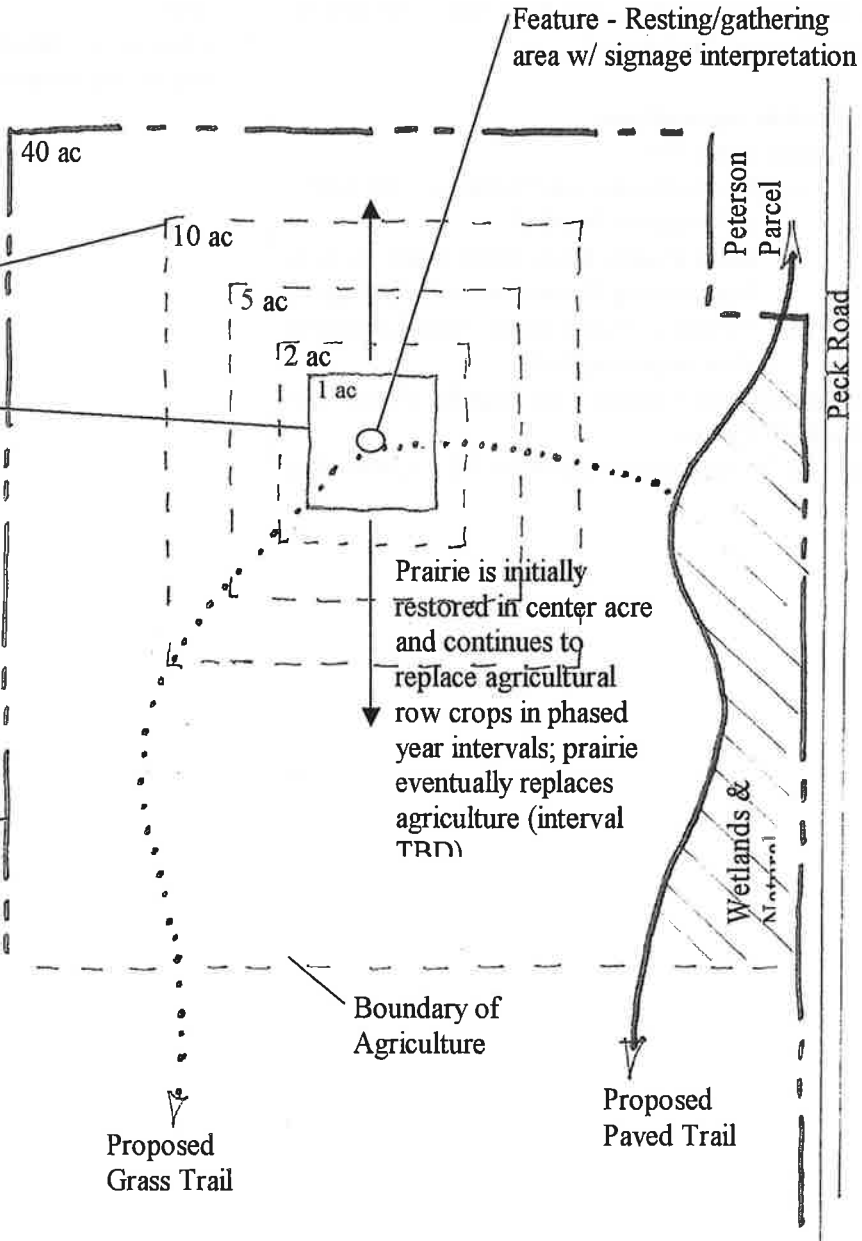
The development of this theme is a working process of the prairie reclaiming the land. Over a period of time the prairie expands its holdings, eventually consuming the traditional row crops. The time period for this to be completed is flexible, but it could range from 10 – 50+ years for completion depending on the years between restoration and size restored at each interval. The graphic depicts this theme in the 40 acre "out-lot" parcel North of Kaneville Road (possibly best suited here) but it could occur in the Miller Parcel or elsewhere as well.

Figure 16. Prairie Restoration

Demarc boundaries of restoration intervals to visually clarify for the user the 1) boundaries between the age classes of restored prairie and 2) the spatial size of

Initial 1 ac prairie parcel - located at the highest point of parcel (elevation provides viewing prospect and "feeling" of prairie descending into landscape)

PFP Boundary



Pro's of Prairie Reclamation:

- Many environmental and agricultural educational lessons are visually and implicitly stated through this option:
 - o succession of plant communities
 - o diversification and quality of an "aging" restoration
 - o spatial understanding of agricultural units (acres)
 - o diversity and quality of fauna associated with the different land covers (agriculture and prairie) and the subsequent "succession age" and relevant size of the land cover
 - o erosion associated w/ agriculture and permanent cover
- The scenario of phased restoration transition provides many unique and valuable research opportunities which could be preformed by PFP staff or outside individuals and institution (Universities, Government Agencies)
 - high profile for PFP and GPD
 - many publish opportunities
- This scenario creates a dynamic inhabitable and "useable" space for park users, which will be distinctly different over the course of:
 - season (ag = planting-growing-harvest; natural areas = eco cycle)
 - period of restoration transition (ag=enclosure to prairie=vastness/openness)
- Provides characteristics of traditional farming as desired by the community from the park edge (road) and the interior (user).
- Easily accessible and farmable for tenant farmer

Con's of Prairie Reclamation:

- Eventually all "active farming" would be phased out of the parcel. However, this may be beneficial due to the fact that it may not be possible to get an individual to farm this parcel in the future.



