# Hillmoor's Natural Resources

# Resource Enhancement and Preservation Community Access and Enjoyment

Information Gathering Subgroup
Habitat Restoration and Hiking/Biking/Skiing Trails

Paula Porubcan, Betty Volquardsen, Karen Yancey February 2024

# Purpose/Goals

# **Resource Enhancement and Preservation**

Understand present condition of Hillmoor's ecological resources (land, water, flora, fauna)

Gather information on restoration and long-term management of natural resources (costs, methods, funding sources)

Make recommendations on types of recreational uses, <u>compatible and appropriate</u> to the ecological conditions present within different areas of the property

# **Community Access and Enjoyment**

Gather information on trail types and locations (construction methods and materials, costs, funding sources)

Make recommendations on types and locations of trails, and on prioritization of construction sequences, with a focus on compatibility with, and enhancement of, a comprehensive future Hillmoor Master Plan

# Natural Resource Protection and Enhancement

# WHY?

- Storm water retention, flood control
- Healthy water sources (ground and surface water)
- Biodiversity (flora and fauna, terrestrial and aquatic) robust ecological system
- Non-native plant species generally do not provide quality habitat for native insects, birds, mammals, fish, etc.
- Maintain/enhance environmental corridors connecting to other local habitat areas
- Physical and mental health of individuals and communities
- Quality of Life, increased property values, increased tourism

# Considerations and Methods

- Restore Land and Ecology to WHAT time period? ("pre-settlement" ca. 1800; 100 years ago; 1,000 years ago)
- Consideration of climate change, and planning for the future
- Focus on Biodiversity of Native Species, and Focus on Healthy Water and Land.
- Achieved in variety of ways. Especially in urban environments -Combination of "native/natural/wild" and "managed/manicured"
- Common issues/problems: invasive species, pollutants

# **Common Methods**

# **Brush Mowing**

# **Controlled Burns**





# **Hand Cutting/Removal**





# **Common Methods**

# **Spot Herbicide Application**



**Tree Girdling** 



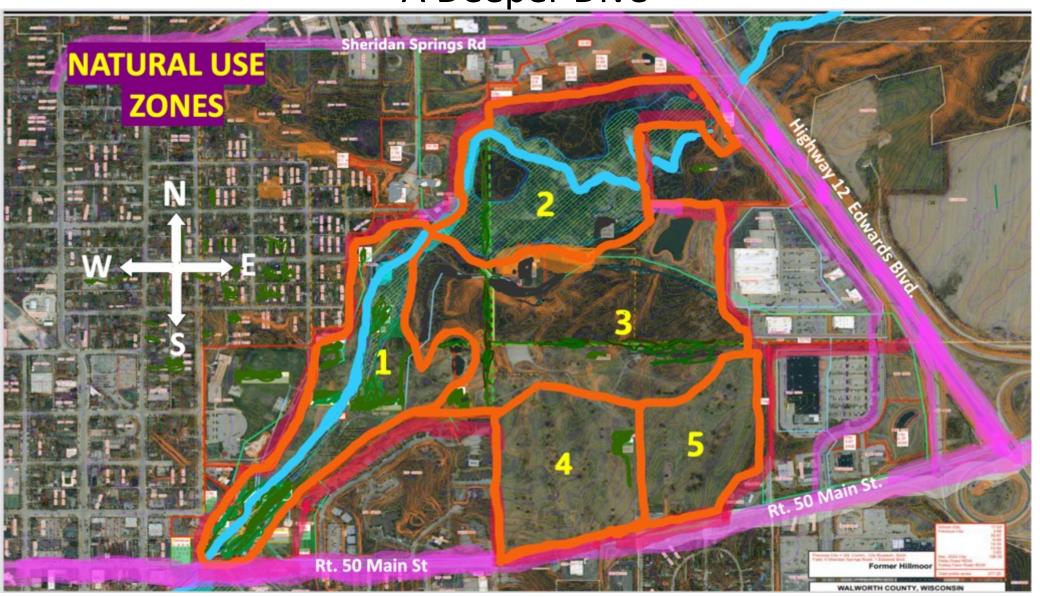
# **Replanting and Reseeding**

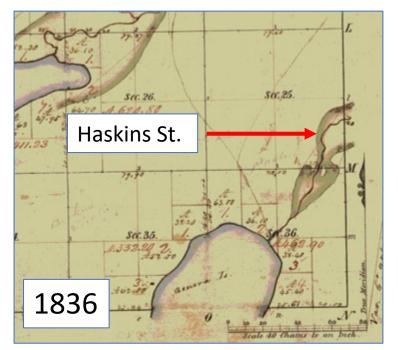




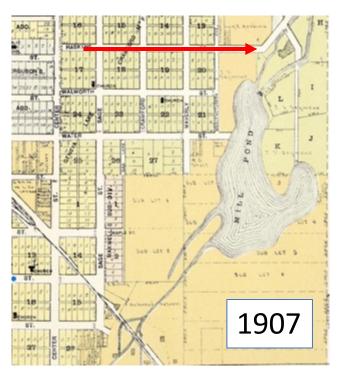
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# Understanding Current Conditions at Hillmoor A Deeper Dive





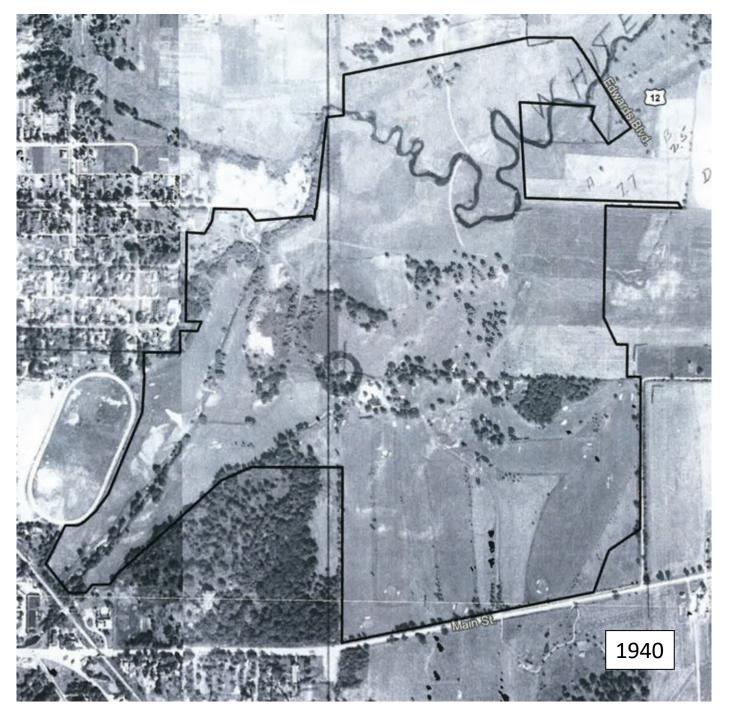








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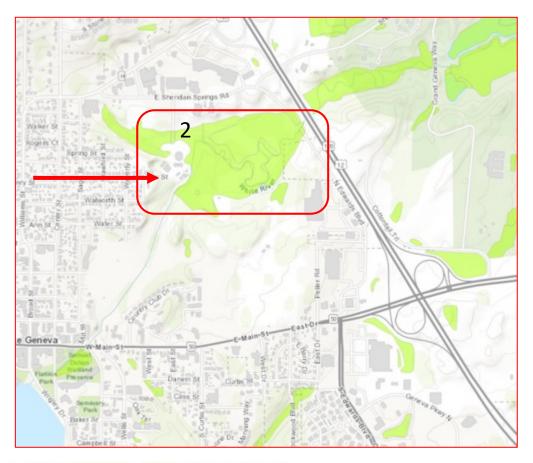


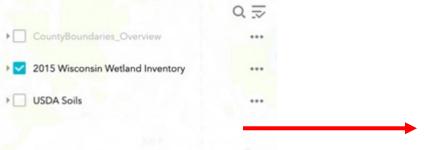


### 1940 aerial photograph

- Farm fields in portions of Zones 2 and 3
- North-South road across Wetland in Zone 2 (with bridge?)
- Minimal forested areas
- Golf course fairways, sand pits, clubhouse, roads present in portions of Zones 1, 3, 4, 5
- Farmstead at north end Zone 2

# Southeast Wisconsin Regional Planning Commission (SEWRPC)





ABC Group: Zone 2

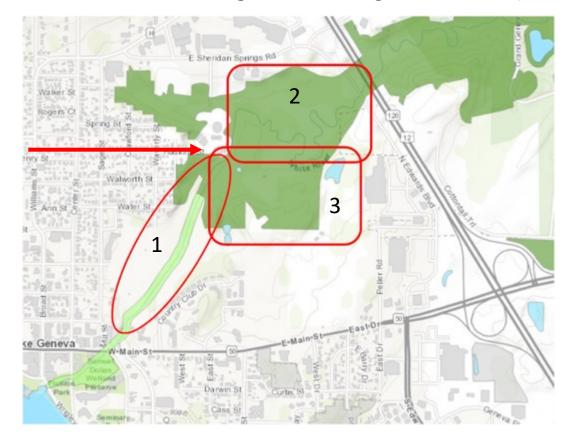
Haskins St.





Midwest Prairie: Units 1 and 2

### Southeast Wisconsin Regional Planning Commission (SEWRPC)



### Environmental Corridors\_2015

EnvironmentalCorridors\_2015

# Description Primary environmental corridor Surface water inside PEC Secondary environmental corridor Surface water inside SEC Isolated natural resource area Surface water inside INRA Surface water from SEWRPC land use inventory

Haskins St.



- SEWRPC recommends that the floodplain and wetland portions of these areas "...not be filled and be kept free from future urban development of any kind."
- SEWRPC recommends that the upland portions of these areas "...be preserved and protected, ensuring that the lands are not developed for urban purposes except for residential use at a density no greater than one unit per five acres."
- Per 1990 SEWRPC study: Zone 2 contains a State Threatened Species (Longear Sunfish), and a Species of Concern (Least Darter).
- Primary vs. Secondary Environmental Corridors refers to size  $\underbrace{\text{not}}_{\text{Page } 22 \text{ of } 53}$



Longear Sunfish
(WI Threatened Species)
Reaches ~ 9 inches long



**Least Darter**(Species of Concern)
Reaches ~ 1.5 inches long

# New SEWRPC evaluation of Aquatic and Terrestrial Resources!! Free!!

- 1. City has requested a new Environmental Survey (last one done 30 years ago)
- 2. Zach Kron (Senior Biologist) will inventory primarily terrestrial plants, but also aquatic plants to some degree. He will record areas of invasive species, and areas of habitat that may carry potential for native and/or important aquatic or terrestrial non-plant species.
- 3. Given his observations, he will make recommendations on land management practices, and on whether additional studies might be warranted. For example, if there is an area with potential prime bat habitat, an actual study of this would require additional equipment and staff time; understanding insect populations would take extra staff time and equipment; detailed inventories of aquatic species takes extra sorts of equipment and various permits; etc.
- 4. Sometimes SEWRPC can find ways to pay for these additional studies, in whole or in part. But wait and see what his assessment is.
- 5. He will visit the property 3 times: Spring, Summer, Fall. He will spend 1-2 days on the property during each of these seasonal visits.
- 6. He will give Interim Reports to the City and to the Conservancy following each visit.
- 7. In Fall 2024, he will produce a report with an inventory, assessment, and recommendations. He will give this report to the Conservancy and to the City.

# **Example** of a Management Plan

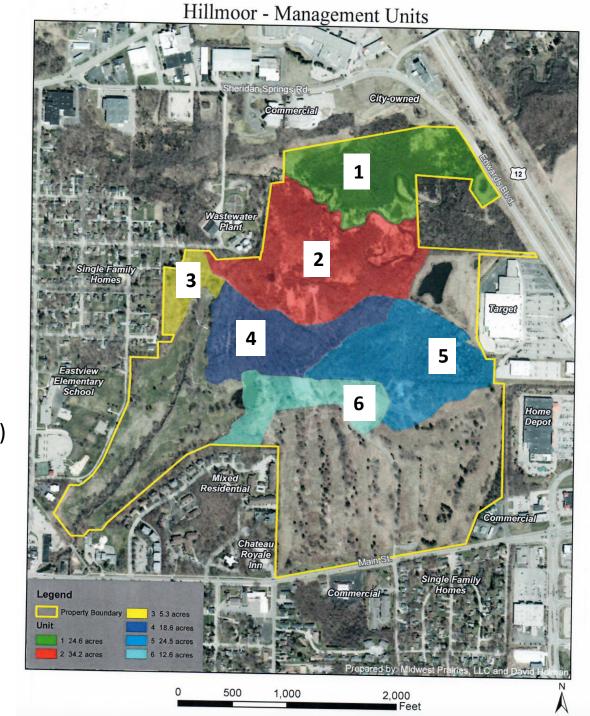
**Geneva Lakes Conservancy** contracted w/

**Midwest Prairies, LLC** 

**Ecological Management Plan** for the "back 100 acres" of Hillmoor

6 Management Zones (does not include ABC's zones 1, 4, 5)

- Presettlement conditions
- Historic land uses
- Current conditions (including invasive species)
- Restoration recommendations (short term, long term, costs, methods, timing/scheduling)



### Pre-settlement (pre ca. 1800)

- Mosaic of Prairie, Savanna (scattered Oak and Hickory tress and open meadows), Wetland habitats
- Wetlands covered with sedges, grasses, reeds, some shrubs and trees
- Extremely diverse and productive landscape

### **Historic Land Uses**

- Zone 1 used as Mill Pond ca. 1850-1930
- Zone 2 possibly drier and seasonally accessible by road
- Farmstead complexes and roads throughout
- 1924 Golf Course built in Zones 1, 4, 5
- Early 1930s, White River straightened
- Ca. 1937, outside of golf course, largely cultivated fields and pastures, minimal woodland



### **Current Conditions**

### Unit 1: Floodplain and Degraded Riparian Wetland north of the White River

- Contains invasive European Black Alder, Phragmites, Buckthorn, Reed
   Canary Grass, and Honeysuckle
- Possibly some Native Cattail present
- Some high quality native vegetation present (Tussock Sedge, Blue Joint Grass, Blue Iris)
- Area occasionally floods

### Unit 2: Degraded Riparian Wetland south of the White River

- Contains invasive European Black Alder, Phragmites,
   Buckthorn, Reed Canary Grass, and Honeysuckle
- Possibly some Native Cattail present
- Some high quality native vegetation present (Tussock Sedge, Blue Joint Grass, Blue Iris, Shrub Willow)
- Area occasionally floods
- Dead and down Green Ash trees



### **Current Conditions**

### **Unit 3: Highly Degraded Woods**

- Areas of invasive Black Locust
- Patches of native tree species
- Steep slopes

# <u>Unit 4: Primarily Remnant Savanna/Prairie Complex, with small areas of Highly Degraded Woods on eastern edge</u>

- Areas of invasive Black Locust
- Significant previous historic disturbance in far western portion
- Native mature Oaks and Hickory, and native ground cover present in some areas
- (Relatively recently) reforested former farmland in other areas, with less desirable trees such as dead and dying Green Ash and Cherry.
- Prior to the golf course this area likely in open meadow or prairie



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### **Current Conditions**

# <u>Unit 5: Remnant Savanna/Prairie Complex, Degraded Open Oak Woods, and Reforested Former Agricultural Fields</u>

- Native mature Oaks and Hickory, and native ground cover present in some areas
- (Relatively recently) reforested former farmland in other areas, with less desirable trees such as dead and dying Green Ash and Cherry.
- The Degraded Open Oak Woods is in "fairly good shape"
- Some invasive Black Locust, Honeysuckle, Buckthorn, but not overwhelming

### Unit 6: Remnant Savanna/Prairie Complex

- A few native mature Oaks and Hickory are present
- (Relatively recently) reforested former farmland in other areas, with less desirable trees such as dead and dying Green Ash and Cherry.
- The Degraded Open Oak Woods is in "fairly good shape"
- Also contains parking lot, roadway, and former clubhouse footprint



### 4-5 Year Plan

- Restore ecological diversity
- Removal of (majority of) invasive species
- Plus ongoing long-term maintenance/management

### How?

- Controlled burns
- Forestry mowing, hand cutting/shearing
- Spot and limited area herbicide application
- Tree girdling
- Tree thinning
- Replant/re-seed native prairie and aquatic grasses, wildflowers, shrubs, and trees where appropriate

### **How Much?**



# 4-Year Schedule, Prioritization, and Estimated Budget

(Midwest Prairies, 2023)

- Not necessary to start work in all management units the same year, but if needed...
- Highest Priority: Management Units 4 and 5 (ABC Zone 3), followed by Management Units 1 and 2 (ABC Zone 2)



			YEAR	ONE		
Units	1	2	3	4	5	6
Forestry Mowing	9,500	5,000		15,000	19,000	2,000
Tree Shear/Hand Cut	14,000	4,000		35,000	22,000	6,000
Herbicide Re-sprouts	4,500	2,500		6,500	7,000	2,000
Prescribed Burn	3,000	2,000				
Herbicide Reed Canary	2,500	2,000				
Herbicide Phragmites	1,000	1,000				
Herbicide Weeds				3,500	4,500	4,000
Girdle Black Locust			3,000			
Total By Unit	34,500	16,500	3,000	60,000	52,500	14,000
Contingency (20%)	36,100					
Contingency (20%) Yearly Total	36,100 216,600					
			YEA	R TWO		
		2	YEA 3		4	5
Yearly Total Units	216,600	2 900			4 0 2,50	-
Yearly Total  Units Herbicide Re-sprouts	216,600				4 0 2,50	-
Yearly Total  Units Herbicide Re-sprouts Herbicide Reed Canary	216,600 1 2,000	900				00 80
Yearly Total  Units Herbicide Re-sprouts Herbicide Reed Canary Herbicide Weeds	216,600 1 2,000	900		2,20	0 2,00	00 80
Vearly Total  Units Herbicide Re-sprouts Herbicide Reed Canary Herbicide Weeds Seed Natives	216,600 1 2,000 1,000	900 700		2,20 1,50 10,00	0 2,00	00 80
Vearly Total  Units Herbicide Re-sprouts Herbicide Reed Canary Herbicide Weeds Seed Natives	216,600 1 2,000 1,000	900 700	3	2,20 1,50 10,00	0 2,00	00 80
Vearly Total  Units Herbicide Re-sprouts Herbicide Reed Canary Herbicide Weeds Seed Natives Cut and Remove Black Locust	216,600 1 2,000 1,000	900 700 8,000	3	2,20 1,50 10,00	0 2,00	00 80 00 80 00 1,50
Vearly Total  Units  Herbicide Re-sprouts  Herbicide Reed Canary  Herbicide Weeds  Seed Natives  Cut and Remove Black Locust  Herbicide Phragmites	1 2,000 1,000 15,000 500	900 700 8,000 500	7,000	2,20 1,50 10,00	0 2,00	00 80 00 80 00 1,50

Units	1	2	3	4	5	6
Mow Seeded Areas				7,000	7,000	2,500
Herbicide Re-sprouts	1,000	600		1,000	1,000	500
Herbicide Reed Canary	1,000	700		2,000	2,000	
Herbicide Weeds				1,000	1,000	1,000
Seed Natives			4,000			
Herbicide Phragmites	500	500				
Plant Native Trees/Shrubs	5,000	5,000	10,000	10,000	10,000	5,000
Water/Maintain Plants	2,000	1,000	8,000	4,000	4,000	4,000
Total by Unit	7,500	6,800	14,000	19,000	19,000	9,000
Contingency (20%)	15,060					
Yearly Total	90,360					

	YEAR FOUR					
Units	1	2	3	4	5	6
Mow Seeded Areas			2500			
General Herbicide Maintenance	2,000	2,000	800	2,000	2,000	800
Water/Maintain Plans	1000	500	2000	2000	2000	1000
Prescribed Burn	4,000	4,000		4,000	4,000	2,000
Total By Unit	7,000	6,500	2,800	8,000	8,000	3,800
Contingency (20%)	7,220					
Yearly Total	43,320					
	363204600			1	9	

# 4-Year Schedule, Prioritization, and Estimated Budget

(Midwest Prairies, 2023)

Estimated 4-Year Total: \$432,900

# plus

**ESTIMATED ONGOING MAINTENANCE BUDGET PER** 

YEAR FOR ENTIRE SITE

Herbicide Invasives 5,000
Prescribed Burning 5,000
Other 5,000

Ongoing maintenance estimate only includes natural resources work and does not include things such as trail maintenance or cleaning up downed wood.

# **DNR Surface Water Grants** (Lakes, Rivers, Wetlands)

Pre Application due: Sept 15; Final Application due: Nov 15

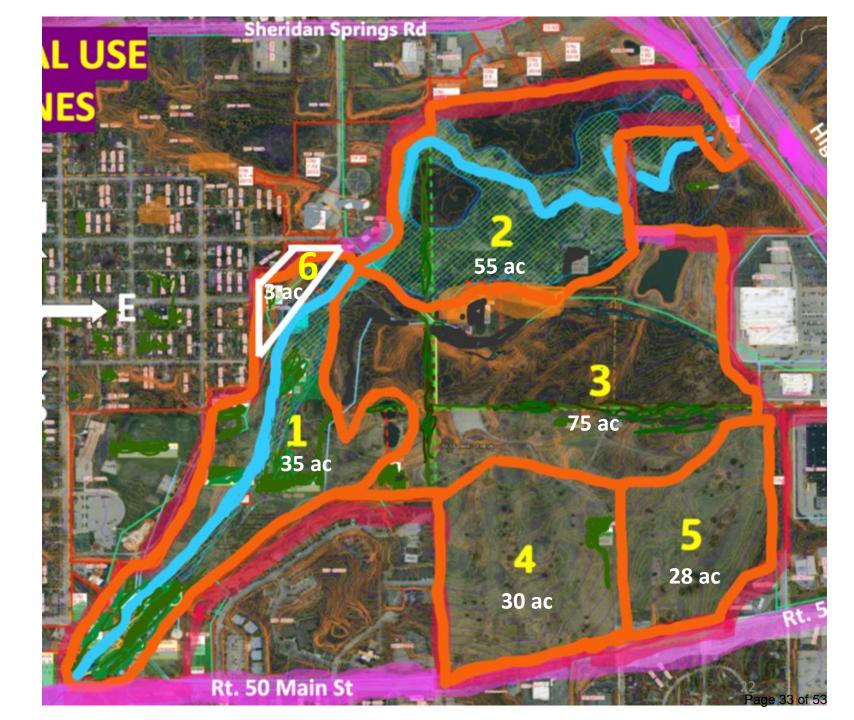
Grant Type/Focus	Grant/City Match	Grant Limit	Project Examples
Education	67/33	\$5,000	Public education and materials; Staff/volunteer training
Planning	67/33	\$10,000	Data collection; Ecological assessments; Design work
Comprehensive Management Plan	67/33	\$25,000	
Restoration	•	\$25,000 Rivers \$10,000. Wetlands	Pervious pavement; Rain Gardens; Vegetation planting; Urban pollutant and run-off control; Streambank protection; Habitat Structures
Management Plan Implementation	75/25	\$50,000 Rivers \$200,000 Wetlands	Non-point source pollution control; Habitat Restoration
Aquatic Invasive Species Control	75/25	\$50,000 - \$150,000	



Using what we know about the land:

# **Suggested Revised Natural Use Zones**

\*approx. acreage



# **Land Use Recommendations**

# Only buildable acreage: 58 acres in Zones 4, 5; and 5-10 acres in SW Zone 3

	Compatible Uses	Uses NOT Compatible
Zone 1 Lies within SEWRPC Environmental Corridor	Dog Park, Disc Golf, Walking/Biking; Trails and Bridges; Picnic Shelters, X-Country Skiing, Fishing, Kayaking, Playground, Formal Gardens, Natural Wildflower or Prairie Plantings; Trail Access to Downtown.	Parking Lot, Bathroom Facility, Substantial Structures, Roads; Activities that result in sediment and/or pollutant run-ff into the White River.
Zone 2 Lies within SEWRPC Environmental Corridor	Walking, Birding; Limited number of mowed trails, boardwalks, and/or bridges; Kayaking; Trail Access to North and Parking along Sheridan Springs Road; Trail Access to Haskins Street; Raised Viewing Platform.	Parking Lot, Bathroom Facility, Structures, Roads, Picnic Shelters, Paved Trails; Activities that result in sediment and/or pollutant run-off into the White River or Wetland.
Zone 3  Lies within SEWRPC Environmental Corridor	Walking, Birding; Trails; Picnic Shelter; Small Playground; X-Country Skiing; **In southeast corner: Small Structures such as Amphitheater, Bathrooms, Concessions, Parking Lot; **Along southern boundary: Formal or manicured Botanical Gardens.	Substantial Structures, Roadways, or Parking Lots. Activities that require, or result in, significant ground disturbance or landform erosion.
Zone 4 30 acres	Walking, Biking, X-Country Skiing; Trails; Roadways; Small Structures such as Amphitheater, Bathrooms, Concessions, Parking Lot; Playground; 9-hole Golf Course (very minimal water and herbicide use required); Formal Gardens, Native Prairie Plantings, Community Gardens, Arboretum; Picnic Shelters; **Larger Structures placed near east boundary of zone.	Activities that result in sediment or pollutant run-off into the White River, or pollutant seepage into ground water.
Zone 5 28 acres	Walking, Biking, X-Country Skiing; Trails; Roadways; Amphitheater, Bathrooms, Concessions, Parking Lot; Playground; 9-hole Golf Course (very minimal water and herbicide use); Formal Gardens, Native Prairie Plantings, Community Gardens, Arboretum; Picnic Shelters; Larger Structures such as YMCA, municipal pool, nature center, visitor center, community center.	Activities that result in sediment or pollutant run-off into the White River, or pollutant seepage into ground water.
Zone 6  Lies within SEWRPC Environmental Corridor	Trail connection to trail system from Haskins Street; Native plantings; small picnic shelter.	Activities that result in sediment or pollutant run-off into White River. Parking lots, Bathroom Facilities, Substantial Structures, Roads; Formal Gardens, Community Gardens.  23 Page 34 of

# **Resource Enhancement and Preservation**

Understand present condition of Hillmoor's ecological resources (land, water, flora, fauna)

Gather information on restoration and long-term management of natural resources (costs, methods, funding sources)

Make recommendations on types of recreational uses, <u>compatible and appropriate</u> to the ecological conditions present within different areas of the property

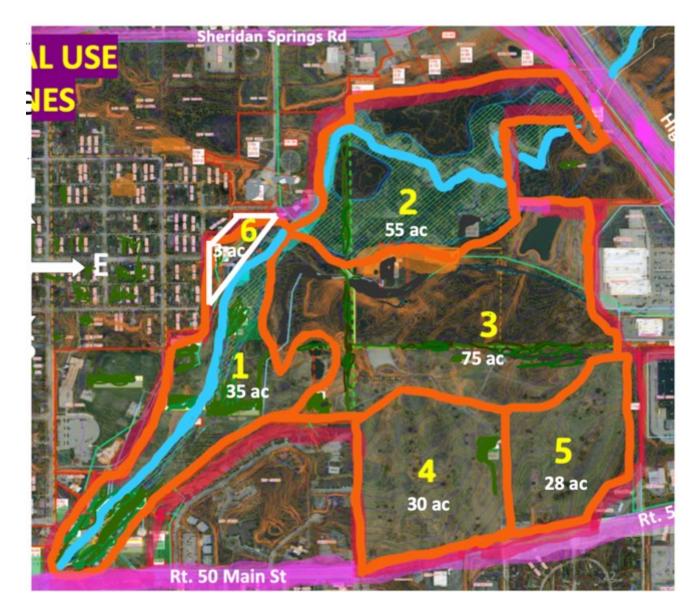
### Additional Recommendations and Tasks Yet to Do

- 1. Receive updated inventory of aquatic and terrestrial resources through SEWRPC.
- 2. Submit Surface Water Quality Grant application through DNR. Grants cover education, ecological assessments, planning, implementation, and invasive aquatic species prevention.
- 3. Explore additional funding sources for restoration work (donations, State and Federal grants).
- 4. Seek additional comparable resource management plans from other organizations (e.g., Hey & Associates).
- 5. Ask the City's new Parks Director to join our Hillmoor AdHoc Committee share information, become partners in this project.
- 6. Budget appropriate spending amounts for natural resource restoration and management, hire qualified in-house city staff and/or outside vendor to complete restoration work (with assistance from volunteer individuals and organizations). Coordinate with Public Works Department. Hire a part-time grant writer to be utilized by all City Departments.

# Suggested Motions

 Adopt "ABC's" Natural Land Use Zones, now amended to include 6 Zones, as part of the Preliminary Conceptual Plan.

 Share the Natural Land Use Zone information with the City Council (map and appropriate uses).



# **Community Access and Enjoyment**

Gather information on trail types and locations (construction methods and materials, costs, funding sources)

Make recommendations on types and locations of trails, and on prioritization of construction sequences, with a focus on compatibility with, and enhancement of, a comprehensive future <u>Hillmoor</u> Master Plan

Most important thing consistently requested by Lake Geneva residents:

## **Trails throughout Hillmoor**

- Access to, and enjoyment of, the Greenspace
- Exercise/Recreation

This Applies to the City's New Bridge to be Constructed in Zone 1.

# **Trails and Bridges Must Be:**

- 1. Constructed with Quality Methods and Materials
- 2. Portions accessible to all residents
- 3. Portions can accommodate emergency vehicles
- 4. Cost Effective/Affordable
- 5. Sustainable (long term maintenance)
- Complimentary to, and Integrated with, other facilities/uses on the property
- 7. Beautiful



Mowed Grass

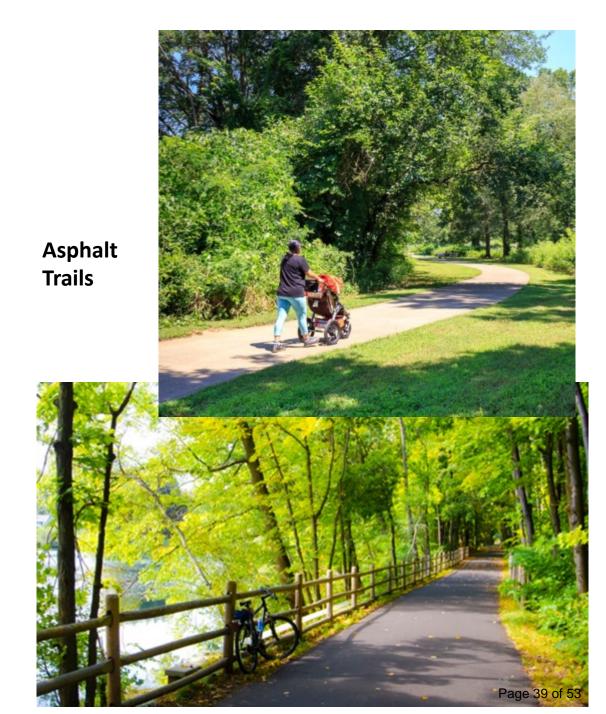






Crushed Limestone



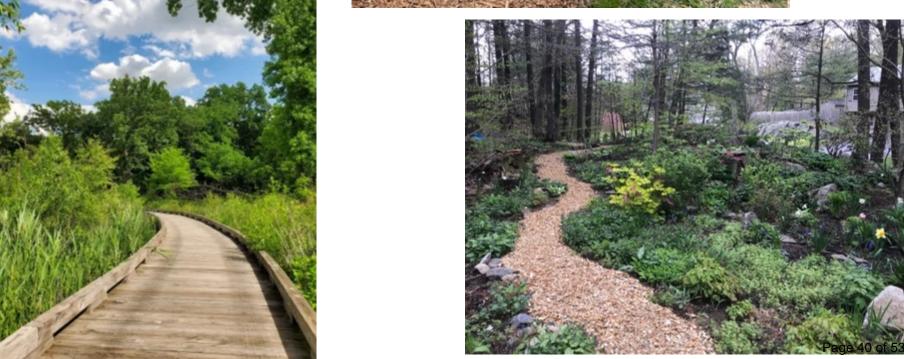






Wood Chips







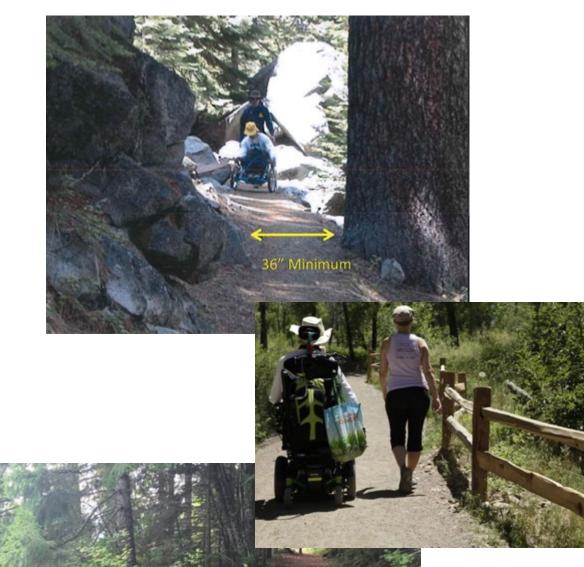


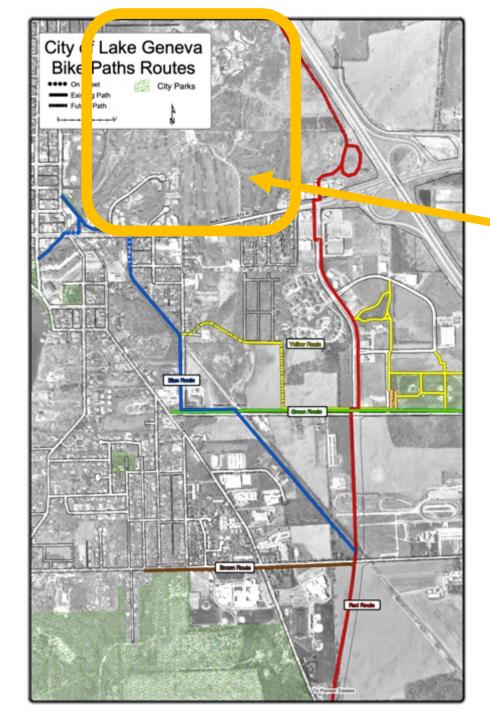


Permeable Pavement (Asphalt)

# For State and Federal Grants: Required: At least 20% (but preferably much more) of constructed features meet ADA standards (parking, bathrooms, signage, trails, benches, viewing areas, picnic facilities)

- Consideration of slope, width, surfacing
- 36 inches wide
- 5x5 foot passing areas every 1000 feet
- less than 5% slope
- for total trail system: no more than 30% of system steeper than 8.3%
- firm and stable surfaces (crushed stone, asphalt, permeable pavements)
- Where ramp grade greater than 8.3%, handrails required.





# **Bike Paths**

General Location of Hillmoor Property

### **New Bike Paths in Hillmoor?**

Appropriate Surfaces:
Crushed Limestone
Paved
Permeable Pavements

**Generally Required Width (Shared Use Path): 10 ft.** 

# Cross-Country Ski Trails Un-Groomed vs. Groomed

Can use hiking trails already present
Can go "off-trail" across whole property
No labor or machinery needed for maintenance





Begin with wellprepared surfaces (no rocks, stumps, etc.)

Labor and machinery required for frequent grooming



# **Trail Costs**

	Cost Per Linear Foot	Cost Per Mile	Cost Considerations	Maintenance Costs	ADA Compliant
Mowed Grass					No
Dirt and/or Gravel	\$1 - \$10	\$5,280 - \$52,800	Depends on Terrain and Surface Preparation Needed	Very low; can be done by volunteers	No
Wood Chips	\$3 - \$15	\$15,840 - \$79,200	Depends on Quality of wood	Replace material every 2 years; can be done by volunteers	No
Crushed Limestone 5 ft. wide	\$5 - \$20	\$26,400 - \$105,600	Depends on Quality of Stone, Surface Preparation Needed	\$600/year, per mile; refresh surface every 1-2 years	Yes
Asphalt (repaired)	\$15 - \$30	\$15,840 - \$158,400	Depends on Thickness and Surface Preparation Needed	Minimal maintenance; lasts 7-15 years	Yes
Asphalt (new) 8 ft. wide	\$53	\$280,000		Minimal maintenance; lasts 25 years	Yes
Boardwalk (5 ft wide)	\$210 Synthetic \$250 Timber	<ul><li>1.2 million Synthetic</li><li>1.3 million Timber</li></ul>	Depends on Materials Used, and Types of Support Structures Needed	Expensive to maintain.  Depends on type of wood, type of polymer	Yes
Permeable Pavement (asphalt) (5 ft wide)	\$25	\$132,000		Minimal maintenance; lasts 25 years	Yes  34 Pag

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# Bridges

- ATV Emergency ATV Accessible (load weight, 5 Ft. clearance height over navigable waterway)
- ADA Compliance (same as Trails, but also: 8 ft. wide; handrails on approach ramps over 8.3% grade; non-skid surfaces)
- "elevated" curved style of bridge also serves as viewing platform/overlook

• Cost: 70K – 96K





# Knowles Nelson Stewardship Program Grants

- all 3 administered by WI DNR
- all 3 use same application, due May 1
- all 3 require compliance with State and/or Federal regulations (ADA, environmental permits, etc.)

	Grant Type/ Focus	Grant/City Match	Grant Limit	Project Examples	
Local Unit of Government (LUG)	State Passive Recreation	50/50	\$249K/\$249K (250K cap on State funds) Or more with State Legislative approval (14-day review time; DNR prepares package and walks project through the process)	Trails and Bridges; Support facilities like trailhead parking lots, signage, restrooms, lighting, benches, trash cans; Project consultants (typically 20% of total cost) for <u>Design</u> , <u>Engineering</u> , <u>Construction</u> , <u>Project Management</u> – but can save money here if City uses its own staff for any part of consultant services.	
Land and Water Conservation Fund (LWCF)	Federal Active Recreation	50/50	No \$ cap	Trails, overlooks, observation decks; Boat launches and docks; Picnic shelters and tables; Camping tent and trailer sites; Swimming facilities such as beaches, pools, guard towers, bathhouses, swimming and wading pools; Fishing piers; Slopes and trails for sledding, skiing; Playgrounds, bike paths, playing fields, tennis courts; Utility and sanitation systems; Bathrooms; Parking lots; Interpretive facilities with nature focus; Beautification such as landscaping, restoration of polluted or littered areas; Multi-purpose shelter buildings that support outdoor recreation; Lighting for recreation areas and safety lighting; Project consultants (typically 20% of total cost) for Design, Engineering, Construction, Project Management — but can save money here if City uses its own staff for any part of consultant services.	
Recreational Trails Program (RTP)	Federal	80/20	\$100K cap	Rural trails – primarily N and W Wisconsin  36 Page 47 or	of t

### Our Mission: Per City Council Direction to the Ad Hoc Committee on January 8, 2024

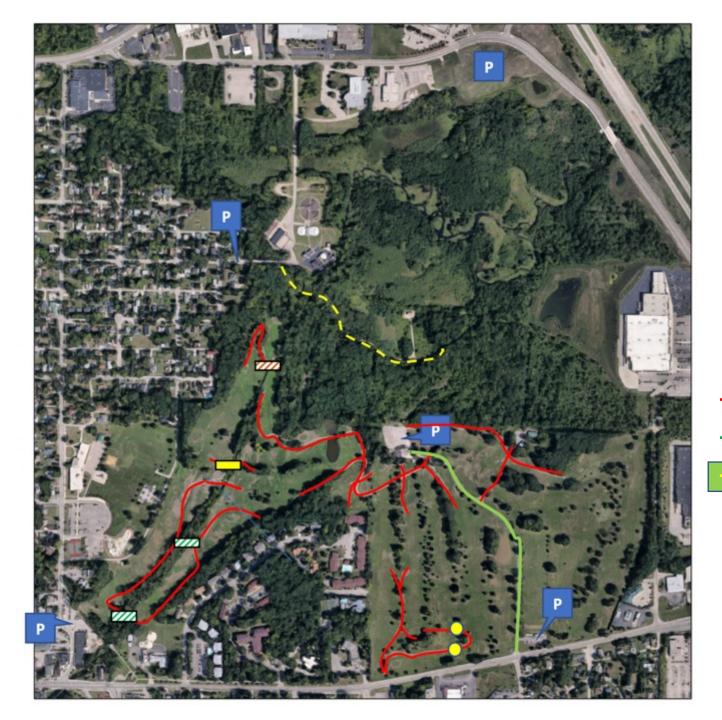
- City Council will wait until April 1, 2024 meeting to approve submitting the Knowles Nelson Grant Application
- City Council is expecting the Ad Hoc Committee to review application, make any changes, and then make recommendation to the City Council to approve (or not) submittal of grant
- Conservancy Board will also need to approve any changes made before going back to City
   Council
- Grant application due: May 1
- \$241,500 Grant/\$242,500 City Match (\$485,000)

### **Accept Conservancy's Revised Plan OR Make Additional Changes:**

Trail locations and/or types of trails

Bridge locations and/or number

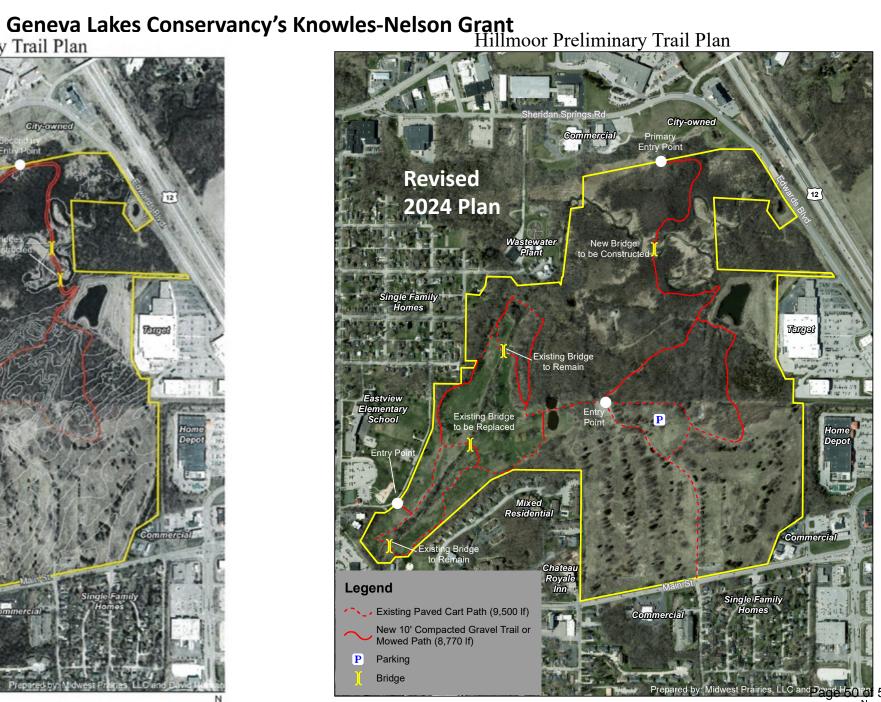
Use Portion of grant for other things – Design and Engineering; Support facilities (parking, bathroom, benches, etc.)



# **Existing Conditions/Opportunities**

- **Existing Bridge: Good Shape, ADA compliant**
- **Bridge to Be Replaced by City**
- Cement Foot Bridge, Needs Repair, not ADA compliant
- Wooden Foot Bridge, Needs Repair, not ADA compliant
- **Existing Paved Cart Path, ADA compliant** 
  - **Entrance Road off Hwy 50, ADA compliant**
- **Gravel Access Road to Pumphouse**

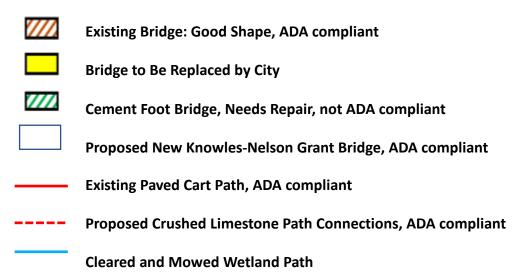
Hillmoor Preliminary Trail Plan Original 2023 Plan Legend Boardwalk or Mowed (4,150 lf) Existing Paved Cart Path (6,780 lf) New 10' Compacted Gravel Trail or Boardwak (5,930 lf) Bridge



# Ideas to Consider

- 1. Trail Connection/Access from Main Street to Hillmoor Park, along west side of Utility Commission property
- 2. OR would trail connection/access be better via existing Rail Trail Path (that goes over White River), thence from parking lot across from City Hall?
- 3. Use existing gravel road to pump house and/or existing mowed path of buried utility corridor
- 4. Add trails in Zones 4 and 5 repairing some of the existing cart paths and connecting with crushed stone
- 5. Improve Trailhead/parking at Sheridan Springs
- 6. Hire Landscape Designer/Engineer
- 7. Connections to existing Bike Paths?
- 8. Benches, picnic shelters, bathrooms, lighting, gardens, etc. could be added using another grant, after Master Plan is developed
- 9. ...and many more...

# **Possible Option 2**



Budget	Linear Ft	Cost	Comments
Resurfaced Paved Cart Paths	8,000	\$30K	
New Crushed Limestone Paths and Connections	4,200	\$170K	
Cleared/Mowed Wetland Path	1,800	\$20K	
Wetland Bridge		\$96K	
Signs (4)		\$10K	
Landscape Designer/Project Manager		\$90K	18% of Project Budget
Remainder. ??		~ \$70K	Another bridge, additional trails, benches, parking lot improvement, lighting, trash cans
TOTAL		\$485K	87% ADA Compliant

