Stewardship Plan

Sugar River Vista

Town of Verona, Dane County, Wisconsin

December 11, 2024

Project Number: 20241352

506 Springdale Street | Mount Horeb, WI 53572 | www.heartlandecological.com

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Prepared for:

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1.0 Introduction

The Sugar River Vista development (the "Development") is a proposed conservation subdivision development project led by Heinrichs Development Group. The Development is approx. 226 acres and is located west of the intersection of Sugar River Road and Valley Road, T6N, R8E, Sections 19, 20, and 30, in the Town of Verona, Dane County, Wisconsin (Figure 1, Appendix A). The Development is anticipated to be constructed in phases.

The Town of Verona (the "Town") Land Division and Development Ordinance (the "Ordinance") requires that conservation subdivision developments reserve at least 30% of the total development acreage as open space which may include woods, streams, wetlands, grasslands, topographical features, and other natural or cultural features. The open space areas proposed for the Development total approximately 58 acres and correspond to the outlots shown on the Lot Layout exhibit prepared by D'Onofrio Kottke and Associates, Inc. (Appendix B).

The Ordinance requires the creation of a stewardship plan to manage common open space in perpetuity. The stewardship plan shall be approved by the Town prior to final plat approval. Heartland Ecological Group, Inc. ("Heartland") has prepared this Stewardship Plan on behalf of Heinrichs Development Group. This Stewardship Plan focuses on the designated open spaces and includes a narrative of existing conditions, proposed restoration conditions for the open spaces, site preparation and implementation measures, restoration establishment measures, long-term maintenance measures, management responsibilities, estimated maintenance costs, and funding. A figure depicting existing conditions and representative photos as well as a figure depicting the proposed restoration communities within the open spaces are provided (Appendix A).

2.0 Existing Conditions

The immediate surrounding landscape of the Development is rural and consists of agricultural lands with scattered residences. Sugar River Wetlands State Natural Area is located to the east of the Development. The City of Verona is less than a mile from the Development to the northeast. The Development is located primarily within the Southwest Savanna Ecological Landscape, near the transition with the Southeast Glacial Plains Ecological Landscape to the east. Prairie and savanna were the dominant habitat types in the Southwest Savanna Ecological Landscape prior to Euro-American settlement. The dominant land use is now agriculture.

Heartland Senior Ecologist, Sarah Kraszewski, conducted a field visit on September 16, 2024 to assess existing conditions and take photographs within the areas designated for open space within the Development. Representative photos taken of existing conditions within the open spaces are provided in a photo log (Appendix C) and photo point locations are provided on Figure 2 (Appendix A).

The existing conditions observed within the open spaces consisted of forest, cropland, old field and tree lines within and along the perimeter of cropland, and a small component of wetland that generally correlates with a Wisconsin Wetland Inventory (WWI) mapped wetland and is associated with a waterway. The approximate locations of these land cover types are depicted on Figure 2. An existing ATC power line runs north-south along the western perimeter of the Development and then runs west-east through the center of the Development. The power line right-of-way is estimated to be 40-ft wide and appears to be maintained to control woody vegetation but is otherwise dominated by weeds.

2.1 Forest

The southernmost area designated for open space is wooded and consists primarily of oak-hickory forest with a relatively closed canopy characterized by large white oak (*Quercus alba*) and red oak (*Quercus rubra*) typically exceeding 20 inches diameter at breast height (dbh), black cherry (*Prunus serotina*) typically 12 inches dbh or greater, and bitternut hickory (*Carya cordiformis*) that were generally 3-8 inches dbh with some trees exceeding 18 inches dbh. There was no oak regeneration observed and bitternut hickory appeared to be increasing in abundance. Black walnut (*Juglans nigra*), more commonly observed in the southern portion of the forest, typically exceeded 20 inches dbh. Less common trees in the

canopy included American basswood (*Tilia americana*), elm (*Ulmus* spp.), shagbark hickory (*Carya ovata*), northern hackberry (*Celtis occidentalis*), sugar maple (*Acer saccharum*), and box elder (*Acer negundo*).

The shrub layer was relatively open with approximately 20% cover of tree saplings and invasive common buckthorn (*Rhamnus cathartica*). Other woody invasive species observed include scattered barberry (*Berberis* spp.), multiflora rose (*Rosa multiflora*), and a few invasive bush honeysuckle (*Lonicera* spp.). There was approximately 80% vegetative cover in the herbaceous layer and the understory species were primarily native. Dominant herbaceous species included American hog-peanut (*Amphicarpa bracteata*), Canadian clearweed (*Pilea pumila*), and black snakeroot (*Sanicula* sp.).

2.2 Cropland

Most of the designated open space in the central and northern portion of the Development consisted of cropland planted to corn during the 2024 growing season.

2.3 Old Field and Tree Lines

The cropland perimeters consisted primarily of old field, which was characterized by grassland with scattered trees and shrubs. Tree lines were common along the field edges. Non-native and/or weedy native species were dominant in the herbaceous layer. Dominant non-native grasses included Kentucky bluegrass (*Poa pratensis*), reed canary grass (*Phalaris arundinacea*), wooly cup grass (*Eriochloa villosa*), and smooth brome (*Bromus inermis*). Grape vine (Vitis sp.) was common growing over the grasses. Dominant forbs included Queen Anne's lace (*Daucus carota*), Canada goldenrod (*Solidago canadensis*), red clover (*Trifolium pratense*), and common milkweed (*Asclepias syriaca*). Invasive forbs included wild parsnip (*Pastinaca sativa*), plumeless thistle (*Carduus acanthoides*), crown vetch (*Securigera varia*), leafy spurge (*Euphorbia esula*), and white sweet clover (*Melilotus alba*).

Commonly observed shrubs included smooth sumac (*Rhus glabra*), prickly ash (*Zanthoxylum americanum*), gray dogwood (*Cornus racemosa*), invasive bush honeysuckle, and common buckthorn. Scattered trees within old fields and along tree lines included black cherry, white mulberry (*Morus alba*), box elder, and black walnut. The northernmost open space area borders planted Norway spruce (*Picea abies*) and several large silver maple

(*Acer saccharinum*) are present along the northern perimeter of the northcentral open space. Black locust (*Robinia pseudoacacia*) were observed in the easternmost open space.

2.4 Wetland

A degraded wet meadow community is present within the northwest corner of the Development. A wetland delineation was not completed and the wet meadow area depicted on the figures represents the area dominated by wet meadow vegetation. The wet meadow is dominated by reed canary grass with scattered stinging nettle (*Urtica dioica*), sawtooth sunflower (*Helianthus grosseserratus*), Canada thistle (*Cirsium arvense*), great angelica (*Angelica atropurpurea*), and orange jewelweed (*Impatiens capensis*) in the herbaceous layer; scattered invasive bush honeysuckle and American elderberry (*Sambucus nigra*) in the shrub layer; and a few box elder and willow (*Salix* sp.) trees in the canopy. The wet meadow is associated with the banks of an unnamed tributary to the Sugar River and extends outside the Development boundary.

3.0 Restoration Concept

3.1 Concept Overview

The restoration concept for the open spaces is depicted on Figure 3 (Appendix A). A schedule for proposed site preparation, establishment, and long-term management is provided in Table 1. Forest and wetland will be maintained within the existing locations. Existing cropland and old field areas shall be restored to native prairie. The restored prairie areas shall provide aesthetically pleasing native plant diversity for the homeowners, stabilize soils, provide nectar and pollen resources for pollinators, provide wildlife habitat, and restore a plant community that was once historically common in this landscape but has largely been impacted by agricultural practices. The interior slopes of the four proposed wet ponds will be planted with native wetland species and the berms will be planted with prairie species and grade into the surrounding prairie restoration areas.

The ATC power line ROW is recommended to be left as is, except for management of invasive species, since it is subject to periodic maintenance and access. A trail will be mowed through some of the open space areas being restored to prairie and a loop trail will be constructed within the forest for passive recreation purposes such as walking and bird watching.

3.2 Site Preparation and Implementation

3.2.1 Forest

Because the forest is dominated by native species and is providing wildlife habitat, restoration implementation shall focus on invasive shrub control. Invasive shrub control shall be conducted within the forest during Development construction to target common buckthorn, invasive bush honeysuckle, barberry, and multiflora rose. Basal bark herbicide treatments should be used for common buckthorn outside of the growing season to reduce impacts to the native herbaceous species. Foliar herbicide applications shall be conducted with backpack sprayers during the following two growing seasons (preferably early in the growing season) to target small saplings and seedlings of common buckthorn as well as multiflora rose, Japanese barberry, and invasive bush honeysuckle.

Additional vegetation may be required to be removed for the placement of the loop trail through the forest. This may include cutting of shrubs, saplings, and herbaceous vegetation

as well as removal of dead or downed trees in the path. The path should be designed to avoid impacts to desirable trees.

3.2.2 Prairie

Seedbed Preparation

Interior barbed wire fencelines shall be removed. Exterior fences to the Development shall remain in place. Box elder, mulberry, and most shrubs shall be removed from old field areas and trees lines within the interior of the Development during construction as they will shade and encroach upon the prairie areas. Select native trees and shrubs such as healthy black cherry, black walnut, apple, and nannyberry may be left. Mature native trees or planted evergreens along the Development perimeter shall be left in place for screening purposes.

Non-selective herbicide treatments should be applied to remove existing herbaceous vegetation within old field areas for seedbed preparation. Herbicide treatments should be conducted over one to two growing seasons prior to native seed installation. An appropriate temporary cover crop, such as oats or winter wheat, should be installed following herbicide applications in areas where herbaceous vegetation removal may pose erosion concerns.

Areas currently in row crop production should continue to be cropped with corn or soybeans to provide weed control until these areas are ready to be seeded to prairie. Fields that are left fallow may require seedbed preparation herbicide treatments prior to seeding.

Native Seed Installation

A native prairie seed mix should be installed following appropriate seed bed preparation. Prairie seed should be obtained from a reputable native plant nursery that can provide species with local genotype. Seed may only be installed during the spring, fall, or frost native seeding windows which are typically from April 1-June 15, October 31-frozen ground, and early winter before snowfall or during snow free periods until spring, respectively. Seed should be installed with an appropriate temporary cover crop (e.g., oats and winter wheat) based on the time of year.

The preferred seed installation timing for this project is during November and December after crops have been harvested from the agricultural fields and after at least one growing season of herbicide treatments to remove existing weedy vegetation in the old field areas. Seed may be installed during the spring seeding window if site or weather conditions, such

as wet soils or deep snow, prohibit seeding in the late fall and winter. Native seed for prairie establishment can be installed with native seed drills, drop seeders, and broadcast seeders that are intended for native seed and can be appropriately calibrated. Hand-broadcasting may only be used if there are small areas that seeding equipment cannot access. The selected method will be based on the professional judgement by the restoration contractor and depending on site conditions and constraints at the time of seed installation. See section 3.3 for prairie establishment information.

3.2.3 Wetland and Wet Ponds

No work is proposed within the existing wetland in the northwest corner of the development.

A native wetland seed mix, such as a detention/stormwater basin seed mix or a customized mix that contains native species that can tolerate fluctuating water levels and poor water quality, shall be installed within the interior slopes of the wet ponds following final grading. The top of the wet pond berms and exterior slopes shall be seeded with a prairie seed mix similar to the seed mix specified for the surrounding prairie restoration areas.

3.3 Establishment Plan

Three years of short-term management is recommended for the prairie and wet pond restoration areas to support the establishment of installed native species, reduce the presence of undesirable species, and address erosion or other restoration concerns. An adaptive management approach should be used whereby observations made during and after management activities guide the tasks and timing of the next management event. Potential corrective measures may include erosion repair and supplemental seeding. Because the Development may be constructed in phases, the restoration and establishment of the various open areas may be on different schedules. Short-term management timelines should be based on the number of years following native seed installation.

Target invasive species within restoration areas at the Development shall include all species listed as Restricted or Prohibited under the Wisconsin Invasive Species Rule (Wis. Admin. Code NR 40). Mowing and spot spray herbicide treatments are anticipated to be the primary management strategies to reduce invasive species and foster native species establishment.

Mechanical mowing with a tractor or UTV-mounted mower should be used to reduce weed competition, reduce weed seed production, and to increase surface light levels to allow for the germination of native seeds within all prairie restoration areas. Mowing shall be timed when weed species are in later bud stage/flower and prior to seed maturation. Establishment mowing is typically needed in June, July, and late August/early September in Dane County, but is based on growing season conditions and the types of weed species present. Vegetation should be cut level with the ground surface at a height of 8 inches during the first year of establishment and then to a height of 10-12 inches in the second and third year of establishment as needed. Selective mechanical mowing or mowing with handheld brushsaws shall be used on an as-needed basis once the native vegetation is established to reduce select patches of annual or biennial weeds as well as reduce seed production by perennial weeds.

Herbicide treatments are recommended to control target invasive species. The appropriate herbicide, application methodology, and timing should be selected to achieve the most effective control of the target species. Selective herbicides (i.e., broadleaf-selective) should be applied when possible to reduce damage to desirable species and avoid creating bare areas that may facilitate future weed growth. Aquatic-approved herbicides should be applied in areas that may have standing water or where the herbicide may come in contact with surface water.

3.4 Long-Term Management

Long-term management should occur after the three-year establishment period, or when the restored plant communities are adequately established and the level of management can be reduced. The goal of long-term management is to maintain the native plant diversity and habitat values of the restored plant communities. It is recommended that annual monitoring be conducted to identify management needs or restoration concerns such as erosion, incompatible land use by homeowners or adjacent property owners, or new or spreading invasive species. Long-term management strategies may include mowing, herbicide treatments, supplemental seeding, erosion control, and prescribed burning.

Prescribed burning is a critically important management tool to maintain the health of prairie communities. It is recommended that prescribed burning is utilized as a long-term management tool for the restored prairie and wet pond areas, pending site and weather

conditions. The ecological restoration contractor shall prepare a burn plan that describes the burn units, goals, locations of burn breaks, hazards, required notifications, weather parameters, equipment and burn crew requirements, and maps. Burn breaks will be installed prior to burning and may consist of existing mowed trails, edge of pavement, or mowed breaks around the burn unit perimeters.

Prairie areas shall be burned a minimum of once every 3-5 years. Prairie areas can be burned in a rotation whereby several units are burned each year or every other year as long as each unit is burned a minimum of once every 5 years. Prescribed burning may be completed during the typical spring and fall burn windows.

4.0 Ownership and Responsibilities

A homeowners association (HOA) will own and be responsible for the continued management of the common open space at the Development once established. The Developer is responsible for completing the site preparation, implementation, and establishment tasks listed in Table 1 including trail design and installation, prairie and wet pond establishment, and initial invasive shrub clearing in the forest. The HOA is responsible for completing maintenance and long-term management of the open spaces after establishment and as listed in the long-term management section of Table 1.

Some of the implementation and site preparation measures detailed in the restoration concept for this Development may be completed by the general construction contractor, such as fenceline removal and the removal of invasive trees and shrubs in existing tree lines. The Developer and the HOA will contract with a qualified ecological restoration contractor to complete ecological restoration services including seed bed preparation, native seed mix installation, invasive shrub removal in the forest, targeted herbicide treatments to control invasive plants, management mowing of establishing prairies and wet ponds, and prescribed burning. A landscape contractor or a homeowner could conduct trail mowing.

The HOA is responsible for adhering to any bylaws, Declaration of Covenants, conditions, restrictions, etc. for this Development when implementing this Stewardship Plan.

Table 1. Proposed Site Preparation, Establishment, and Long-Term Management Schedule

Stage	Area	Task
Site Preparation and Implementation		
Year of Construction or Prior Year	Forest	• Invasive shrub control. • Design and build loop trail.
	Prairie	Existing old field and tree lines: • Invasive tree and shrub removal. • Non-selective herbicide treatments for at least one growing season to remove existing vegetation prior to installing prairie seed. • Install prairie seed (refer to Section 3.2.2).
		Existing cropland • Continue farming until ready to install prairie seed. • Install prairie seed (refer to Section 3.2.2).
	Wet Pond	• Install native seed mixes after final grading.
Establishment		
Year 1	Prairie and Wet Pond	• Mow native seeding areas - 3 events. • Spot spray herbicide treatment to target invasive species – 2 to 3 events. • Design mowed trail system.
	Forest	• Spot spray herbicide treatment to target invasive woody resprouts, saplings, and seedlings. • Maintain loop trail.
Year 2	Prairie and Wet Pond	• Mow native seeding areas – 2 to 3 events. • Spot spray herbicide treatment to target invasive species – 2 to 3 events. • Install supplement seed, if needed. • Mow trails.
	Forest	• Spot spray herbicide treatment to target invasive woody resprouts, saplings, and seedlings. • Maintain loop trail.
Year 3	Prairie and Wet Pond	• Mow or spot mow native seeding areas, if needed. • Spot spray herbicide treatment to target invasive species – 3 events. • Mow trails.
Long-Term Management		
Annual	All Open Space	• Monitor for incompatible land use, scout for new or spreading invasive species, develop management recommendations. • Maintain trails. • Control target invasive species in forest, prairie, and wet pond, as needed.
Every 3-5 Years	Prairie and Wet Pond	• Conduct prescribed burn.

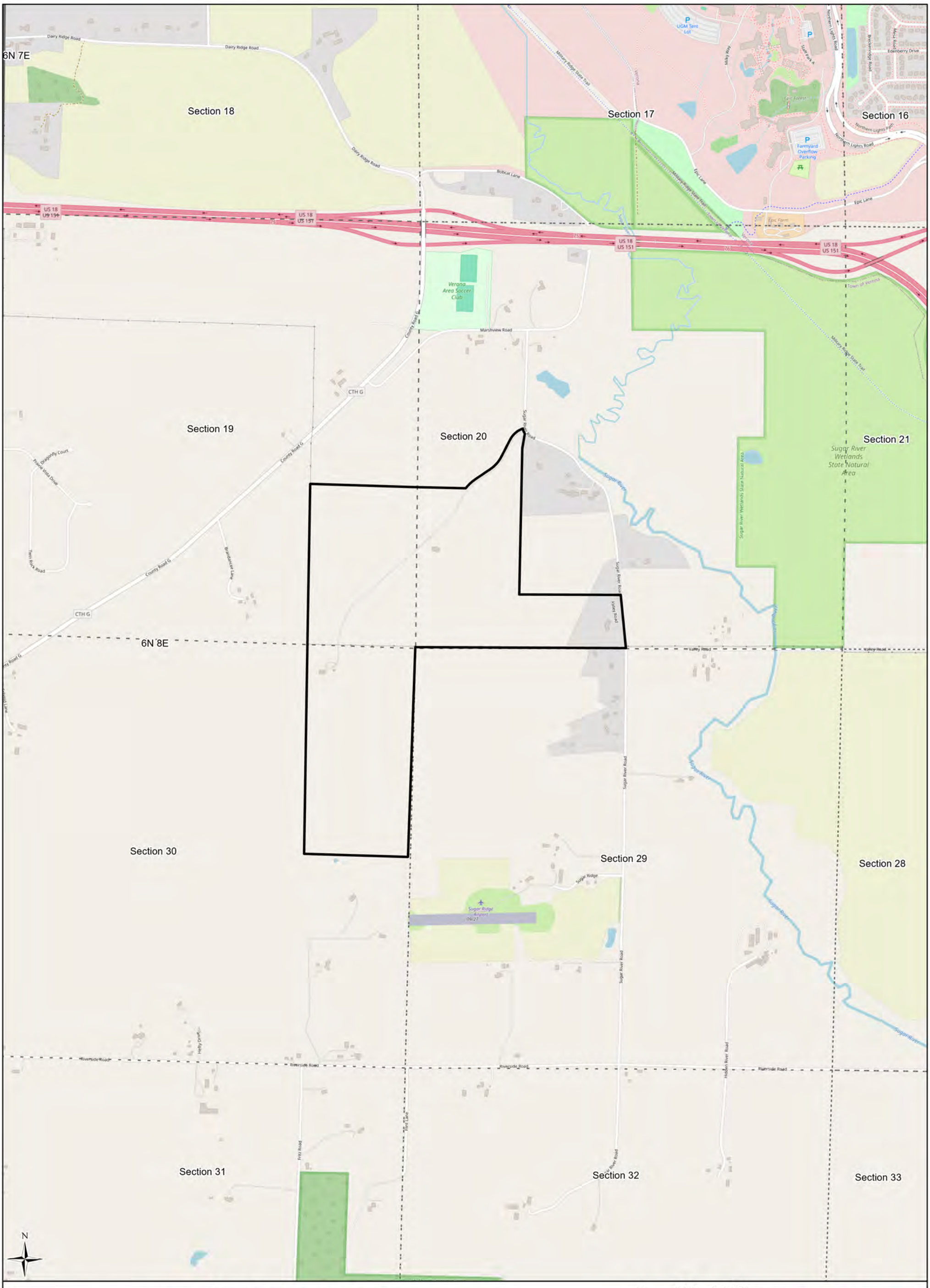
5.0 Estimated Maintenance Cost

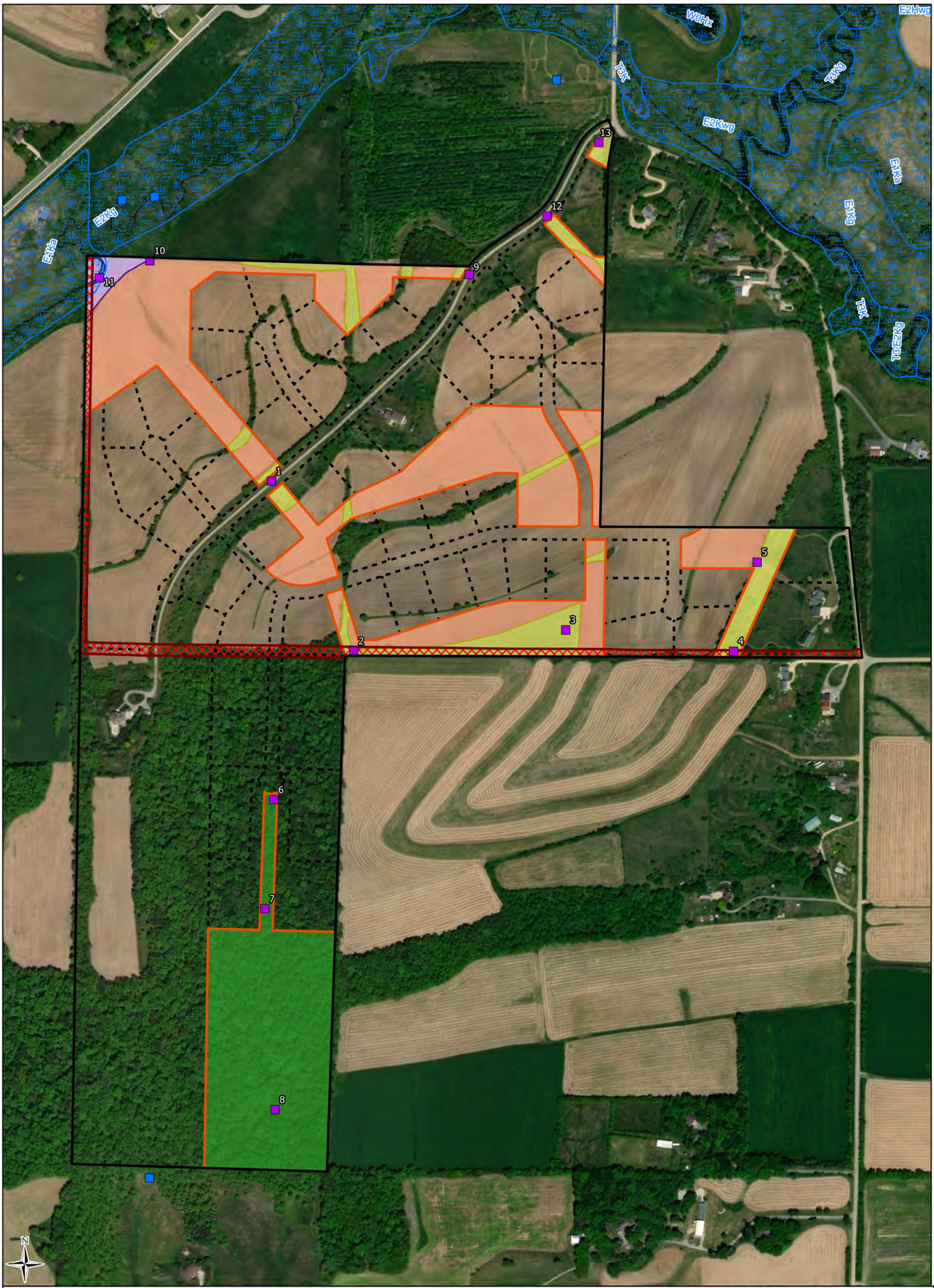
A preliminary estimate of probable costs associated with annual maintenance of the established plant communities and woodland in the open space is $12,000 based on 2024 costs. This cost includes annual monitoring, trail maintenance (assumes three trail mowing events and one event of downed tree/hazard tree removal from the loop trail in the woodland), invasive species management (assumes three crew days of invasive species management per year), and prescribed burning. The cost of prescribed burning assumes that all restored prairies are burned every four years at an estimated cost of $9,000 and the cost is divided by four to create an annual cost of $2,250 for budgeting purposes. Actual costs will be based on conditions at the time of the work and the rates proposed by the selected ecosystem restoration contractor. Annual inflation should be factored into future budgets and fees.

6.0 Conclusion

Heartland prepared this Stewardship Plan for the Sugar River Vista development on behalf of Heinrichs Development Group. The Development is located in the Town of Verona, Dane County, Wisconsin. The purpose of this Stewardship Plan is to guide the implementation and management of the common open spaces in perpetuity per the Town of Verona Land Division and Development Ordinance. The restoration concept for the open spaces is to restore existing old field and cropland to prairie, plant constructed wet ponds with native wetland and prairie seed, and to control invasive shrubs within the forest. A HOA will own and be responsible for long-term management of the open spaces.

Appendix A | Figures


6N 7E
Section 18
Section 17
Section 16
Section 19
Section 20
Section 21
6N 8E
Section 30
Section 29
Section 28
Section 31
Section 32
Section 33
Dairy Ridge Road
Bobcat Lane
US 18
US 151
Verona Area Soccer Club
Marshview Road
County Road G
CTH G
Military Ridge State Trail
Epic Lane
Epic Farm
Farmyard Overflow Parking
UGM Tent Lot
Northern Lights Road
Sugar River Wetlands State Natural Area
Sugar River
Sugar River Road
Valley Road
Riverside Road
Sugar Ridge Airport 09/27
Town of Verona
N
Project Area (225.85 ac)
0 550 1,100 Ft
Verona
Heartland ECOLOGICAL GROUP INC
Figure 1. Project Location
Sugar River Vista
Project #20241352
T6N, R8E, S19, S20, S30
T Verona, Dane Co
OpenStreetMap
ESRI
Figure Created: 9/19/2024



Project Area (225.85 ac)
Proposed Open Space (58.00 ac)
Proposed Lot Lines
ATC Power Line ROW
Photo Points
WWI Polygons
WWI Points

Existing Conditions of Open Space
Cropland (30.38 ac)
Old Field and Tree Lines (7.76 ac)
Forest (18.83 ac)
Wet Meadow (0.96 ac)
Waterway (0.06 ac)

0 450 Ft

Heartland ECOLOGICAL GROUP INC

Figure 2. Existing Conditions

Sugar River Vista
Project #20241352
T6N, R8E, S19, S20, S30
T Verona, Dane Co

2022 NAIP
NRCS

Figure Created: 9/20/2024

Project Area (225.85 ac)
Proposed Open Space (58.00 ac)
Proposed Lot Lines
ATC Power Line ROW

Restoration Concept

Prairie (32.82 ac)
Forest (18.83 ac)
Wetland (0.77ac)
Pond (3.65 ac)
Waterway (0.06 ac)

0 450 Ft

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ECOLOGICAL GROUP INC

Figure 3. Restoration Concept

Sugar River Vista
Project #20241352
T6N, R8E, S19, S20, S30
T Verona, Dane Co

2020 NAIP
WDNR

Figure Created: 9/20/2024

Heinrichs Development Group
Sugar River Vista
Project #: 20241352
December 11, 2024

Appendix B | Lot Layout Exhibit

0 200' 400'

Sep 12, 2024-9:55am U:\User\2207109\Drawings\2207109 Preliminary Plat.dwg SUGAR RIVER VISTA - LOT LAYOUT Printed by: bstoffregen

SUGAR RIVER VISTA - LOT LAYOUT

Appendix C | Site Photographs

Photo #1 Photo point 1, view southeast toward an old field community with a tree line before a corn field.

Photo #2 Photo point 1, view northwest of a willow tree line between an old field community and a corn field.

Photo #3 Photo point 2, view east along the power line corridor.

Photo #4 Photo point 2, view north-northwest along a tree line between corn fields.

Photo #5 Photo point 2, view west along the power line corridor.

Photo #6 Photo point 3, view west along an old field community between the power line corridor and a corn field.

Photo #7 Photo point 4, view west-northwest along the power line corridor and a tree line with dense invasive bush honeysuckle.

Photo #8 Photo point 5, view northeast along a corn field perimeter with a tree line and a black locust clone to the east.

Photo #9 Photo point 5, view south along the tree line between an old field community and a corn field.

Photo #10 Photo point 6, view south within the northern portion of the forest designated for open space.

Photo #11 Photo point 7, view north within the northern portion of forest designated as open space.

Photo #12 Photo point 7, view south within the forest.

Photo #13 Photo point 8, view east within the forest.

Photo #14 Photo point 8, view south within the forest.

Photo #15 Photo point 9, view west of an old field community with corn field in the background.

Photo #16 Photo point 10, view west near the transition of upland corn field to degraded wet meadow wetland.

Photo #17 Photo point 11, view south-southwest of the unnamed tributary to the Sugar River.

Photo #18 Photo point 11, view south of degraded wet meadow wetland dominated by reed canary grass.

Photo #19 Photo point 12, view southeast of an old field community.

Photo #20 Photo point 13, view northeast of an old field community with black walnut trees and planted Norway spruce in the background.