

To: Town of Middleton Park Commission  
Prepared by: Stacey Marion, Adaptive Restoration LLC  
Re: Management Options for 4-acre Grassland Units at Goth Park  
August 6, 2018

*This document outlines management options for the currently under-managed 4-acre south grassland units at Goth Park (Exhibit A, page 4) . Active and on-going management is necessary to protect past investment made in the south grassland and restored areas of Goth Park, and to maintain usability of the Park for residents.*

*In prior years, the Goth Park south grassland area was maintained by the Town Crew, however, management has declined in the last 2 years. Management included annual mowing and a broadleaf herbicide application to prevent growth of non-grass weeds. In the absence of active management, the grassland will become overgrown with invasive weeds and brush. Currently the grassland area is used to pile downed woody material and cleared brush. Eventually this woody material needs to be burned or removed to protect the aesthetic quality of Goth Park.*

### **Option 1: No Management**

**Benefit:** No additional expense

**Constraint:** Area will act as a source of weeds, interfering with management of restored areas at Goth Park. Will defer management costs to the future. Future management will be more expensive due to overgrown of brush and herbaceous weeds.

**AR Cost:** \$0

### **Option 2: Grassland Maintenance**

*Minimum management required to maintain grassland units at Goth Park as grassland. Management includes an annual mowing and/or broadleaf application to maintain area as grassland habitat. Mowing and herbicide application to be performed by Adaptive Restoration. Piled woody debris to be removed or burned - to be coordinated with Town Crew and Adaptive Restoration. (Actual cost may be reduced depending on involvement of Town Crew)*

**Benefit:** Area maintained as grassland. Mowing and herbicide application will prevent spread of weeds.

**Constraint:** No improvement to current state. Minimal habitat quality. Potential for greater reliance on herbicides.

**AR Cost:** (General/Maintenance)

<b>Year</b>	2019	2020	2021	2022	2023
<b>Management Activities</b>	Tractor and spot-mowing; broadleaf herbicide application as necessary; reduction of woody debris coordinated with Town Crew	Tractor and spot-mowing; broadleaf herbicide application as necessary; reduction of woody debris coordinated with Town Crew (less than prior year)	Tractor and spot-mowing; broadleaf herbicide application as necessary; reduction of woody debris coordinated with Town Crew (less than prior years)	Tractor and spot-mowing; broadleaf herbicide application as necessary; reduction of woody debris coordinated with Town Crew (less than prior years)	Tractor and spot-mowing; broadleaf herbicide application as necessary; reduction of woody debris coordinated with Town Crew (less than prior years)
<b>Estimated Annual Cost</b>	\$1,740	\$1,380	\$1,080	\$1,080	\$1,080

**Option 3: Improved Grassland**

*Recommended option. "Burn and Interseed" method: Grassland habitat maintained through mowing and prescribed burning. Year 1 and 2 include a prescribed burn followed by interseeding using seed donated by Dane County Parks and FOPFC. Although the area will have limited diversity of native wildflowers and grasses compared to a true tallgrass prairie, the area will have improved habitat and aesthetic quality compared to Option 2. This method of management also leaves the door open for future restoration (future interseedings), while preventing the loss of grassland habitat due to lack of management. Volunteer oaks to be maintained for future savanna habitat.*

***Benefit:** Recommended option. Habitat quality and aesthetic nature of area is improved. Seed donated by Dane County Parks and FOPFC is available for use.*

***Constraint:** Process of prescribed burning and interseeding is slower and less guaranteed approach to restoration compared to Option 4.*

***Cost:** (Development)*

<b>Year</b>	2019	2020	2021	2022	2023
<b>Management Activities</b>	Prescribed burn and interseeding; tractor and spot mowing; spot treatment of weeds; reduction of woody debris coordinated with Town Crew	Prescribed burn (biennial cycle) and interseeding; tractor and spot mowing; spot treatment of weeds; reduction of woody debris coordinated with Town Crew (less than prior year) *potential for reduced cost if can acquire donated seed*	Prescribed burn (biennial cycle); tractor and spot mowing; spot treatment of weeds if necessary; reduction of woody debris coordinated with Town Crew (less than prior years)	Prescribed burn (biennial cycle); tractor and spot mowing; spot treatment of weeds if necessary; reduction of woody debris coordinated with Town Crew (less than prior years)	Prescribed burn (biennial cycle); tractor and spot mowing; spot treatment of weeds if necessary; reduction of woody debris coordinated with Town Crew (less than prior years)
<b>Estimated Cost</b>	\$3,000	\$3,000	\$1,900	\$1,700	\$1,700

**Option 4: Prairie and Oak Savanna Restoration**

Restoration of grassland area to native tallgrass prairie. Process includes prescribed burning, broadcast herbicide application, and seeding (i.e. starting with a "clean slate"). Process of establishment and end result would replicate that of the northeast and northwest prairies at Goth Park.

**Benefit:** Maximum habitat quality and aesthetic value. Greater chance of long-term success compared to Option 3.

**Constraint:** Initial 5-years of management costs are greater (would require acquisition of additional seed)

**Cost:** (Development)

Year	2019	2020	2021	2022	2023
<b>Management Activities</b>	Prescribed burn, 2-3x herbicide application, and seeding; tractor and spot-mowing; spot treatment of weeds as necessary; reduction of woody debris coordinated with the Town Crew	Prescribed burn (biennial cycle); tractor and spot-mowing; spot treatment of weeds as necessary; reduction of woody debris coordinated with the Town Crew (less than prior year)	Prescribed burn (biennial cycle); tractor and spot-mowing; spot treatment of weeds as necessary; reduction of woody debris coordinated with the Town Crew (less than prior years)	Prescribed burn (biennial cycle); tractor and spot-mowing; spot treatment of weeds as necessary; reduction of woody debris coordinated with the Town Crew (less than prior years)	Prescribed burn (biennial cycle); tractor and spot-mowing; spot treatment of weeds as necessary; reduction of woody debris coordinated with the Town Crew (less than prior years)
<b>Estimated Cost</b>	\$7,200	\$4,100	\$4,100	\$3,300	\$3,300

**WHY RESTORE TO NATIVE PLANT COMMUNITIES?**

Historically, southwest Wisconsin supported a mosaic of prairie, wetland, oak savanna and oak woodland that support a rich diversity of wildlife. Oak savanna and oak woodland communities are characterized by an overstory of open grown oaks with a diverse ground layer of grasses, sedges and wildflowers. Fire is a natural occurrence in Wisconsin's woodlands, savannas and prairies. Historically, Native Americans set frequent fires on the landscape. Many of Wisconsin's native trees, wildflowers, and grasses are therefore well-adapted to frequent fire, and even depend on it.

These native plant communities persisted for thousands of years prior to the influx of European settlers in the 19th century. Following European settlement, suppression of fire and conversion of land to agriculture resulted in the destruction of native plant communities.

Today, less than 1% of remnant prairie remains in Wisconsin. Even less original oak woodland and oak savanna remain. Restoration is the process of reviving degraded natural habitats closer to original conditions, allowing the land to support a higher level of plant and animal diversity. Restoration is an active process that includes returning ecological processes to a landscape (such as prescribed burning and hydrology), requires altering vegetation structure to recreate historic conditions (such as removing invasive brush and non-oak trees), and re-establishing endemic flora and fauna.

**EXHIBIT A: Goth Park South Grassland Units**

