

The following is an excerpt from Section 12-2-10(C) of the Village Code for the Village of Shorewood:

C.Necessary Maintenance Measures: All soil erosion and sediment control measures necessary to meet the requirements of this chapter shall be maintained on a regular basis by the applicant or subsequent landowner of the site in a satisfactory manner to ensure that adequate structural capacity and function are maintained. (Ord. 92-655, 8-11-1992)

1. Monitoring and Management – The applicant shall provide a proposed Monitoring and Management Plan for constructed detention basins within the Village limits as a requirement for final engineering approval. Such plan shall include at a minimum, a description of sampling methodologies to be followed for assessing vegetation coverage/survival, the frequency of sampling, anticipated management practices, performance standards, and the reports to be generated. The plan shall identify the entity to assume responsibility for long-term management of the basins and a dedicated funding source for long-term management.

At the conclusion of each calendar year of monitoring and management, the applicant shall provide the Village with a report discussing the success of the vegetation with regard to meeting the performance standards established by the approved Monitoring and Management Plan and the Village.

2. Performance Period – The performance period shall consist of a minimum three (3) calendar years from the time of the initial planting. The actual performance period length for a development shall be determined by the Village at the time of final engineering approval. At the end of the performance period, the vegetation performance standards as outlined in the approved Monitoring and Management Plan and as necessary to meet Village requirements shall be met. The performance period may be extended beyond three years in order to meet the required vegetation performance standards if they have not been met at the time of expiration of the original performance period.

The performance period shall not be considered completed until such time as the applicant or subsequent landowner of the site petitions the Village, who verifies that all requirements of the performance period have been met and subsequently approves the completion of the performance period.

At completion of the performance period, the Village shall require a written maintenance and management agreement between the permittee and the entity identified for long-term management. Such agreement shall identify a dedicated funding source for long-term management.

LONG TERM MAINTENANCE AND MANAGEMENT PLAN

The following maintenance and management plan describes the suggested management for the preserved wetland, basin areas, and buffers at **Development**.

A. Management Schedule

The following Management Plan includes a schedule describing long-term management recommendations and a breakdown of the activities required to maintain a healthy wetland and buffer area.

1. **Site Monitoring Visits**: Homeowners Association representatives should visit the detention basins and native areas at least quarterly to monitor the progress and health of the natural areas. Regular visits are necessary to determine if remedial measures are required. Most problems are related to the maintenance of the wetlands and detention basins (i.e. clogged outlet, trash, debris dumping).

Site monitoring visits during the growing season by a qualified consultant are recommended to assess erosion problems, the function of water control structures, invasive weed growth and overall condition of the natural area. Deficiencies or problems should be reported along with recommendations for appropriate remediation. The results of each visit should be summarized in a short report with photographs.

2. **Debris Management**: All trash, brush, grass clippings, debris, etc. should be periodically removed from the natural area. Landscape waste such as grass and tree clippings should not be dumped into the natural area because it may suffocate the native vegetation and increase nutrient loads in the wetland areas. Residents should be occasionally reminded to dispose of their landscape waste properly and not place it in the wetland or buffer.
3. **Stormwater Structures Management**: All storm water control structures should be inspected and cleaned out periodically to prevent clogging. This will be especially important in early spring and late fall. Elevated water levels can drown certain wetland plants if not rectified in a timely manner. Homeowner Association representatives should visit the site on a regular basis to monitor the blockage of inlets and outlets.
4. **Soil Erosion Control Management**: If erosion problems such as rills or bank sloughing occur, we recommend that all soil erosion control devices or materials, such as native seed mixtures and erosion control blanket should be installed according to manufacturer's directions or accepted industry standards and maintained to function properly at all times.
5. **Muskrat and Erosion Control**: Muskrats are native wetland animals that are commonly found in northeastern Illinois wetlands. Muskrats can control the presence of cattails within a wetland. Muskrats are primarily vegetarians and are often active at night. The preserved wetland habitat has provided their desired habitat. Muskrats build small lodges out of cattails or other vegetation and/or

burrow into upland banks near the water's edge. The tops of burrows often collapse and create ruts, holes and pathways and can cause instability in the banks and subsequent erosion. Muskrats can potentially alter drainage and storage functions. To exclude these animals from the upland banks, we recommend trapping by a licensed nuisance wildlife trapper ONLY when problems are observed. These animals were not observed to be problematic during the site visit and should be allowed to remain in the wetland.

6. Prescribed Burn Management: Prescribed burn management helps to reduce undesirable weedy species and encourage native species. Prescribed burning reduces the accumulation of plant litter, which can create openings for the germination and establishment of native species. Burns should only be performed by qualified burn contractors and should be completed every 3-5 years. Prescribed burns can be conducted in March-April or October-December as fuels and weather conditions allow.
7. Invasive and Non-native Weeds: Purple loosestrife, reed canary grass, common reed and other non-native weeds should be controlled mechanically (physical removal by hand or with equipment), through the use of fire, application of herbicide, or a combination of these methods, as needed. Inspections should be made during the site monitoring visits to determine the presence and abundance of weed species and course of action. Any herbicide applications conducted should be applied by a licensed Illinois herbicide operator or applicator. Care needs to be taken with herbicides due to the water and wetland.

At **Development**, the difficult and invasive weedy species have been **Canada thistle (*Cirsium arvense*)**, **Queen Anne's lace (*Daucus carota*)**, **yellow sweet clover (*Melilotus officinalis*)**, **white sweet clover (*Melilotus alba*)**, **common reed (*Phragmites australis*)**, and **reed canary grass (*Phalaris arundinacea*)**. These species should be monitored and controlled as they have been problematic and are likely to reappear. These species should continue to be treated and controlled when observed as they tend to increase in abundance if permitted.

8. Recordkeeping: Records and photographs of monitoring and management activities should be maintained by the designated committee or person(s). Maintenance schedules and tasks for the following year should be based on monitoring records.
9. Stewardship Opportunities: The natural areas at **Development** offer opportunities for volunteer stewardship by local residents, school groups, or senior citizens. Volunteers can assist the Homeowners Association with the management of the natural areas by reporting high water levels, clogged water control structures, and illegal dumping. Volunteers can monitor weed populations, collect seeds from native plant species for redistribution on site, cut invasive plant seed heads, and provide small informal tours of the natural areas to local residents and school groups. Escorted science classes can monitor wildlife activity, measure plant diversity, examine insect life, etc.

10. Enhancement Activities:

1) Repair to Prairie Buffer or Wetland Vegetation

Seeding with an appropriate/approved native mix may be necessary to repair erosion of the banks or damage to the preserved wetland or prairie area due to trampling, siltation, or prolonged flooding. Native seeding can also be used to increase the density of native species on the site or after extensive herbiciding is conducted. Some species located on-site will seed themselves naturally. Seeds can be purchased from local native seed suppliers. Only native seeding is permitted. The seeding/planting of non-native ornamental plants, hybrid species, or cultivars is not allowed. This natural area is required to remain and be maintained as native through the federal wetland permit process.

2) Nest boxes and Perches: Nest boxes for birds may be installed on poles or trees to enhance nesting possibilities. T-shaped perches can be installed for blackbirds in cattail marshes to provide singing platforms for males.

11. Maintain No Mow Limits & Prohibit Encroachment: The committee or designated person who monitors the native areas should know the limits of the turf grass and native plantings. Landscapers and residents often extend the turf mowing lines into the naturalized areas. Residents are not permitted to mow the natural area as lawn. Mowing natives to 3 inches is detrimental and promotes weedy species to invade.

Additionally, residents cannot place lawn furniture, boats, fire pits, toys, wheelbarrows, swings, or other personal items into the native areas. Personal property should remain on the resident's lot. Residents should not dump lawn debris, soil piles, compost, or grass clippings into the wetland and prairie areas as it smothers the vegetation and could distribute weed seed into the native areas.

Schedule of Maintenance and Management Tasks

The following table lists regular maintenance and management activities that should be completed. All tasks are recommended to be implemented annually except for prescribed burns which are suggested every three to five years, weather permitting.

Table 1. Schedule of Maintenance and Management Tasks

| TASK | Mar. | Apr. | May | June | July | Aug. | Sept | Oct. | Nov-Dec. |
|----------------------------------|------|------|-----|------|------|------|------|------|----------|
| Monitoring Visits by HOA | X | | | X | | X | | | X |
| Debris Management | X | | | X | | X | | | X |
| Stormwater Structure Maintenance | X | | | X | | X | | | X |
| Prescribed Burn * | X | | | | | | | | X |
| Invasive Weed Control, as needed | | | X | X | | X | X | | |