



**STORMWATER MANAGEMENT COMMISSION**

We hope to see [hear] you at the next TAC meeting on **Thursday, June 18, 2020** at 9:00 AM.

**Meeting Topics:**

- Member Re-Appointments and Officer Elections
- Maintenance Plan Template

**Meeting Information:**

Pursuant to Section 7(e) of the Illinois Open Meetings Act, the May 29, 2020, Gubernatorial Disaster Proclamation, and the attached Written Determination of the Chair of the Stormwater Management Commission, this meeting will be held via audio and video conference and not in the Central Permit Facility, 2<sup>nd</sup> Floor Conference Room, 500 W. Winchester Road, Libertyville, Illinois. Please note that, by joining the meeting by video or audio conference, your name or phone number may be visible (in whole or in part) to others participating in the meeting. Detailed instructions for the public to join the meeting via audio and/or video conference are set forth below and on the attachment to this Agenda.

To comply with social distancing requirements and Governor Pritzker's stay-at-home order, this meeting will be shared on the internet with the following connection information.

**Join Zoom Meeting**

<https://us02web.zoom.us/j/86837505226>

Meeting ID: 868 3750 5226

**One tap mobile**

+13126266799,, 86837505226#

**Dial-in**

+1 312 626 6799

Public comments are welcomed and encouraged. Public comments received by 8:30 a.m., Thursday, June 18, 2020 will be read at the beginning of the meeting under Public Comment. Any comments received during the meeting will be held until the end of the meeting. Public comment is limited to three minutes per person. This meeting will be recorded.

**PUBLIC COMMENTS** should be emailed to [stormwater@lakecountyil.gov](mailto:stormwater@lakecountyil.gov) and contain the following information:

- \* Name
- \* Street Address (Optional)
- \* City, State
- \* Phone (Optional)
- \* Organization, agency, etc. being represented. (If representing yourself, put "Self")
- \* Topic or Agenda Item Number followed by Public Comment.

Public with no access to email may leave a message with Stormwater Management at 847-377-7700.

**DETERMINATION OF NEED FOR MEETINGS OF THE  
STORMWATER MANAGEMENT COMMISSION AND COMMITTEES  
TO BE HELD BY AUDIO OR VIDEO CONFERENCE**

The Governor of the State of Illinois has issued a disaster declaration related to public health concerns because of a disaster as defined in Section 4 of the Illinois Emergency Management Agency Act and all of Lake County is covered by the disaster area. In light of such disaster declaration, I hereby determine that:

- (i) in-person meetings of the Stormwater Management Commission (the "Commission") and the Commission's committees are not practical or prudent because of such disaster; and
- (ii) attendance at the regular meeting locations of the Commission and its Committees is not feasible because of such disaster.

Therefore, during the pendency of the Governor's current declaration of disaster, the meetings of the Commission and its Committees will be conducted exclusively by audio or video conference, without the physical presence at the regular meeting locations of:

- (i) a quorum of the members of the Board and its Committees,
- (ii) any member of the Commission or its Committees, the Commission's legal counsel, or the Executive Director (or his delegee), or
- (iii) any member of the public.

Dated as of the 16<sup>th</sup> day of June, 2020

**Craig W. Taylor**

Chairman, Stormwater Management Commission

Signature:   
Craig W. Taylor (Jun 16, 2020 18:59 CDT)

Email: ctaylor@lakecountyil.gov



**STORMWATER MANAGEMENT COMMISSION**  
**TECHNICAL ADVISORY COMMITTEE**  
**AGENDA**  
**June 18, 2020**  
**9:00 AM – 12:00 PM**

<https://us02web.zoom.us/j/86837505226>



- 1.0 CALL TO ORDER
- 2.0 ADDITIONS TO THE AGENDA
- 3.0 PUBLIC COMMENT
- 4.0 STAFF REPORT
  - 4.1 TAC Member Re-Appointments
- 5.0 APPROVAL OF THE MINUTES
  - 5.1 May 21, 2020 Minutes  
Action Requested: Approval
- 6.0 OLD BUSINESS
- 7.0 NEW BUSINESS
  - 7.1 TAC Chair and Vice-Chair Nominations and Elections
  - 7.2 Maintenance Plan Template
- 8.0 ADJOURNMENT

# Technical Advisory Committee

<p><b>James Anderson</b> (Term Expires May 2024) Director of Natural Resources LC Forest Preserve District 1899 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-968-3282 Fax: 847-367-6649 Email: janderson@lcfpd.org</p>	<p><u>Alternates</u> <b>John Nelson</b> Director of Operations &amp; Infrastructure LC Forest Preserve Dist. 19808 W. Grand Avenue. Lindenhurst, IL 60046 Phone: 847-968-3407 Fax: 847-367-6649 Email: jnelson@lcfpd.org</p> <p><b>Ken Klick</b> Restoration Ecologist LC Forest Preserve Dist. 1899 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-968-3284 Fax: 847-367-6649 Email: kklick@lcfpd.org</p>	<p><b>Tom Polzin (Vice Chairman)</b> (Term Expires May 2024) Hey &amp; Assoc., Inc. 26575 W. Commerce Dr., Ste. 601 Volo, IL 60073 Phone: 847-740-0888 Fax: 847-740-2888 Email: tpolzin@heyassoc.com</p>	<p><u>Alternate</u> <b>Vince Mosca</b> Hey &amp; Assoc., Inc. 26575 W. Commerce Dr., Ste. 601 Volo, IL 60073 Phone: 847-740-0888 Fax: 847-740-2888 Email: vmosca@heyassoc.com</p>
<p><b>Mike Zemaitis</b> (Term Expires May 2024) Engineer of Design LC Division. of Transportation 600 Winchester Rd. Libertyville, IL 60048 Phone: 847-377-7400 Fax: 847-362-5290 Email: mzemaitis@lakecountyil.gov</p>	<p><u>Alternate</u> <b>AI Giertych</b> Assist. County Engineer LC Division of Transportation 600 Winchester Rd. Libertyville, IL 60048 Phone: 847-377-7400 Fax: 847-362-5290 Email: agiertych@lakecountyil.gov</p>	<p><b>Pat Bleck</b> (Term Expires May 2024) Bleck Engineering Co., Inc. 1375 Western Ave. Lake Forest, IL 60045 Phone: 847-295-5200 Fax: 847-295-7081 Email: pbleck@bleckeng.com</p>	<p><u>Alternate</u> <b>Joy Corona</b> Bleck Engineering Co., Inc. 1375 Western Ave. Lake Forest, IL 60045 Phone: 847-295-5200 Fax: 847-295-7081 Email: jcorona@bleckeng.com</p>
<p><b>Patrick Glenn</b> (Term Expires May 2024) Senior Engineer Gewalt Hamilton Assoc. Inc. 625 Forest Edge Dr. Vernon Hills, IL 60061 Phone: 847-478-9700 Fax: 847-478-9701 Email: pglenn@gha-engineers.com</p>	<p><u>Alternate</u> <b>Mei Zhu</b> Senior Engineer Gewalt Hamilton Assoc. Inc. 625 Forest Edge Dr. Vernon Hills, IL 60061 Phone: 847-478-9700 Fax: 847-478-9701 Email: mzhu@gha-engineers.com</p>	<p><b>Bill Heinz</b> (Term Expires May 2024) Village of Grayslake 585 Berry Ave. Grayslake, IL 60030 Phone: 847-223-2323 Fax: 847-223-4821 Email: wheinz@villageofgrayslake.com</p>	<p><u>Alternate</u> <b>Kurt Baumann</b> Baxter &amp; Woodman 442 N. Cedar Lake Rd. Round Lake, IL 60073 Phone: 815-444-3313 Email: baumann@baxterwoodman.com</p>
<p><b>Kathy Chernich</b> (Term Expires May 2024) U.S. Army Corp. of Engineers 231 LaSalle St., Ste. 1500 Chicago, IL 60604 Phone: 312-846-5531 Fax: 312-353-4110 Email: Kathy.G.Chernich@usace.army.mil</p>	<p><u>Alternate</u> <b>Kaitlyn Pascus</b> U.S. Army Corp. of Engineers 231 LaSalle St., Ste. 1500 Chicago, IL 60604 Phone: 312-846-5533 Fax: 312-353-4110 Email: kaitlyn.a.pascus@usace.army.mil</p>	<p><b>Peter Manhard</b> (Term Expires May 2024) Manhard Consulting One Overlook Point, Suite 290, Lincolnshire, IL 60069 Phone: 847-634-5550 Fax: 847-634-0095 Email: pmanhard@manhard.com</p>	<p><u>Alternate</u> <b>Bill Hupperich</b> Manhard Consulting, Ltd. One Overlook Point, Suite 290, Lincolnshire, IL 60069 Phone: 847-634-5550 Fax: 847-634-0095 Email: whupperich@manhard.com</p>

# Technical Advisory Committee

<p><b>Don Dressel (Chairman)</b>  <i>(Term Expires May 2024)</i>                  Christopher Burke Engineering                  9575 W. Higgins Rd., Ste. 600                  Rosemont, IL 60018-4920                  Phone: 847-823-0500                  Fax: 847-823-0520                  Email: Ddressel@cbbel.com</p>	<p><u>Alternates</u>  <b>Kay Whitlock</b>                  Christopher Burke Engineering                  9575 W. Higgins Rd., Ste. 600                  Rosemont, IL 60018-4920                  Phone: 847-823-0500                  Fax: 847-823-0520                  Email: kwhitlock@cbbel.com</p> <p><b>Scott Griffith</b>                  Christopher Burke Engineering                  9575 W. Higgins Rd., Ste. 600                  Rosemont, IL 60018-4920                  Phone: 847-823-0500                  Fax: 847-823-0520                  Email: sgriffith@cbbel.com</p>	<p><b>Ramesh Kanapareddy</b>  <i>(Term Expires May 2024)</i>                  City of Highland Park                  1150 Half Day Rd.                  Highland Park, IL 60035                  Phone: 847-432-9907                  Fax: 847-432-0807                  Email: rkanapareddy@cityhpil.com</p>	<p><u>Alternate</u>  <b>Manny Gomez</b>                  City of Highland Park                  1150 Half Day Rd.                  Highland Park, IL 60035                  Phone: 847-432-1186                  Fax: 847-432-0807                  Email: egomez@cityhpil.com</p>
<p><b>Eric Steffen</b>  <i>(Term Expires May 2024)</i>                  Operations Manager                  Lake County Planning                  Building &amp; Development                  500 W. Winchester Rd.                  Libertyville, IL 60048                  Phone: 847-377-2109                  Fax: 847-984-5853                  Email: esteffen@lakecountyil.gov</p>	<p><u>Alternates</u>  <b>Brian Frank</b>                  Principal Engineer                  Lake County Planning, Building &amp; Development                  500 W. Winchester Rd.                  Libertyville, IL 60048                  Phone: 847-377-2086                  Fax: 847-984-5853                  Email: bfrank@lakecountyil.gov</p> <p><b>Joel Krause</b>                  Senior Engineer                  Lake County Planning, Building &amp; Development                  500 W. Winchester Rd.                  Libertyville, IL 60048                  Phone:                  Fax: 847-984-5853                  Email: jkrause@lakecountyil.gov</p>	<p><b>Heather Galan</b>  <i>(Term Expires May 2024)</i>                  Village Engineer                  Village of Gurnee                  325 N. O'Plaine Rd.                  Gurnee, IL 60031                  Phone: 847-599-7582                  Fax: 847-623-9475                  Email: hgalan@village.gurnee.il.us</p>	<p><u>Alternates</u>  <b>Nicholas Leach</b>                  Village of Gurnee                  325 N. O'Plaine Rd.                  Gurnee, IL 60031                  Phone: 847-599-7586                  Fax: 847-623-9475                  Email: nleach@village.gurnee.il.us</p> <p><b>Dave Ziegler</b>                  Director of Community Development                  Village of Gurnee                  325 N. O'Plaine Rd.                  Gurnee, IL 60031                  Phone: 847-599-7550                  Fax: 847-623-9475                  Email: davidz@village.gurnee.il.us</p>
<p><b>Steve Zimmerman</b>  <i>(Term Expires 2024)</i>                  Senior Ecologist                  Applied Ecological Service, Inc.                  120 West Main St.                  West Dundee, IL 60118                  Phone: 847-844-9385                  Email: stevez@appliedeco.com</p>			

**TECHNICAL ADVISORY COMMITTEE**  
**MEETING MINUTES**  
May 21, 2020  
**Lake County Stormwater Management Commission**  
**MEETING HELD VIRTUALLY [ZOOM]**

**1. CALL TO ORDER 9:07 AM**

<b>TAC Members &amp; Alternates</b>	<b>Staff Present</b>	<b>General Public</b>
Steve Zimmerman	Glenn Westman	Heather Lis
Tom Polzin	Kurt Woolford	Jacob Wellbank
Brian Frank	Kelcey Traynoff	Jodi McCarthy
Heather Galan	Juli Crane	
Don Dressel	Mike Warner	
Bill Hupperich	Jeff Laramy	
Kurt Baumann		
Joy Corona		
Mei Zhu		
Ramesh Kanapareddy		
Mike Zemaitis		
Jim Anderson		

**2. ADDITIONS TO THE AGENDA - None**

**3. PUBLIC COMMENT- None**

**4. STAFF REPORT**

4.1. Kelcey Traynoff provided information regarding TAC member reappointments. She explained that SMC staff would be bringing the 12 members whose terms were due for reappointment to the Commission meeting in June. These members' terms would be extended to May of 2024. Kurt Woolford gave an update on the recent rainfall events in the County and explained that the month of May was now the wettest May on record. During flood response, orange threat level was reached, and SMC staff were continuously monitoring the conditions, watching the upcoming weather, and responding to many flood calls. Mr. Woolford also congratulated Paul Mazzeno, Emergency Manager for Lake County, for accepting a new position with the U.S. Army Corps of Engineers (USACE). Mr. Mazzeno will now be the Chief of Operations for the USACE Chicago District.

**5. APPROVAL OF THE MINUTES**

5.1. Mr. Ramesh Kanapareddy moved to approve the April 16, 2020 TAC minutes, seconded by Mr. Kurt Baumann.  
Vote: Approved 10-0-1 (abstain: Zemaitis)

**6. OLD BUSINESS**

6.1 WDO Amendment #8 – 401.05 Updated Hydric Soil Classification was brought back for discussion after originally presented and tabled during the October 17, 2019 meeting. During the October meeting, TAC members made minor revisions but requested additional historic information before approving it. At the April 16, 2020 meeting, TAC members tabled the amendment and requested that SMC staff perform and provide a GIS analysis to compare the flood problem areas and the hydric soils areas throughout the County. SMC staff presented and discussed the GIS analysis. Mr. Jim Anderson moved to approve this amendment as modified, seconded by Ms. Joy Corona.

Vote: Approved 6-3-3 (nay: Frank, Kanapareddy, Hupperich; abstain: Zimmerman, Zhu, Zemaitis)

6.2 WDO Amendment #24 – 1000.02. E. Methodology for Floristic Quality Assessment Determination was brought back for discussion after being tabled during the April 16, 2020 meeting. During May's meeting, SMC staff explained that they do not recommend changing the growing season dates to being earlier or later than what is currently in the WDO. The growing season range in the WDO will still be May 15<sup>th</sup> to October 1<sup>st</sup> but will now allow Floristic Quality Assessments (FQAs) to be done outside of this time frame. Mr. Tom Polzin moved to approve this amendment as modified, seconded by Ms. Joy Corona.

Vote: Approved 12-0-0 (unanimous)

6.3 WDO Amendment #25 – Appendix L, Section L: High-Quality Aquatic Resources was brought back for discussion after being tabled during the April 16, 2020 meeting. This amendment was modified to be consistent with TAC-approved amendment #27 (Appendix N, Section H.2.a.: Floristic Quality) and the definition in Corps – Chicago District Regional Permit Program Appendix A – High Quality Aquatic Resources. Mr. Jim Anderson moved to approve this amendment as modified, seconded by Mr. Steve Zimmerman.

Vote: Approved 12-0-0 (unanimous).

## **7. NEW BUSINESS**

7.1 WDO Amendment #33 – Re-insert wetland mitigation for Corps impacts was presented and discussed. Ms. Heather Galan moved to approve this amendment, seconded by Mr. Ramesh Kanapareddy.

Vote: Approved 12-0-0

7.2 WDO Amendment #34 – Updated Appendix K was presented and discussed. Mr. Tom Polzin moved to approve this amendment with the condition that the Squaw Creek curve is created, seconded by Ms. Mei Zhu.

Vote: Approved 10-0-2 (abstain: Corona, Zimmerman). Ms. Joy Corona made another motion to change two Bulletin 70 references to Bulletin 75, seconded by Mr. Tom Polzin.

Vote: Approved 11-0-1 (abstain: Zimmerman)

## **8.0 ADJOURNMENT**

Motion to end discussion and adjourn by Mr. Jim Anderson, seconded by Mr. Tom Polzin. Meeting adjourned at 11:07 AM. Vote: Approved 12-0-0 (unanimous).

**DEVELOPMENT PROJECT or SUBDIVISION NAME:  
LOCATION:**

## Stormwater Management System Maintenance Plan

**DATE:  
REVISED:**

### Purpose and Objective

Your stormwater management facilities have been designed to prevent damage to property and to minimize the impact on the environment. The only way to keep the system operating as designed is with proper routine maintenance. Maintenance items can typically be broken down into short-term and long-term maintenance tasks but all tasks should be conducted on an as-needed basis. This template should be updated and completed with site-specific information and instructions. Following a well prepared maintenance plan will help extend the useful life of the stormwater management system and reduce costs.

### Ownership and Responsibility

Responsibility for both short and long term overall maintenance of the stormwater maintenance system belongs with the OWNER (select one): **SUBDIVISION HOME-OWNER ASSOCIATION (HOA)** or **PROPERTY-OWNER ASSOCIATION (POA)** or **LOCAL UNIT OF GOVERNMENT**. Responsibility for both the short and long-range maintenance of the grassy surface areas which form part of the Watershed Drainage provision shall be the specific responsibility of the individual homeowner. Individual Homeowners shall also be responsible for cooperating in the overall maintenance program for which the HOA has the ultimate responsibility.

HOA and POA Covenants and Bylaws shall delineate the legal agreement establishing the Association's responsibilities for the enforcement and accomplishments of the attached prescribed Short Term and Long Term Maintenance requirements, which shall be considered part of the Covenant and Bylaws provisions.

### Cost Considerations and Budgeting

Adequate funding to perform maintenance and replacement is an essential aspect for continued proper operation of the stormwater management system. In other words, put aside money for proper maintenance and establish a reasonable capital reserve account. However, special assessments or other capital fundraising may be necessary for unexpected system failures. Do not try to obtain funding on an emergency basis!

Maintenance and replacement needs and costs should be part of a maintenance budget or reserve study. If the maintenance plan is consistently budgeted and followed in conjunction with a properly prepared reserve study schedule, the stormwater management system components will enjoy their maximum useful lives and related repair costs kept to a minimum. Keep records of all maintenance costs in order to determine typical annual costs that would be the basis for the annual maintenance fund. Frequent maintenance will likely lead to less frequent and less costly serious long term maintenance issues that could result in major repairs or replacements. The attached short term and long term maintenance provisions may need to be adjusted based on performance and experience over the life of the stormwater management system.

## Example Description of Stormwater Management System

Exhibit A illustrates all stormwater management areas including: Floodplain, Wetlands, Detention Ponds, Open-Grate Inlet Structures, Storm Sewers, Culverts, Swales, Overland Flow Paths, Drain Tiles, Buffers, Easements and Deed-Restricted Areas. The purpose of this exhibit is to let current and future OWNERS and maintenance personnel know what the stormwater management system consists of and where these areas are located.

The stormwater management system consists of a variety of components that convey stormwater runoff, safely and without damage to structures, from the point of origin to the detention pond(s). Runoff enters the system through inlet grates. The grates must be kept clear of debris or water will not be able to enter the system quickly enough and local ponding may occur.

From the inlets, the water flows through the storm sewers to the detention pond. Storm sewers generally require little maintenance; however, they should be periodically inspected for accumulated debris and physical integrity, especially at the bottom (invert) and top (crown) of the pipe. Soil above a cracked storm sewer can be washed away resulting in a sinkhole forming or other type of ground failure.

The storm sewers discharge into the detention pond. The purpose of the detention pond is to slow the rate at which water leaves the site to help prevent downstream flooding. The detention basin is planted with native vegetation that are ecologically beneficial and also provide water quality.

The North Detention Basin discharges to the West Detention Basin through an opening restricted to 12.4-inches in diameter at an invert elevation of 852.0. The West Detention basin discharges to Acorn Acres Lake through a 6.9-inch restrictor at elevation 838.0 followed by approximately 60-feet of 12-inch diameter plastic (HDPE) pipe to the flared end section as the final discharge point.

Refer to the attached Drawings OVUT1 and OVUT2 for additional information on the structural aspects of the stormwater management system.

Other components of the stormwater management system include the wetlands and wetland buffer areas. These areas are to be protected in their natural state and are protected by restrictions recorded with Lake County with the plat of subdivision. Homeowners are prohibited from mowing into the wetland buffer to extend their yards into these Outlot areas. Please refer to the plat for further information.

## Maintenance Considerations

Cleaning and repairing overland flow routes, swales, culverts, outflow pipes, and manholes are particularly important because these elements are not visually obvious, as are the surface area elements. If these subsurface elements become clogged, then water may flood the pavement, yards and other low areas and may cause extensive erosion damage. Cleaning of culverts, outflow pipes, and manholes must be made a routine maintenance activity scheduled for several times a year and on an as needed basis. Experience will show the required cleaning frequencies for specific drainage items. Frequent walk-through inspections should be conducted to see if any obstructions are present including garbage, wood, branches, cut grass, dirt, leaves, etc. Remember that these drainage structures were placed there for a reason and they can only operate as designed if they are properly maintained.

## Vegetative Growth

One of the most common maintenance problems is that of dying or invasive vegetation. The responsible party shall determine the cause of problem and correct it either by modifying the environment so the selected vegetation can grow or changing the type of vegetation planted to meet environmental requirements. For example, turf grass often dies in the bottoms of swales and ditches because the environment is too wet. These areas can be planted with wet-tolerant native vegetation that grow well in that type of environment and require little, if any, care after they become well established (typically 2 or more years).

Portions of the site have been planted with native vegetation. Native vegetation is an important part of the stormwater management system. Many native species have deep roots that help prevent erosion and also remove nutrients and other impurities from the stormwater runoff helping to minimize impacts to surface waters including streams, rivers and lakes. Native vegetation is not like turf grass and should be maintained as follows:

- Do not mow frequently. Mowing should be conducted either in early spring to control invasive vegetation before the desired native species are growing, or in the fall after native vegetation has flowered and gone to seed. **DO NOT MOW NATIVE VEGETATION WHILE IT IS FLOWERING.**
- Use periodic controlled burns to help maintain the health of the native vegetation. There are several firms that conduct controlled burns. SMC strongly recommends that you do not attempt controlled burns without professional assistance.
- Fertilizer and pesticide usage is normally NOT required and can actually encourage invasive vegetation.
- Re-seed or re-plant using the same mix as originally permitted if the original attempt did not grow well. Alternatively, a more appropriate native plant mix can be used if the original mix does not work well in certain locations. You can contact the Lake County Stormwater Management Commission, licensed native plant nurseries or other appropriate professional for help with a revised native planting mix. A copy of the native seed or plant mix should be attached to this maintenance plan for reference.

## Pest Control

The most common pest in stormwater management facilities is the mosquito. Mosquitoes lay eggs in stagnant water and the eggs typically hatch into “wigglers” in 3 to 4 days. Poorly designed stormwater management facilities can result in stagnant water that is great for mosquitoes. Mosquito populations can be reduced by the following measures:

- Make sure standing water is drained within 72-hours
- Maintain flowing or moving water conditions (aerators and fountains may help)
- Encourage natural mosquito predators, such as dragonflies, by maintaining native vegetation along waterlines
- Populate standing water bodies (i.e. detention ponds) with fathead minnows, or other appropriate species, to eat the mosquito larva (wigglers). Note that some fish may also eat amphibian (frogs, toads and salamanders) larva (tadpoles) and should not be used. Consult with a professional before using this option.

## Record Keeping

Separate and distinct records shall be maintained by the OWNER, in addition to those provided for the normal care and activities of the Association functions, to record the specific activities and costs thereof for the Short Term and Long Term maintenance Plan implementation. The records shall include the dates of maintenance visits and the specific work performed. The records can be used to document maintenance history and as a basis for annual budgeting.

## Conclusion

The stormwater management system for this development was designed to convey stormwater runoff without damage to structures or the environment. The only way the stormwater management system can operate as designed is if it is maintained properly over time. Failure to properly maintain the system can result in flooding, poor aesthetics, increased pest populations and poor water quality leaving the site. Contact the Lake County Stormwater Management Commission at 847-377-7720 with further questions.

## Short-Term Maintenance Program

These are the items that need to be addressed through the year on an ongoing basis. This list is to be used as an example only and is not intended to be all inclusive.

<b>Stormwater Area</b>	<b>Periodic Inspection</b>	<b>Things to Look For</b>	<b>Repair Work</b>
General – All Areas	March through November	Disturbed surface areas	Seed Area with grass or native vegetation Mulch to Protect soils
Residential Lot Areas	Weekly	Floatable Items that could wash into stormwater system	Dispose of Refuse Store Useable Items
Swales on site	March & June & October	Branches & Leaves/Trash	Collect & Dispose
Culverts under Roads	March through November	Branches & Leaves/Trash Pipe Condition	Collect & Dispose Repair/Replace
Emergency Outflow	March through November	Branches & Leaves/Trash Pipe Condition	Collect & Dispose Repair/Replace
Manholes	March & June & October	Branches & Leaves/Trash Manhole Condition	Collect & Dispose Repair/Replace
Stormwater Storage Area	Spring through Fall	Mow non-native vegetation	Remove/Dispose Refuse/Grass clippings
Roadway Drainage System	All year as needed	Standard procedure	Prescribed Process
Dead Vegetation	April/May	Dead vegetation	Re-seed/plant plugs
Native Vegetation	March and October	Native vegetation should be inactive	Mow/prescribed burn

Maintenance of Grassy Areas shall require application of fertilizer and related treatment to assure substantial grass growth and avoidance of soil erosion of barren or sparsely grassed soil surface areas. The prescribed periodic inspections for the short term maintenance program are to be supplemented by additional inspections and maintenance work on an as-needed basis such as at times following periods of substantial rainfall or storm activities, such as high winds.

## Long-Term Maintenance Program

Long-term maintenance activities are those required that are typically conducted every several years. Some items only need to be addressed occasionally throughout the life of the stormwater management system. The short-term maintenance program is supplemented by long term repair/replacement of the various stormwater management features. For example, the periodic excavation of a detention pond to remove accumulated sediment or re-seating of sinking manholes might be needed. The maintenance intervals stated are typical but all are on an as-needed basis as well. This list is to be used as an example only and is not intended to be all inclusive.

<b>Stormwater Area</b>	<b>Periodic Inspection</b>	<b>Repair Work</b>
Grassy areas - Swales	5 year intervals	Seed or Sod
Erosion Prone Areas	Installed or plant as required	Ditch Checks to reduce flow velocities or plant native vegetation
Grassy areas – Periphery (Buffer)	Annually 5 year intervals	Groom Seed
Tree Trimming	5 year intervals	Cut back
Native Vegetation Areas	2 to 3 year intervals	Controlled Burn
Grassy Area	5 year intervals	Re-seed
Depressional Area Periphery – Siltation (Buffer)	5 year intervals	Remove/Re-seed
At Culvert and Swales Outfalls, Detention Ponds	5 year intervals	Remove Siltation Re-seed Restore Riprap
Emergency Outflow Pipes	5 year intervals	Restore/Replace Inflow & Outflow Openings
Manholes	As needed basis	Reset Cover/Lid