

VILLAGE OF EDEN

STORM WATER MANAGEMENT PLAN

VILLAGE OF EDEN

FOND DU LAC COUNTY, WISCONSIN

Prepared for:

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CHAPTER 1 - INTRODUCTION

The Village of Eden Stormwater Management Plan was prepared by J.E. Arthur and Associates, Inc. Such plans are required as per NR 216 for the purpose of providing the Village with the guidance necessary to comply with said NR216 and the goals included therein to regulate and to improve water quality within the waters of the state.

One of the requirements of NR216 is that the Village of Eden must obtain a WPDES Municipal Stormwater Discharge Permit. The WPDES permit is the tool through which the WDNR controls urban non-point source pollution by regulating discharges from municipal separate storm sewer systems (MS4). The Village's WPDES permit # WI-S0050181-1 was dated April 29, 2014. A copy of the WPDES permit is provided in Appendix A.

A requirement of the municipal permit is the need for the Village to develop a Stormwater management plan and to implement six minimum control measures which are included therein. The six minimum control measures are as follows:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Pollutant Control
5. Post Construction Site Stormwater Management
6. Municipal Pollution Prevention

The Village must identify its goals and objectives for each of the above listed measures, explain how the program was developed, and describe how the Village intends to implement each aspect of the Stormwater program including measurable goals.

CHAPTER 2 - STUDY AREA

The Village of Eden is located in Fond du Lac County; see Appendix B. The Village limits contain approximately 0.62 SQ miles or roughly 400 acres. The Village has a population of approximately 892 people. The 1970 population was 370 people. The population growth in the intervening years since 1970 is 522 people or 11.6 people per year or approximately 4 homes per year.

Basins

The Village of Eden is located in the Lake Winnebago –East watershed.

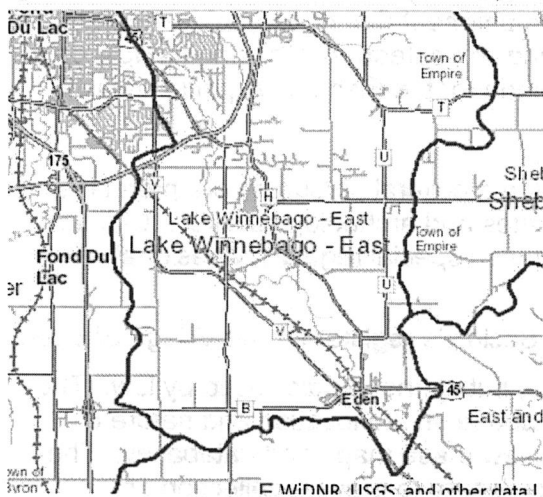


Figure 2-1

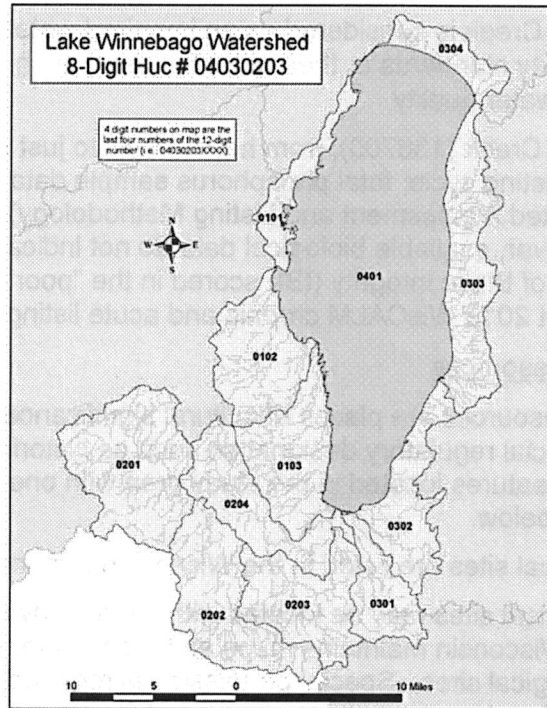


Figure 2-2

Sub- Watersheds

Subwatersheds of the Lake Winnebago Watershed

- 0101 City of Oshkosh-Lake Winnebago
- 0102 Willow Harbor-Lake Winnebago
- 0103 Van Dyne Creek-Lake Winnebago
- 0201 Village of Rosendale-Fond Du Lac River
- 0202 Sevenmile Creek-East Branch of the Fond Du Lac River
- 0203 Parsons Creek-East Branch of the Fond Du Lac River
- 0204 Eldorado Marsh-Fond Du Lac River
- 0301 De Neveu Creek
- 0302 Taycheedah Creek
- 0303 Pipe Creek-Lake Winnebago
- 0304 City of Utowana Beach-Lake Winnebago
- 0401 Lake Winnebago

Lands within the Village of Eden are tributary to Sub-basin 0301 which is tributary to De Neveu Creek. De Neveu creek is listed as being an impaired 303(d) water. The impairments are Elevated Water Temperature & Degraded Habitat; Pollutants include Total Suspended Solids and Total Phosphorus.

Natural Resources

Natural resource features include surface waters (lakes, rivers, and streams), wetlands, and endangered or threatened resources. An "Endangered Resources Preliminary Assessment" was completed on line on 7/4/2017. The results provided by the assessment stated "Endangered resources are present; however, the species recorded are not legally protected. Therefore an Endangered Resources Review is recommended but not required". No mention was made of the type of or name of the species considered as being endangered.

No outstanding or exceptional waters are indicated within the watershed. Therefore the Village does not discharge its runoff into such waters.

De Neveu Creek is considered as an impaired water body; that is one not meeting not meeting water quality standards or their potential uses, such as fishing and swimming, due to pollutants and poor water quality

De Neveu Creek (138700), from headwaters to just north of Highway 23, was assessed during the 2016 listing cycle; total phosphorus sample data exceed 2016 WisCALM (Wisconsin Consolidated Assessment and Listing Methodology) listing criteria for the Fish and Aquatic Life use, however, available biological data do not indicate impairment (i.e. no macroinvertebrate or fish Index of Biotic Integrity (IBI) scored in the "poor" condition category). Chloride sample data clearly met 2016 WisCALM chronic and acute listing criteria for the Fish and Aquatic Life use.

Cultural Resources

Cultural resources are places of cultural significance. Some cultural resources are protected with a special regulatory designation such as historical sites and archeological sites. Cultural resource features located in the study area with one of these special regulatory designations are identified below.

No historical sites are listed in the Wisconsin Historical Society's register for the Village of Eden.

Archeological sites may be located within the study area, but cannot be disclosed by law. The State of Wisconsin maintains maps and a computer database on the location and nature of archaeological sites. Special permission is required to view these maps and databases. The location of archaeological sites is exempt from public disclosure to prevent collection or disturbance of valuable artifacts.

Soils

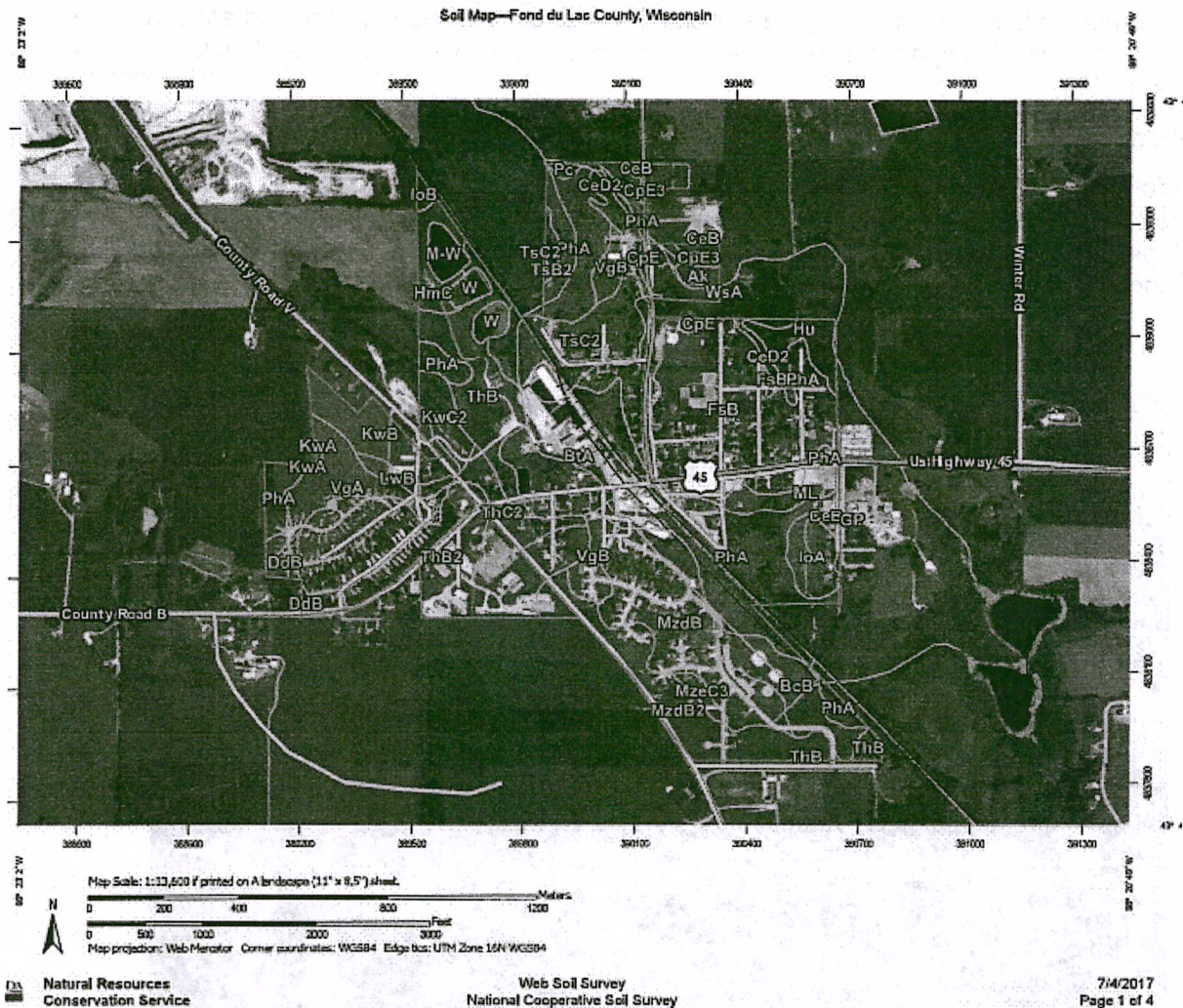


Figure 2-3

Soil information is from the *Fond du Lac County Soil Survey*, Natural Resource Conservation Service, U.S. Department of Agriculture. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas. The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Wetlands

The following wetland map was prepared utilizing data from the Fond du Lac County GIS system. Such data is intended to show the probability of the existence of wetlands. The absence of depiction of a wetland is no guarantee that a wetland does not exist on any given parcel. The absence or existence of a wetland can only be verified by qualified wetland delineators.

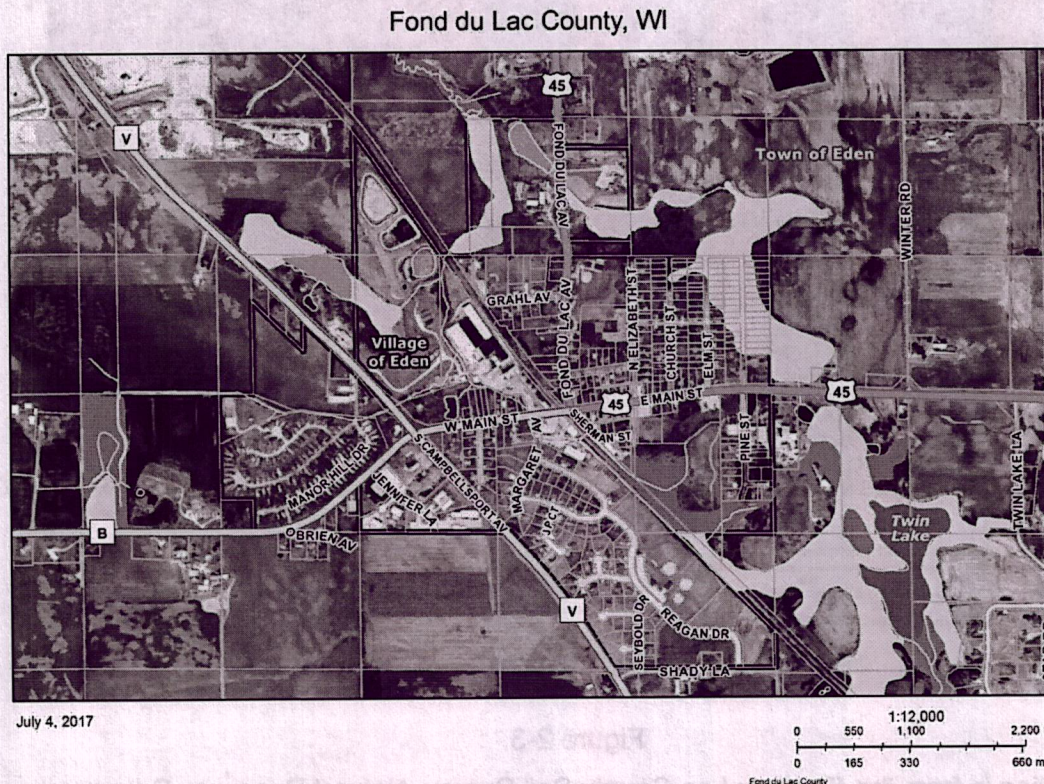


Figure 2-4

Color coding: Green = Forested Wetlands, Light Blue = Emergent Wet Meadow, Middle Blue = Ponds, Dark Blue = Deep Water Lake.

MS4 System

The Village of Eden is under regulations by the Wisconsin Department of Natural Resources (DNR) to reduce stormwater pollutants under its MS4 General Permit. These requirements are detailed in the Wisconsin Administrative Code NR216.

Currently, only one industrial operation with coverage under a WPDES Industrial Permit is located within the Village of Eden study area. The WPDES Industrial Permit is regulated by the Wisconsin Department of Natural Resources (DNR). The WPDES Industrial Permit may allow discharges into the MS4 system during dry weather. Understanding the location of the WPDES Industrial Permit is important to effective implementation of the Village's stormwater program. The Lakeside Foods, Inc. WPDES Industrial Permit is summarized below.

Table 2-1

WPDES INDUSTRIAL PERMITS

I.D.	Facility Name	Facility Address	WPDES
			Permit No.
1	Lakeside Foods, Inc.	108W. Main Street, Eden, WI	0000485

Land Uses

Existing land uses for the land within the Village boundary are depicted in Appendix C. Existing land uses include urban areas developed on or before July 1, 2017. Undeveloped in-fill sites less than 5 acres are shown to be developed based on adjoining land uses. Undeveloped in-fill sites greater than 5 acres and future growth areas are shown as either agriculture, woods, or undeveloped open space, as appropriate. Existing land uses are based on information obtained from the Village of Eden, East Central Regional Planning Commission, and limited field investigations. The location of publicly owned parks, recreational areas, open lands, and municipal facilities are depicted in Appendix B.

Future land uses for the urban planning boundary are depicted in Appendix D. Future land uses generally match existing land uses except for undeveloped in-fill sites greater than 5 acres and future growth areas. These areas are converted to a future land use based on information from the Village's Comprehensive Plan.

CHAPTER 3 - PUBLIC EDUCATION & OUTREACH

Goals & Objectives

Develop a public education and outreach program to increase awareness of stormwater pollution impacts and to encourage changes in public behavior. An informed and knowledgeable community is important to the success of a stormwater program. An informed community has a better understanding of why stormwater management is important and what individual actions they can take to improve water quality within receiving waters.

The key to a successful public education and outreach program is to form partnerships, develop a strategy, and reach a diverse audience. A public education program should also target specific audiences that have a higher potential for stormwater pollution. For some audiences, particularly businesses, incentives may be needed to encourage behavior change. Potential incentives may include awards, rewards, public recognition, certifications, licenses, rebates, fees, and credit policies (stormwater utility fee).

The Wisconsin Department of Natural Resources (DNR) requires that a public education and outreach program include, at a minimum, the following 8 elements or 13 topics.

1. Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
2. Inform and educate the public about the proper management of materials that may cause stormwater pollution from sources including automobiles, pet waste, household hazardous waste and household practices (4 topics).
3. Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides (2 topics).
4. Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways
5. Promote infiltration of residential stormwater runoff from rooftop downspouts, driveways and sidewalks.
6. Inform and where appropriate educate those responsible for the design, installation, and maintenance of construction site erosion control practices and stormwater management facilities on how to design, install and maintain the practices (2 topics).
7. Identify businesses and activities that may pose a stormwater contamination concern, and where appropriate, educate specific audiences on methods of stormwater pollution prevention.
8. Promote environmentally sensitive land development designs by developers and designers (e.g. low impact development, conservation design, etc.).

Program Development

The Village joined the Northeast Wisconsin Stormwater Consortium (NEWSC) in 2016. NEWSC is a partnership of local municipalities, DNR, UW-Extension, engineers, and vendors. The group's mission is to facilitate efficient implementation of local stormwater programs by: fostering partnerships, sharing information, seeking administrative efficiencies, and pooling financial resources.

The Village created a MS4 Committee to assist with developing its public education and outreach program. The MS4 Committee met with Village Staff and JE Arthur and Associates on October 26, 2017. During the meeting, JE Arthur and Associates provided the MS4 Committee with an overview of NR 216 stormwater regulations, identified available resources, and facilitated the discussion.

The Village developed various policies and procedures to assist with implementation of the public education and outreach program. The policies and procedures include the following:

1. The Village Clerk and Village Board are jointly responsible for implementation of the public education and outreach program.
2. The Village intends to maintain its membership and partnership with the Northeast Wisconsin Stormwater Consortium (NEWSC). NEWSC plans to evaluate and update its regional Information & Education (I&E) Plan every ± 5 years. NEWSC also intends to conduct a telephone survey of residents located within Northeast Wisconsin every ± 5 years to assist with the regional I&E Plan update.
3. The Village plans to reconvene the MS4 Committee every ± 5 years to review the effectiveness of the local public education and outreach program. The Village selected the ± 5 year interval to coincide with completion of the NEWSC telephone survey and regional I&E Plan update.
4. The Village plans to allocate its public education and outreach budget based on the MS4 Committee input.

Program Implementation

Each element of the public education and outreach program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the public education program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall public education and outreach program.

Public Education & Outreach	Date
BMP: Use municipal website to educate & promote the stormwater program. <i>Measurable Goals:</i> Number of potential website uses identified. <u>Potential Uses:</u> Provide links to other websites (County, NEWSC, DNR, EPA), publish stormwater articles, post meeting notices & minutes, resource center (applications, ordinances, checklists), post permits to encourage public involvement, promote community events (stream cleanup, stenciling), post stormwater fun facts, post stormwater puzzles & coloring pages, & obtain public input with a survey. Number of website "hits" each year. Number of times the website is updated each year.	2017 2018 2018
BMP: Display educational materials (passive distribution). <i>Measurable Goals:</i> Number of potential display locations identified. <u>Potential Locations:</u> Municipal building, school, municipal park, recreational trail, parade, & other partnerships. Develop a library of educational materials. Number of display racks, kiosks, posters, & poster boards on display. Number of educational materials taken from display racks & kiosks.	2017 2018 2018 2018

BMP: Distribute educational materials (active distribution).	
<i>Measurable Goals:</i>	
Number of potential distribution methods identified. <u>Potential Methods:</u> Hand-out materials with dog license, permits, ordinance violation (illicit discharge, erosion control, stormwater, pet waste, litter). Hand-out materials during public meetings, conferences, training workshops, community events (parades, festivals), & school activities. Mail materials with utility or tax bills.	2017
Number of educational materials actively distributed.	2018
BMP: Install signs to educate about stormwater pollution, impacts, & desired behaviors.	
<i>Measurable Goals:</i>	
Number of potential signs identified. <u>Potential Signs:</u> Storm drain stenciling, sticker on garbage container, pet waste sign in park, managing litter at businesses, parking hours for street sweeping, describe purpose of a wet pond, erosion control permits posted at construction site, and sticker on plastic bags used for grass clipping collection.	2017
Number of signs installed & permits posted.	2018
BMP: Give presentations to educate about stormwater impacts & desired behaviors.	
<i>Measurable Goals:</i>	
Number of potential audiences identified. <u>Potential Audiences:</u> (1) power point presentations to Citizen Advisory Board; (2) verbal updates to elected officials and the general public on stormwater planning projects, construction projects, & DNR Annual Reports; (3) group demonstrations for proper stormwater facility maintainance; (4) pre-construction meetings with developers, contractors, designers, & inspectors; (5) face-to-face meetings to educate ordinance violators; & (6) educate kids (kids educate parents).	2017
Number of presentations given.	2018

CHAPTER 4 -INVOLVEMENT & PARTICIPATION

Goals & Objectives

The Village will develop a public involvement and participation program to notify the public of activities required by the permit and encourage public input. An active and involved community is important to the success of a stormwater program. A community involved in program development may be less likely to create obstacles and raise legal challenges during implementation. Citizens who participate in the decision making process are partially responsible for the program.

The key to a successful public involvement and participation program is to know your audience and think creatively about how to gain their attention. Traditional methods of soliciting public involvement are not always successful in generating interest. The goal is to involve a diverse group of people who offer a multitude of concerns, ideas, and networking connections.

Program Development

The Village of Eden joined the Northeast Wisconsin Stormwater Consortium (NEWSC) in 2016. NEWSC is a partnership of local municipalities, DNR, UW-Extension, consulting engineers, and vendors. During 2017, the NEWSC membership included approximately 56 different public and private entities. The NEWSC full membership generally meets quarterly and the NEWSC committees generally meet monthly. The NEWSC committees include the Illicit Discharge Detection Committee, Information & Education Committee, Stormwater & Erosion Control Committee, and Tools & Resources Committee. The group's mission is to facilitate efficient implementation of local stormwater programs by: fostering partnerships, sharing information, seeking administrative efficiencies, and pooling financial resources.

The Village of Eden will create a MS4 Committee to involve the public in development of the local public education program. The MS4 Committee met with Village Staff and J.E. Arthur and Associates. During the meeting, J.E. Arthur and Associates will provide MS4 Committee members with an overview of NR 216 stormwater regulations, identified available resources, facilitated the discussion, and summarized the MS4 Committee comments. During the meeting, MS4 Committee members will be asked to rank the importance of each DNR topic based on their understanding of stormwater impacts and public behaviors in the Village of Eden. MS4 Committee members will also be asked to identify and rank stormwater 'hot spots' in the Village that may pose a stormwater contamination concern. A copy of the MS4 Committee rankings will be provided upon completion.

The Village will hold numerous public meetings during which the public will be invited to provide input and/or participate in program development. Public education and public involvement will be an integral part of each ordinance, funding source, and stormwater planning activity.

The Village of Eden will develop various policies and procedures to assist with implementation of the public involvement and participation program. The policies and procedures will include the following:

1. The Village Clerk and Village of Eden Board are jointly responsible for implementation of the public involvement and participation program.
2. The Village intends to maintain its membership and partnership with the Northeast Wisconsin Stormwater Consortium (NEWSC). The NEWSC partnership is part of the Village of Eden's public involvement plan.
3. The Village intends to reconvene the MS4 Committee every ± 5 years to review the effectiveness of the local public education and outreach program. The MS4 Committee is part of the Village's public involvement plan.

Program Implementation

Each element of the public involvement and participation program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the public involvement program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village of Eden after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall public involvement and participation program.

Table 4-1

Public Involvement & Participation	Date
BMP: Hold public hearings & meetings for the stormwater program. Obtain public input. <i>Measurable Goals:</i> Number of potential public meetings identified. <u>Potential Public Meetings:</u> Create or modify a funding source (i.e. stormwater utility fee, permit application fee, inspection fee, penalty fee, impact fee, tax levy, grant), discuss local flooding & water quality problems, obtain public input on watershed planning, obtain public input on proposed pond / BMP retrofit projects, review Annual Report, & discuss other stormwater topics. Number of public hearings & meetings.	2017 2017 2017
Public Involvement & Participation	Date
BMP: Develop partnerships and/or organize stakeholder meetings to involve the public. <i>Measurable Goals:</i> Number of potential partnerships identified. <u>Potential Partnerships:</u> NEWSC, County, UW-Extension, encourage retail stores to stock phosphorus free fertilizer, encourage lawn care companies to distribute brochures, encourage restaurants to use placemats with stormwater puzzles & fun facts, discuss stormwater quality & desired behaviors with associations (homeowners, business, lake, trade), encourage facility managers & businesses to report spills, discuss stormwater quality and community service projects with school district, etc. Number of meetings & partnerships.	2017 2017
BMP: Form a MS4 Committee and/or stormwater committee. <i>Measurable Goals:</i> MS4 Committee will meet every ± 5 years to evaluate public education & outreach program.	2017
BMP: Consider information submitted by the public to the municipality (verbal, phone, fax, email, website, letter, survey). <i>Measurable Goals:</i> Number of tips received from the public. Number of problems / incidents remedied as a result of tips from the public.	2018 2018

BMP: Organize and/or promote volunteer storm drain stenciling, stream cleanups, shoreline cleanups, highway cleanups, stream monitoring projects, critter searches for kids, tree plantings, wetland plantings, prairie plantings, and/or rain garden projects.

Measurable Goals:

Number of potential volunteers and/or sponsors identified. Potential Volunteers & Sponsors: NEWSC, County, Boy Scouts, Girl Scouts, Boys & Girls Club, 4H members, students, school groups, Jaycees, Lions Club, Kiwanis, American Legion, Optimist Club, church groups, environmental groups, associations (homeowner, business, lake), riparian landowners, ordinance violators, businesses, foundations, residential neighborhood, eetc.

2018

Number of projects organized and/or promoted.

2018

CHAPTER 5 - ILLICIT DISCHARGE DETECTION & ELIMINATION

Goals & Objectives

The Village of Eden will create an illicit discharge detection and elimination program to remove illicit connections and discharges from the municipal separate storm sewer system (MS4). A thorough knowledge of the MS4 system is important to the success of an illicit discharge program. The Village's MS4 system map must contain sufficient detail of all discharge points and their tributary area so as to allow for a prompt elimination the discharge.

Potential sources of illicit discharge include failing septic systems, illegal business discharges, improper disposal of sewage, overflows from sanitary sewer systems, illegal plumbing connections, illegal dumping of waste materials, and spills associated with roadway accidents and industrial activity. Illicit discharges can contribute high levels of pollutants, toxins, oil, grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from illicit discharges are concentrated and may be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Non-stormwater discharges or flows that are not considered illicit discharges include landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, firefighting, and discharges authorized under a WPDES permit unless identified by the Village as a significant source of pollutants to waters of the state.

Program Development

The Village has developed a draft of an illicit discharge detection and elimination ordinance. The Village will consider adoption of the ordinance in the near future. The purpose of the ordinance is to prevent and eliminate illicit discharges to the municipal separate storm sewer system (MS4). A copy of the draft ordinance regarding illicit discharge is provided in Appendix E. Generally, the illicit discharge ordinance requires the following:

- No discharging, spilling, or dumping of non-stormwater substances and materials into waters of the state or the MS4 system.
- Identifies non-stormwater discharges or flows that are not considered illicit discharges.
- Establishes inspection, monitoring, sampling and enforcement authority.

The Village will establish forfeitures and fines for the illicit discharge ordinance. The purpose of the forfeitures and fines is to encourage compliance with the ordinance. A copy of the Fee Schedule for the Illicit Discharge Detection & Elimination Program is provided in Appendix E.

The Village will develop various policies and procedures to assist with implementation of the illicit discharge detection and elimination program. The policies and procedures include the following:

1. Initial Field Screening: Procedures for conducting initial field screening of major outfalls during dry weather periods are provided in Appendix E. The Village Engineer, J.E. Arthur and Associates is responsible for performing the initial field screening.
2. On-Going Field Screening & Routine Inspections: Procedures for conducting on-going field screening of outfalls during dry weather periods are provided in Appendix E. The Village Engineer, J.E. Arthur and Associates is responsible for performing the on-going field screening. In addition to the on-going field screening, the Village plans to search for illicit discharges, illegal connections, and sanitary leakage by conducting routine plumbing, sanitary sewer, and storm sewer inspections. The Village Engineer, J.E.

Arthur and Associates is responsible for performing the routine sanitary sewer inspections. The Village Engineer, J.E. Arthur and Associates is responsible for coordinating the routine storm sewer inspections.

3. Responding to Illicit Discharges: Procedures for responding to known or suspected illicit discharges are provided in Appendix E. The Village Engineer, J.E. Arthur and Associates, and The Village of Eden Fire Department are responsible for responding to illicit discharges and spills. The procedures include investigating the source of an illicit discharge or spill, responding to spills, preventing and containing spills, notifying the DNR of spills that may discharge into waters of the state, eliminating sanitary leakage into the MS4, notifying the DNR of dye testing, and notifying adjacent municipalities of illicit discharges that may enter their MS4 system.
4. Enforcement Actions: When a non-compliance issue is identified, The Village Engineer, J.E. Arthur and Associates first attempts to call or speak with the responsible party. For a minor non-compliance issue, the inspector will provide a verbal "Warning Notice" or deadline for correcting the non-compliance. The majority of non-compliance issues will likely be corrected in this manner. If the verbal deadline is not met, the inspector will send a written "Notice of Violation" to the responsible party. The "Notice of Violation" will outline the required actions to be completed by a specific date and time in order to avoid enforcement actions. Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include citations and forfeitures. Citations and forfeitures will continue until the municipal inspector determines the site is compliant. Each day of non-compliance will be considered a new violation. For blatant, intentional, repetitive or severe non-compliance issues, the Village has authority to immediately initiate enforcement actions, without prior notice. Other potential enforcement actions include "Cease and Desist Orders", suspending storm sewer access, suspending water supply access, suspending sanitary sewer access, and issuing a "Notice of Intent" that the municipality intends to perform emergency work. Costs associated with emergency work will be billed to the responsible party or charged to the tax roll as a special assessment.
5. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix E and forwarded to the Village Clerk and/or Village Board for documentation and follow-up. Follow-up activities may consist of reviewing the MS4 map, requesting a copy of plumbing plans, conducting site inspections, performing field tests, and/or initiating enforcement actions. All follow-up activities will be documented with written reports.

The Village prepared a municipal separate storm sewer system (MS4) map depicting the location of outfalls and receiving waterbodies. The map also depicts how the MS4 system is interconnected. A large and detailed map of the MS4 system is provided in Appendix F. Land uses which discharge into the MS4 system are depicted in Appendix F.

Program Implementation

Each element of the illicit discharge detection and elimination program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the illicit discharge program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall illicit discharge detection and elimination program.

Table 5-1

Illicit Discharge Detection & Elimination	Date
BMP: Adopt illicit discharge detection & elimination ordinance or other regulatory mechanism. <i>Measurable Goals:</i> Obtain public input on the ordinance or other regulatory mechanism before adopting. Adopt or modify the ordinance or other regulatory mechanism.	 2017 2017
BMP: Create dedicated funding sources (storm water utility, forfeitures, tax levy). <i>Measurable Goals:</i> Obtain public input on the Fee Schedule before adopting or modifying. Adopt or modify the Fee Schedule.	 2017 2017
BMP: Develop municipal separate storm sewer system (MS4) map. <i>Measurable Goals:</i> Number of inlets, manholes, sewers, culverts, structural BMPs, & outfalls mapped annually.	 2017
BMP: Conduct initial field screening, on-going field screening, & routine inspections. <i>Measurable Goals:</i> Number of MS4 outfalls searched. Number of MS4 outfalls characterized to have an “unlikely” illicit discharge. Number of MS4 outfalls characterized to have a “potential” illicit discharge. Number of MS4 outfalls characterized to have a “suspect” illicit discharge. Number of MS4 outfalls characterized to have a “obvious” illicit discharge. Number of plumbing & septic systems routinely inspected. Miles of sanitary sewer & storm sewer routinely inspected.	2018 2018 2018 2018 2018 2018 2018 2018

Table 5-1 (cont'd)

Illicit Discharge Detection & Elimination	Date
BMP: Respond to known or suspected illicit discharges & spills. <i>Measurable Goals:</i> Number of storm sewer, drainage area, on-site, & septic system investigations. Number of spills & releases of hazardous substances investigated. Number of spill notifications issued to the DNR in accordance with NR 706. Number of illicit discharge notifications issued to an adjacent municipality.	2018 2018 2018 2018 2018
BMP: Enforce the illicit discharge ordinance & remove illicit discharges from the MS4. <i>Measurable Goals:</i> Number of verbal "Warning Notices" issued. Number of written "Notice of Violations" issued. Number of enforcement actions. Number of illicit discharges, spills, connections, & sanitary leaks removed in 30 days or less. Number of illicit discharges, spills, connections, & sanitary leaks removed in > 30 days.	2018 2018 2018 2018 2018 2018
BMP: Consider information submitted by the public to the municipality. <i>Measurable Goals:</i> Number of tips received from the public. Number of problems / incidents remedied as a result of tips from the public.	2018 2018 2018
BMP: Educate the general public & violators of the illicit discharge ordinance. <i>Measurable Goals:</i> Number of educational materials distributed.	2018 2018

CHAPTER 6 - CONSTRUCTION SITE POLLUTION CONTROL

Goals & Objectives

The Village of Eden has previously enacted Construction Site Erosion and Sediment Control Ordinance on April 18, 2017, a copy of which is included in Appendix G. The purpose of the ordinance is to reduce the discharge of sediment and construction materials into local streams, rivers and lakes. Common construction site pollutants include sediment, discarded building materials, concrete truck washout, chemicals, litter and sanitary waste. Of these pollutants, sediment is typically of greatest concern. Sediment and pollutants from construction sites can cause physical, chemical and biological harm to our waterbodies.

Program Development

The Village developed a construction site erosion control ordinance. The purpose of the ordinance is to require erosion and sediment controls at construction sites with 4,000 square feet or more of land disturbance. A copy of the erosion control ordinance is provided in Appendix G. The ordinance establishes sanctions to ensure compliance and provides the necessary inspection and enforcement authority. Generally, the construction site erosion control ordinance requires the following:

- Reduce sediment by 80% for construction sites with 1 acre or more of land disturbance.
- Prevent tracking of sediment onto roads and paved surfaces, prevent the discharge of sediment during site dewatering, and protect storm inlets from sediment.
- Manage construction wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.
- Comply with Stormwater Reference Guide and DNR Technical Standards.
- Prepare and Implement an Erosion & Sediment Control Plan.

The Village developed several dedicated funding sources to financially support the construction site pollutant control program. The user fees are structured to provide permit applicants with a financial incentive to reduce the size and duration of land disturbance and to comply with the ordinance. A copy of the Fee Schedule for the Construction Site Pollutant Control Program is provided in Appendix G.

The Village developed various policies and procedures to assist with implementation of the construction site pollutant control program. The policies and procedures include the following:

1. Permit Application: The permit application, Erosion & Sediment Control Plan, financial guarantee, and application fee are submitted to the The Village Clerk. The Village Clerk will forward the application to the Village Engineer for review. If the review is favorable, The Village Clerk will process the application and if all information is present and accurate the permit is issued.
2. Plan Review: Each permit application, Erosion & Sediment Control Plan, and financial guarantee is reviewed for compliance with the construction site erosion control ordinance, Stormwater Reference Guide, and DNR Technical Standards. The Village Engineer, J.E. Arthur and Associates conduct the review for all sites. Meetings between the applicant, designer, and plan reviewer are encouraged during the pre-design, design, and plan review process. The meetings are used to educate each other about regulatory requirements, environmentally sensitive areas, and design challenges. The number of meetings is typically commensurate with the size and complexity of the project. Meetings can be face-to-face or via telephone.
3. Financial Guarantee: The financial guarantee is required for all permitted sites. The financial guarantee includes the estimated cost of erosion and sediment control

practices, site inspections, project administration, and contingencies. The Village Clerk may release portions of the financial guarantee as the construction project progresses. The Clerk will not release the last portion of the financial guarantee until the municipal inspector performs a final site inspection and the permit applicant pays final fees.

4. Permit Issuance: The Village Clerk issues the permit after the plans and financial guarantee are approved. The applicant is required to post the permit in a conspicuous place at the construction site. The Village posts the permit information on the Village website.
5. Pre-Construction Conference: A pre-construction conference is required for sites with 1 acre or more of land disturbance. The applicant, designer, contractor, and municipal inspector are encouraged to attend. The purpose of the meeting is to exchange contact information, review the Erosion & Sediment Control Plan, and identify individuals responsible for permit compliance, plan amendments, and weekly inspection reports.
6. Construction Site Inspections: The applicant is required to inspect the construction site each week and after a rainfall of ½ inch or more. In addition, the Village Engineer, J.E. Arthur and Associates inspects each site once a month during the period starting March 29 and ending November 25. The Village may inspect sites more frequently after storm events, during a mild winter, when adjacent to a sensitive area, and during enforcement actions. Both the applicant and municipal inspector document inspections with written reports. The municipal inspection reports are filed with the permit and posted on the website. The Village Engineer, J.E. Arthur and Associates inspects all sites.
7. Enforcement Actions: When a non-compliance issue is identified, the municipal inspector first attempts to call or speak with the contact person. For a minor non-compliance issue, the inspector will provide a verbal "Warning Notice" or deadline for correcting the non-compliance. The majority of non-compliance issues will likely be corrected in this manner. If the verbal deadline is not met, the inspector will send a written "Notice of Violation" to the permit applicant and landowner. The "Notice of Violation" will outline the required actions to be completed by a specific date and time in order to avoid enforcement actions. Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include stop work orders, citations, and forfeitures. Stop work orders, citations, and forfeitures will continue until the municipal inspector determines the site is compliant. Each day of non-compliance will be considered a new violation. For blatant, intentional, repetitive or severe non-compliance issues, the municipal inspector has authority to immediately issue a written "Notice of Violation" and/or initiate enforcement actions without prior notice. Other potential enforcement actions include permit revocation, "Cease and Desist Orders", and issuing a "Notice of Intent" that the Village intends to perform emergency work. Costs associated with a "Notice of Intent" will be deducted from the financial guarantee, billed to the responsible party, or charged to the tax roll.
8. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix G and forwarded to the Village Administrator/Clerk or Village Engineer for documentation and follow-up. Follow-up activities may consist of contacting the landowner, verifying permit coverage, reviewing plans, requesting a copy of weekly inspection reports, conducting a municipal site inspection, and/or initiating enforcement. All follow-up activities will be documented with written reports and filed with the permit.

Program Implementation

Each element of the construction site pollutant control program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the construction site pollutant control program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall construction site pollutant control program.

Table 6-1

Construction Site Pollutant Control	Date
BMP: Adopt construction site erosion control ordinance or other regulatory mechanism. <i>Measurable Goals:</i> Obtain public input on the ordinance or other regulatory mechanism before adopting. Adopt or modify the ordinance or other regulatory mechanism.	 2017 2017
BMP: Create dedicated funding sources (application fee, inspection fee, & forfeitures). <i>Measurable Goals:</i> Obtain public input on the Fee Schedule before adopting or modifying. Adopt or modify the Fee Schedule.	 2017 2017
BMP: Review permit applications, Erosion & Sediment Control Plans, & financial guarantees. <i>Measurable Goals:</i> Number of permits issued with less than 1 acre of land disturbance. Number of permits issued with 1 to 5 acres of land disturbance. Number of permits issued with 5 acres or more of land disturbance.	 2017 2017 2017
BMP: Conduct municipal site inspections & enforce the erosion control ordinance. <i>Measurable Goals:</i> Number of sites inspected. Number of total site inspections. Number of verbal "Warning Notices" issued. Number of written "Notices of Violation" issued. Number of enforcement actions.	 2017 2017 2017 2017 2017
BMP: Inform the public about permitted construction sites. <i>Measurable Goals:</i> Number of permits posted at the construction site. Number of inspection reports posted on the municipal website.	 2017 2017

BMP: Consider information submitted by the public to the municipality.	
<i>Measurable Goals:</i>	
Number of tips received from the public.	2017
Number of problems / incidents remedied as a result of tips from the public.	2017
BMP: Educate permit applicants, designers, contractors, inspectors & ordinance violators.	
<i>Measurable Goals:</i>	
Number of educational materials distributed (ordinances, Stormwater Reference Guides, Technical Standards, review letters, inspection reports, fact sheets, brochures, etc).	2017
Number of meetings & pre-construction conferences.	2017

CHAPTER 7 - POST CONSTRUCTION STORMWATER MANAGEMENT

Goals & Objectives

Develop a post-construction stormwater management program to control storm water runoff quality and quantity from areas of new development and redevelopment, after construction is completed. Urban development increases the amount of impervious surfaces as farmland, forests and grasslands are converted to buildings, parking lots and streets. Impervious surfaces reduce subsurface infiltration and increase surface water runoff. As stormwater washes over impervious surfaces, pollutants are picked up and the speed of runoff increases. The resulting stormwater flows are higher in flow rate, volume, pollutants and temperature. Uncontrolled runoff may cause capacity problems within the MS4 system, stream erosion, flooding, algae, bacteria and aesthetic problems within streams, rivers and lakes.

Program Development

The Village of Eden developed a post-construction stormwater management ordinance as of April 18, 2017 to regulate stormwater discharges at post-construction sites. A copy of the stormwater ordinance is provided in Appendix G. The ordinance establishes sanctions to ensure compliance and provides the necessary inspection and enforcement authority. Generally, the post-construction stormwater management ordinance requires the following for sites with 20,000 square feet or more of impervious surface disturbance or 1 acre or more of land disturbance:

- Reduce sediment by 80% for new development and 40% for redevelopment.
- Control 2, 10 and 100-year peak discharge rates based on a meadow land use.
- Infiltrate runoff for new residential and non-residential land uses.
- Create buffers along streams, rivers, lakes, wetlands and channels.
- Prevent visible petroleum sheen in stormwater runoff.
- Comply with Stormwater Reference Guide and DNR Technical Standards.
- Prepare a Stormwater Management Plan.
- Prepare a long-term maintenance agreement and record at Register of Deeds.

The Village of Eden developed several dedicated funding sources to financially support the post-construction stormwater management program. The user fees are structured to provide permit applicants with a financial incentive to reduce the amount of impervious surface and comply with the ordinance. A copy of the Fee Schedule for the Post-Construction Stormwater Management Program is provided in Appendix G.

The Village of Eden developed various policies and procedures to assist with implementation of the post-construction stormwater management program. The policies and procedures include the following:

1. **Permit Application:** The permit application, Stormwater Management Plan, long-term maintenance agreement, financial guarantee, and application fee are submitted to the The Village Engineer, J.E. Arthur and Associates. If acceptable, The Village Engineer, J.E. Arthur and Associates approve the items.
2. **Plan Review:** Each permit application, Stormwater Management Plan, maintenance agreement, and financial guarantee is reviewed for compliance with the stormwater management ordinance, Stormwater Reference Guide, and DNR Technical Standards. The The Village Engineer, J.E. Arthur and Associates will review submittals for all sites. Meetings between the applicant, designer, and plan reviewer are encouraged during the

pre-design, design, and plan review process. The meetings are used to educate each other about regulatory requirements, environmentally sensitive areas, and design challenges. The number of meetings is typically commensurate with the size and complexity of the project. Meetings can be face-to-face or via telephone.

3. Maintenance Agreement: A maintenance agreement is required for sites with 20,000 square feet or more of impervious surface disturbance or sites with 1 acre or more of land disturbance. Ideally, the maintenance agreement will be approved and executed prior to permit issuance. The Village of Eden records the maintenance agreement at the County Register of Deeds.
4. Financial Guarantee: The financial guarantee includes the estimated cost of stormwater management facilities, site inspections, maintenance agreements, record drawings, project administration, and contingencies. The Village of Eden Administrator/Clerk may release portions of the financial guarantee as the construction project progresses. The Administrator/Clerk may not release the last portion of the financial guarantee until a final inspection is performed, the maintenance agreement is recorded, the record / as-built drawings are approved, and the permit applicant pays final fees.
5. Permit Issuance: The Village Engineer, J.E. Arthur and Associates issues the permit after the plans and financial guarantee are approved. The applicant is required to post the permit in a conspicuous place at the construction site. The Village of Eden posts the permit information on the Village of Eden website.
6. Tracking Long-Term Maintenance: The Village Engineer, J.E. Arthur and Associates tracks long-term maintenance of stormwater management facilities. As required by the maintenance agreement, the facility owner is required to perform routine inspections of the facility, conduct maintenance, and document activities within an annual maintenance log. In addition, the Village Engineer, J.E. Arthur and Associates conducts an inspection of stormwater management facilities once every +/- 5 years and prepares an inspection report. Inspection reports are filed with the permit.
7. Enforcement Actions: When a non-compliance issue is identified, the municipal inspector first attempts to call or speak with the contact person. For a minor non-compliance issue, the inspector will provide a verbal "Warning Notice" or deadline for correcting the non-compliance. The majority of non-compliance issues will likely be corrected in this manner. If the verbal deadline is not met, the inspector will send a written "Notice of Violation" to the permit applicant, landowner, and/or responsible party. The "Notice of Violation" will outline the required actions to be completed by a specific date and time in order to avoid enforcement action. Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include stop work orders, citations, and penalty fees. Stop work orders, citations, and penalty fees will continue until the municipal inspector determines the site is compliant. Each day of non-compliance will be considered a new violation. For blatant, intentional, repetitive or severe non-compliance issues, the municipal inspector has authority to immediately issue a written "Notice of Violation" and/or initiate enforcement actions without prior notice. Other potential enforcement actions may include permit revocation, "Cease and Desist Orders", and issuing a "Notice of Intent" that the Village of Eden intends to perform emergency work. Costs associated with a "Notice of Intent" will be deducted from the financial guarantee, billed to the responsible party, or charged to the tax roll.
8. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix G and forwarded to the The Village Engineer, J.E. Arthur and Associates for documentation and follow-up. Follow-up activities may consist of contacting the facility owner, verifying permit coverage, reviewing plans,

requesting maintenance logs, reviewing inspection reports, conducting inspections, or initiating enforcement actions. All follow-up activities will be documented with written reports and filed with the permit.

Program Implementation

Each element of the post-construction stormwater management program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the post-construction program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village of Eden after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall post-construction stormwater management program.

Table 7-1

Post-Construction Stormwater Management	Date
BMP: Adopt stormwater management ordinance or other regulatory mechanism. <i>Measurable Goals:</i> Obtain public input on the ordinance or other regulatory mechanism before adopting. Adopt or modify the ordinance or other regulatory mechanism.	 2017 2017
BMP: Create dedicated funding sources (application fee, inspection fee, & forfeitures). <i>Measurable Goals:</i> Obtain public input on the Fee Schedule before adopting or modifying. Adopt or modify the Fee Schedule.	 2018 2018
BMP: Review permit applications, plans, maintenance agreements & financial guarantees. <i>Measurable Goals:</i> Number of permits issued with less than 20,000 SF of disturbed impervious surfaces. Number of permits issued with 20,000 SF to 200,000 SF of disturbed impervious surfaces. Number of permits issued with 200,000 SF or more of disturbed impervious surfaces.	 2018 2018 2018
BMP: Record maintenance agreements at County Register of Deeds. <i>Measurable Goals:</i> Number of maintenance agreements recorded at County Register of Deeds.	 2018

Post-Construction Stormwater Management	Date
BMP: Track long-term maintenance of stormwater management facilities. <i>Measurable Goals:</i> Number of sites with stormwater management facilities. Number of municipal site inspections performed each year.	 2018 2018
BMP: Consider information submitted by the public to the municipality. <i>Measurable Goals:</i> Number of tips received from the public. Number of problems / incidents remedied as a result of tips from the public.	 2018 2018
BMP: Educate permit applicants, designers, contractors, inspectors, & facility owners. <i>Measurable Goals:</i> Number of educational materials distributed (ordinances, Stormwater Reference Guides, Technical Standards, review letters, inspection reports, fact sheets, brochures, etc). Number of pre-design, design, & plan review meetings (face-to-face or via telephone).	 2018 2018

CHAPTER 8 - MUNICIPAL POLLUTION PREVENTION

Goals & Objectives

The Village of Eden will develop a municipal pollution prevention program to reduce the amount and type of pollution that (1) collects on municipally owned streets, parking lots, open spaces, storage areas, and vehicle maintenance areas, and (2) results from poor maintenance of municipally owned flood control facilities and storm sewer systems. The goal is to modify existing municipal operations to improve stormwater quality and protect receiving waters.

Program Development

The Village developed various policies and procedures to assist with implementation of the municipal pollution prevention program. The policies and procedures include the following:

1. Structural BMPs: The Village is responsible for routine inspection and maintenance of Village owned or operated structural best management practices (BMP). Currently, The Village does not own or operate any wet detention ponds. In the future, the Village may construct structural BMPs in order to achieve the required 20% and 40% total suspended solids reduction.
2. Grass Swales: The Village is responsible for routine inspection and maintenance of grass swales and grass filter strips, however the Village does not own any such features. The location of grass swales and grass filter strips are depicted in the MS4 System Map in Appendix F. The grass swales and grass filter strips improve surface water quality for purposes of the required 20% total suspended solids reduction.
3. Street Sweeping: The Village is responsible for sweeping Village owned streets. The work is accomplished by a private contractor, and properly disposing of waste materials. Currently, the Village contracts with an outside party for street sweeping services. Village owned streets are currently swept once in the spring and twice in the fall.
4. Catch Basin Cleaning: Currently, the Village does not own or operate any catch basin sumps. As part of an upcoming road project on USH 45 old inlets will be reconstructed with sumps. The Village of Eden will have the responsibility to clean these sumps.
5. Snow Storage: The Village is responsible for snow removal and storage, however the work is completed by an outside source. Snow is typically plowed and stored along streets until it accumulates to a point where removing it becomes necessary. Currently, the Village contracts for snow plowing services. Snow at the Village Hall is stockpiled onsite. During the spring melt, snowpiles can deliver "shock" loads of pollutants to streams, rivers, and lakes. In an effort to reduce impacts, the Village maintains a vegetated buffer at all sites where snow is stockpiled. These sites include the Community Center property, Eden Community Park, and land which the canning company owns. The vegetated buffer improves water quality. After the snowmelt, debris and litter are picked up and disposed at the County Landfill.
6. Deicers: The Village is responsible for proper application of road salt. Currently, the Village contracts with an outside source for road salting services. Typically, the Village only applies salt at street intersections, along curves, and along steep slopes. Currently, the Village does not have a predetermined application rate for salt. Over the next five years, the Village plans to request that their contractor compare salt application rates and equipment calibration to guidance contained in Chapter 6 of the DOT "Highway Maintenance Manual" (see Appendix H for a copy).
7. Leaves & Grass Clippings: The Village maintains a drop off site for grass clippings and yard waste. The site contains a dumpster in which the yard waste is placed. A private

company empties the dumpster as needed and removes the waste to a private composting location.

8. **Village Hall:** The Village is responsible for managing stormwater pollution at the Village Hall site. The Village Hall site is located at 104 Pine Street, Eden, WI 53019. Municipal vehicles, equipment, and materials are stored at the Village Hall site. Pollution prevention for the Village Hall site consists of the following Best Management Practices (BMP):

- Buildings are locked to prevent unauthorized access.
- The Village does not own any Vehicles other than Fire Equipment that is shared with the Town.
- Vehicles and equipment are stored indoors, when feasible.
- Vehicles and equipment are maintained indoors, when feasible. Drip pans are used for vehicle and equipment maintenance.
- Absorbent cleanup materials are kept onsite at all times for potential spills.
- Vehicle fuel is purchased and stored offsite at local gas stations.
- Waste oil from vehicle maintenance is stored indoors in a sealed tank.
- Fertilizers, pesticides, chemicals, solvents, paints, & other hazardous materials are stored in clearly marked, sealed containers. Containers are stored indoors.
- Waste oil and other hazardous materials are properly disposed.

9. **Water Utility:** The Village does not have a municipal water utility.

10. **Fertilizers:** The Village does not fertilize its properties.

11. **Pet Waste:** Pet waste can be a source of nutrients and bacteria in stormwater runoff when allowed to accumulate on sidewalks and streets. To control pet waste, pet owners should pick up and properly dispose of pet waste by placing in the garbage, flushing down the toilet, or burying in the backyard.

12. **Litter Control:** The Village provides the following municipal services to reduce the amount of litter within streams, rivers, lakes, wetlands, wooded areas, and detention ponds:

- Litter in Village Parks is routinely picked up and trash cans are routinely emptied.
- Residential garbage is collected curb-side once every week.
- Residential recycling is collected curb-side once every two weeks. Homeowners are responsible for placing glass, plastic, and metal recyclables in containers and bundling cardboard / paper recyclables to reduce litter caused by wind.

13. **Well Head Protection:** The Village does not have a municipal water utility.

14. **Program Implementation**

Each element of the municipal pollution prevention program is described below including Best Management Practices (BMP), measurable goals, and proposed implementation dates. As indicated below, the municipal pollution prevention program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected by the Village after considering the needs of both the community and receiving waters. The purpose of the measurable goals is to track program

implementation and gauge effectiveness of the overall municipal pollution prevention program.

Table 8-1

Municipal Pollution Prevention	Date
BMP: Conduct routine inspections & maintenance of municipally owned structural BMPs. <i>Measurable Goals:</i> Number of municipally owned or operated structural BMPs. Number of inspections for municipally owned or operated structural BMPs each year.	 2017 2018
BMP: Conduct routine street sweeping where appropriate. Properly dispose of waste. <i>Measurable Goals:</i> Number of curb-miles swept each year. Tons or cubic yards of street sweeping waste disposed each year.	 2017 2018
BMP: Apply road salt or other deicers only as necessary to maintain public safety. <i>Measurable Goals:</i> Pounds of salt applied per lane-mile of street.	 2018
BMP: Properly manage leaves & grass clippings. <i>Measurable Goals:</i> Tons or cubic yards of leaves & grass clippings collected each year.	 2018
BMP: Conduct pollution prevention planning for municipal garages, storage areas, & facilities. <i>Measurable Goals:</i> Reduce TSS loads in the Village's developed urban area by 20%.	 2018
BMP: Educate municipal employees about pollution prevention. <i>Measurable Goals:</i> Number of municipal employees trained each year.	 2018

CHAPTER 9- STORM WATER QUALITY MANAGEMENT

Methodology

A stormwater quality analysis will be prepared using the Source Loading and Management Model for Windows (WinSLAMM version 10.3.2). WinSLAMM is a stormwater quality model that predicts runoff volumes and non-point source pollution loads within urban areas. A copy of the WinSLAMM stormwater quality analysis without controls is provided in Appendix I. WinSLAMM also calculates the amount of pollutant removal provided by Best Management Practices (BMP) such as street sweeping, catch basin cleaning, grass swales, wet detention ponds, stormwater wetlands, bio filtration, proprietary devices, and other BMPs. A copy of the WinSLAMM stormwater quality analysis with Existing BMPs is provided in Appendix I.

The stormwater quality analysis is based on the series of small rainfall events that occurred between March 29, 1969 and November 25, 1969 in Green Bay, Wisconsin. The 1969 historic rainfall series was determined by the Wisconsin Department of Natural Resources (DNR) to represent an average year of rainfall within Northeast Wisconsin.

The stormwater quality analysis will be based on the standard land uses files developed by the DNR for WinSLAMM. The standard land use files identify the amount of roof, parking lot, driveway, sidewalk, street, and lawn area which is typical for each standard land use. The standard land use files also identify the amount of connected imperviousness for each source area.

The stormwater quality analysis will be based on May 2015 guidance document #3800-2015-04 prepared by the DNR.

Best Management Practices

Best Management Practices (BMP) consist of structural and nonstructural stormwater practices that are used to reduce urban non-point source pollution. An example of a structural BMP is a detention pond and an example of a nonstructural BMP is street sweeping. Various BMPs will be discussed with Village Staff to identify structural and nonstructural BMPs which were most likely to be accepted by elected officials and the general public. Examples of information that will be shared with the Village Board includes but is not limited to the following topics: Street Sweeping, Catch Basin Cleaning, Grass Swales, Wet Detention Ponds, Dry Detention Ponds, Pond / Wetland Systems, Biofiltration / Filtration, Proprietary Devices, and Other Structural BMPs.

Developed Urban Area Goals

The Village of Eden is required to achieve a 20% total suspended solids (TSS) reduction within its developed urban area. Existing land uses in 2016 are the basis for the required TSS reductions. Existing land uses in 2016 and the urban planning boundary are depicted in Appendix C and F.

Areas within the developed urban area which may be excluded from the Village's 20% TSS reduction goal include the following:

State & County Highways: The Village's stormwater quality analysis excludes the pollutant load for state and county highway right-of-ways.

Publicly Owned Parcels: The Village's stormwater quality analysis will include the pollutant load for publicly owned parcels located within the Village's urban planning boundary. Unlike state and county highway right-of-ways, the Village has legal authority to regulate stormwater runoff, issue permits, and charge a stormwater utility fee to publicly owned parcels. For these reasons, the Village plans to achieve the required 20% TSS reduction for publicly owned parcels located in the Village's developed urban area.

WPDES Industrial Permits: The Village's stormwater quality analysis includes the pollutant load for industrial areas with coverage under a WPDES Industrial Permit if the permitted area is located within the Village's urban planning boundary. The Village plans to achieve the 20% TSS reduction for these industrial permitted areas for the following reasons: the Village has legal authority to regulate stormwater runoff; the Village has legal authority to charge a stormwater utility fee; it is difficult to determine which portions of an industrial site are covered by a WPDES Industrial Permit; and the pollutant load is the Village's responsibility if the WPDES Industrial Permit is terminated or certified "No Exposure" in the future.

Developed Urban Area Results

Upon completion of the WinSLAMM analysis the results will be presented to the Village Board and the WDNR for their concurrence. The analysis will include the following scenarios; No Controls, Existing BMPs, Requirements to reach a 20% Reduction; and Costs to Attain each threshold. A list of planned BMP's intended to assist in improving the water quality in De Neveu Creek will be provided as part of the final plan.

303(d) Impaired Waters

Impaired water bodies are degraded surface waters which are not meeting stormwater quality standards or their potential uses, such as fishing and swimming, due to pollutants and poor stormwater quality. As shown on the MS4 map located in Appendix C 6 the Village of Eden's MS4 discharges to the following 303(d) impaired waters:

De Neveu Creek: De Neveu creek is listed as being an impaired 303(d) water. The impairments are Elevated Water Temperature & Degraded Habitat; Pollutants include Total Suspended Solids and Total Phosphorus. The designated use for the De Neveu Creek is to support small fish and swimming. No total maximum daily load requirements are currently specified for the De Neveu Creek. The management practices and control measures that will be selected will depend on the best available technology, cost effectiveness, and program implementation. In the future, these best management practices and control measures may be modified by the Village in order to meet total maximum daily load requirements, general stormwater discharge limitations, new stormwater regulations, or other unknown factors associated with implementation.

In addition to the numerical stormwater quality standards, the Village will identify substances that are not allowed to be discharged from its MS4 system.

CHAPTER 10– IMPLEMENTATION PLAN

Below are various items for the Village of Eden to consider when implementing the Stormwater Management Plan and working toward MS4 Permit compliance.

Plan Adoption

The Stormwater Management Plan should be accepted by the Village Board. After the plan is accepted, it should be forwarded to the DNR for review and approval. The DNR will review the plan for compliance with MS4 Permit regulations. The following items are dependent on WDNR approval of the documents and recommendations contained in the Storm Water Management Plan contained herein and the future review and approval of the Win SLAMM analysis and the recommendations determined therefrom.

Compliance Schedule

The WPDES Municipal Stormwater Discharge Permit (WI-S0050181-1) contains a compliance schedule. The compliance schedule identifies when the Village needs to complete each required permit activity. The start date for the Village of Eden's MS4 Permit is February 23, 2015. Based on the February 23, 2015 start date, the Village needs to complete the following permit activities on or before the following dates:

Permit Activity	Due to DNR	Implement
Public Education & Outreach		
Submit public education & outreach plan	8/23/16	2/23/17
Public Involvement & Participation		
Submit public involvement & participation plan	8/23/16	2/23/17
Illicit Discharge Detection & Elimination		
Submit illicit discharge ordinance	2/23/17	8/23/17
Submit illicit discharge response procedures	2/23/17	8/23/17
Complete initial field screening		2/23/18
Submit on-going field screening procedures		
Construction Site Pollutant Control		
Submit construction site pollutant control ordinance	8/23/16	2/23/17
Submit inspection & enforcement procedures	8/23/16	2/23/17
Post-Construction Stormwater Management		
Submit post-construction stormwater management ordinance	8/23/16	2/23/17
Submit long-term maintenance procedures	8/23/16	2/23/17
Municipal Pollution Prevention		
Submit pollution prevention plan	2/23/17	8/23/17

Stormwater Quality Management		
Submit evaluation of flood control structures	2/23/17	
Submit assessment of compliance	2/23/17	
Municipal Separate Storm Sewer System (MS4) Map		
Submit MS4 Map	2/23/17	
Annual Report		
Submit annual report	3/31/18	

Following WDNR approval of the Storm Water Plan Management and subsequent review and approval of the WinSLAMM analysis and recommendations the following items must be acted upon and completed By the Village of Eden and Village engineer, J.E. Arthur & Associates, Inc.

Public Education & Public Involvement

The first step toward implementing the Stormwater Management Plan will be to obtain public input from local stakeholders. Potential stakeholders include the general public, elected officials, Village Staff, developers, environmentalists, regulatory entities, and individual property owners. Although the Stormwater Management Plan includes a cost versus benefit analysis for each water quality alternative, the plan does not take into consideration intangibles such as public sentiment and public opinion.

5-Year Capital Improvement Plan

The Village of Eden with the assistance of Village engineer, J.E. Arthur & Associates, Inc. will Develop a 5-year capital improvement plan based on the Stormwater Management Plan and the Village's permit compliance schedule. It is recommended that the 5-year capital improvement plan include ample time for public education, public input, BMP design, land acquisition, regulatory permits, grant applications, financing, and construction. The 5-year capital improvement plan should also take into consideration other local capital improvement projects, such as street reconstruction projects, utility projects, and private development projects. It is recommend the Village explore all potential opportunities to partner with other public and private entities.

BMP Design

J.E. Arthur & Associates, Inc. will recommend that BMP design, regulatory permits, and land acquisition be conducted in a concise manner. Some of the proposed BMP retrofit sites may not be feasible due to soil contamination, wetlands, floodplains, endangered species, archeological resources, or some other unknown site factor. It is better to understand these challenges before the property is purchased by the Village.

Land Acquisition

J.E. Arthur & Associates, Inc. will recommend that the Village of Eden begin discussions with property owners and businesses that may be impacted by one or more of the proposed wet detention ponds at the earliest possible date. Some of the wet detention ponds may be intentionally located on vacant parcels that are currently for sale. The land acquisition required for a specific pond may become more difficult if the property is sold to another entity.

J.E. Arthur & Associates, Inc. will recommend that the Village of Eden contact local businesses that have a potential BMP retrofit proposed on their property. Any open space areas that are identified for the BMP may be reserved for future business expansions. J.E. Arthur &

Associates, Inc. will recommend that these discussions be pursued by Village Staff as soon as practical. These discussions may eliminate one or more of the proposed wet pond retrofits from consideration.

Regulatory Permits

J.E. Arthur & Associates, Inc. will recommend that regulatory agencies be contacted to discuss permits for potential BMP retrofits. Permits may be required from the Wisconsin DNR, US Army Corps of Engineers, and other regulatory agencies. Some of the proposed wet ponds may be located adjacent to or within wetlands, navigable streams, lakes, 100-year floodplains, and other environmentally sensitive areas. Wet ponds located adjacent to or within one or more of these natural resource features will likely require detailed investigations and extensive timelines for permit approval. The regulatory agency may require wetland delineations, endangered or threatened species investigations, archeological investigations, soil investigations, groundwater or bedrock investigations, or 100-year flood studies.

Financing Plan

Village engineer, J.E. Arthur & Associates, Inc. will recommend that the Village develop a financing plan. The financing plan will allow the Village to implement the Stormwater Management Plan and 5-year Capital Improvement Plan. Below is a discussion of various funding sources which may be available to the Village. Depending on the stormwater project, funding options may be used individually or in combination.

Property Taxes: Property taxes and general funds may be used to pay for stormwater projects. Typically, property tax revenue and general funds are allocated to a specific stormwater project during the community's annual budget process.

Debt / Bonds: General obligation and revenue bonds may be used to secure funding for stormwater projects. Property taxes and revenue fees are used for long-term debt payments.

Special Assessments: Special assessments may be used to generate funds for a specific project. Property owners that benefit from the project pay the assessment fee. Typically, other funding sources are needed to pay for project costs until property owners pay the assessment.

Impact Fees: Impact fees may be charged to developers for stormwater projects that benefit the development. Impact fees are usually paid during initial stages of development. Typically, projects include regional stormwater facilities or improvements to deficient downstream infrastructure. Often, other funding sources are needed to pay for project costs until developers and property owners are required to pay the impact fee.

Stormwater Utility: Stormwater utilities are similar to sanitary and water utilities. Stormwater utilities generate revenue for stormwater related projects by charging property owners an annual service fee. Annual service fees are based upon the amount of runoff generated by a specific property. Properties with more impervious area (i.e. roofs, parking lots, driveways, etc.) are charged a higher fee as compared to properties with less impervious area. All properties, including tax exempt properties, pay the service fee.

Grants / Loans: State and federal grant / loans may be available for certain stormwater projects. Typically, only a certain percent of the total project cost is eligible for grant / loan money with remaining revenues to be generated by the applicant. Below are a few grant / loan programs which the Village of Eden may or may not be familiar with.

- Urban Non-Point Source and Stormwater Construction Grant
- Targeted Runoff Management Construction Grant
- Great Lakes Basin Program
- Community Development Block Grant
- Clean Water Fund

