ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
ANNUAL FACILITY INSPECTION REPORT
NPDES PERMIT FOR STORM WATER DISCHARGES
FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)

Complete each section of this report.

REPORT PERIOD:	**FROM: MARCH 2019**	**TO: MARCH 2020**

MS4 OPERATOR INFORMATION: (As it appears on the current permit)

NAME: Village of Buffalo Grove		**TELEPHONE NUMBER: 847-459-2547**
MAILING ADDRESS: 51 Raupp Boulevard		
CITY: Buffalo Grove	**STATE: IL**	**ZIP: 60089**
CONTACT PERSON: Michael J. Reynolds **(Person responsible for Annual Report)**		

NAME(S) OF GOVERNMENTAL ENTITY(IES) IN WHICH MS4 IS LOCATED: (As it appears on the current permit)

Cook County	**Lake County**

THE FOLLOWING ITEMS MUST BE ADDRESSED.

A. CHANGES TO BEST MANAGEMENT PRACTICES (check appropriate BMP change(s) and attach information regarding change(s) to BMP and measurable goals.)

1. Public Education and Outreach	☐	**4. Construction Site Runoff Control**	☐
2. Public Participation/Involvement	☐	**5. Post-Construction Runoff Control**	☐
3. Illicit Discharge Detection & Elimination	☐	**6. Pollution Prevention/Good Housekeeping**	☐

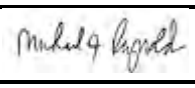
B.
Attach the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and your identified measurable goals for each of the minimum control measures.

C.
Attach results of information collected and analyzed, including monitoring data, if any during the reporting period.

D.
Attach a summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule.)

E.
Attach notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable).

F.
Attach a list of construction projects that your entity has paid for during the reporting period.

SIGNATURE: Michael J. Reynolds 	**DATE: May 31, 2020**

Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

Table of Contents

Part A. Changes to Best Management Practices

Note: X indicates BMPs performed that were proposed in your NPDES permit
✓ indicates changes to BMPs proposed in your NPDES permit

Year 16	Year 17	Year 18	Year 19	Year 20	MS4
A. Public Education and Outreach					
X	X	X	X	X	A.1 Distributed Paper Material
✓	✓	✓	✓	✓	A.2 Speaking Engagement
X	X	X	X	X	A.3 Public Service Announcement
					A.4 Community Event
					A.5 Classroom Education Material
X	X	X	X	X	A.6 Other Public Education
B. Public Participation/Involvement					
					B.1 Public Panel
X	X	X	X	X	B.2 Educational Volunteer
X	X	X	X	X	B.3 Stakeholder Meeting
✓	✓	✓	✓	✓	B.4 Public Hearing
					B.5 Volunteer Monitoring
X	X	X	X	X	B.6 Program Coordination
X	X	X	X	X	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination					
X	X	X	X	X	C.1 Storm Sewer Map Preparation
X	X	X	X	X	C.2 Regulatory Control Program
X	X	X	X	X	C.3 Detection/Elimination Prioritization Plan
X	X	X	X	X	C.4 Illicit Discharge Tracing Procedures
X	X	X	X	X	C.5 Illicit Source Removal Procedures
X	X	X	X	X	C.6 Program Evaluation and Assessment
X	X	X	X	X	C.7 Visual Dry Weather Screening
X	X	X	X	X	C.8 Pollutant Field Testing
✓	✓	✓	✓	✓	C.9 Public Notification
X	X	X	X	X	C.10 Other Illicit Discharge Controls

Year 16	Year 17	Year 18	Year 19	Year 20	MS4
D. Construction Site Runoff Control					
X	X	X	X	X	D.1 Regulatory Control Program
X	X	X	X	X	D.2 Erosion and Sediment Control BMPs
X	X	X	X	X	D.3 Other Waste Control Program
X	X	X	X	X	D.4 Site Plan Review Procedures
X	X	X	X	X	D.5 Public Information Handling Procedures
X	X	X	X	X	D.6 Site Inspection/Enforcement Procedures
					D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control					
X	X	X	X	X	E.1 Community Control Strategy
X	X	X	X	X	E.2 Regulatory Control Program
X	X	X	X	X	E.3 Long-Term O&M Procedures
X	X	X	X	X	E.4 Pre-Const Review of BMP Designs
X	X	X	X	X	E.5 Site Inspections During Construction
X	X	X	X	X	E.6 Post-Construction Inspections
					E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping					
X	X	X	X	X	F.1 Employee Training Program
X	X	X	X	X	F.2 Inspection and Maintenance Program
X	X	X	X	X	F.3 Municipal Operations Storm Water Control
X	X	X	X	X	F.4 Municipal Operations Waste Disposal
X	X	X	X	X	F.5 Flood Management/Assess Guidelines
X	X	X	X	X	F.6 Other Municipal Operations Controls

Part B. Status of Compliance with Permit Conditions

(Provide the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable [MEP], and your identified measurable goals for each of the minimum control measures.)

The status of BMPs and measurable goals performed in Year 17 are described below.

1) PUBLIC EDUCATION AND OUTREACH

The Village performs a variety of activities that meet the requirements of the Public Education and Outreach minimum control measure. These activities include BMPs A.1, A.2, A.3, and A.6. A brief description and status is provided below.

BMP No. A.1, A.3 – Distibuted Paper Material, Public Service Announcement

Brief Description of BMP: The Village newsletter has been used to provide information for the purposes of public outreach. Two stormwater articles were included in the May to June 2019 newsletter. The Village website provides additional links related to notifying residents of various collection events for leaves, landscape waste, tires, prescription drugs, holiday trees, and holiday lights. By promoting proper disposal of these items, the Village reduces the likelihood of illegal dumping into storm drains and drainage ways. The Village will continue to include a stormwater and/or ambient water quality-related articles in the Village's newsletter at least once a year. The Village will continue to utilize other available outlets such as the Village website to reach residents regarding stormwater and water quality information.

BMP No. A.2 – Speaking Engagement

Brief Description of BMP: The Village regularly participates in or provides presentations to local civic clubs, watershed groups or other interested parties on topics related to NPDES, stormwater quality, or other similar subjects. Speaking engagements provide the opportunity to inform concerned citizens or interested parties about stormwater quality, environmental impacts, and other issues NPDES-related issues and activities including ways to help. During previous permit years, the Village's Director of Public Works provided a chloride presentation to the Buffalo Creek Clean Water Partnership, Lake County Stormwater Management Commission Municipal Advisory Committee, and the Buffalo Grove Rotary Club on responsible salt usage and ways to reduce chloride usage and impacts to the environment. Additionally, the Maintenance Superintendent is on the American Public Works Association Winter Maintenance Committee and provides numerous presentations regarding the Buffalo Grove snow and ice program and other salt reduction efforts.

BMP No. A.6 – Other Public Education

Brief Description of BMP: The Village has information on its website relating to recycling of waste, waste disposal, stormwater and/or water quality and provides contact information for residents to report any potential stormwater or water quality-related issues. The Village also has a website link on the Village's website to include information on the potential effects on storm water discharge due to climate change. The Village also typically holds an annual Public Works Open House where residents have the opportunity to learn about the functions of the Public Works Department including stormwater quality activities, however, this year's open house had to be cancelled due to the COVID 19 pandemic. The Village anticipates hosting the open house next year.

2) PUBLIC PARTICIPATION AND INVOLVEMENT

The Village performs a variety of activities that meet the requirements of the Public Participation and Involvement minimum control measure. These activities include BMPs B.2, B.3, B.4, B.6, and B.7. A brief description and status is provided below.

BMP No. B.2 – Educational Volunteer

Brief Description of BMP: The Village participates and coordinates with the Des Plaines River Watershed Workgroup (DRWW), the Municipal Advisory Committee (MAC) of the Lake County Stormwater Management Commission, the Lower Des Plaines Watershed Planning Council, and Buffalo Creek Clean Water Partnership (BCCWP). The goal of the work groups is to identify BMPs that are most appropriate and cost-effective for the region to be used by municipalities and includes an element for chloride reduction.

BMP No. B.3 – Stakeholder Meeting

Brief Description of BMP: The Village will hold an annual public meeting to discuss topics including steps the public can take to reduce pollutants to stormwater runoff or the impacts of stormwater runoff on local water bodies. The goal is to increase public education and involvement regarding the Village's stormwater management and NDPES program and their knowledge on ways they can help.

BMP No. B.4 – Public Hearing

Brief Description of BMP: The Village supports the BCCWP whose activities reduce the amount of pollutants and other materials that make it to the MS4. The Village regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents. Stormwater was specifically included in the June 3, 2019 Village Board Committee of the Whole agenda.

BMP No. B.6 – Program Coordination

Brief Description of BMP: The Village coordinates with local groups to perform clean-up activities. These activities directly reduce the amount of pollutants entering the Village's storm sewer system.

The Village supports the BCCWP whose activities reduce the amount of pollutants and other materials that make it to the MS4. The Village regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents.

BMP No. B.7 – Other Public Involvement

Brief Description of BMP: The Public Works Department provides contact information on the Village website to allow residents to report stormwater or water quality-related issues.

Buffalo Grove has actively participated in the DRWW. The DRWW is a dues-paying organization with a mission to bring together a diverse coalition of stakeholders to work together to improve water quality in the Des Plaines River and its tributaries in a cost-effective manner to meet Illinois EPA requirements. The DRWW will monitor water quality in the river and tributaries, prioritize and implement water quality improvement projects, and secure grant funding to offset the cost. This committee has worked to reduce pollution in the Des Plaines River Watershed.

Buffalo Grove has actively participated in the MAC of the Lake County Stormwater Management Commission. This committee has worked to reduce pollution in waterways and water bodies in Lake County.

The Village also holds an annual Public Works Open House where residents have the opportunity to learn about the functions of the Public Works Department including stormwater quality activities; however, this year's open house had to be cancelled due to the COVID 19 pandemic. The Village also hosted a ribbon cutting ceremony for the Buffalo Creek streambank stabilization project in April 2019.

3) ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Village performs a variety of activities that meet the requirements of the Illicit Discharge Detection and Elimination minimum control measure. These activities include BMPs C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, C.9, and C.10. A brief description and status is provided below.

BMP No. C.1 – Storm Sewer Map Preparation

Brief Description of BMP: The Village maintains an updated storm sewer system map. The map shows the location all of the outfalls within the Village and identifies the name of all waters that receive discharges from those outfalls. The map is currently up-to-date and will be updated as needed based on development and other stormwater improvements. The village also hosted a public groundbreaking ceremony for the Buffalo Creek reservoir in April 2018.

BMP No. C.2 – Regulatory Control Program and C.3 Detection/Elimination Prioritization Plan

Brief Description of BMP: The Village has established a high-quality suburban environment through adoption and enforcement of building and other codes which provide for polluted discharges to be properly routed to the sanitary sewer system for treatment. The Village's Municipal Code prohibits improper discharges and Village staff effectively follow up any observation of improper discharges of pollutants. The Village will continue to enforce the ordinance to prevent or eliminate non-stormwater discharges from the MS4.

BMP No. C.4 – Illicit Discharge Tracing Procedures and C.5 Illicit Source Removal Procedures

Brief Description of BMP: The Village has existing policies and procedures in place to trace and eliminate illicit discharges to the MS4 identified by resident reporting, visual screening, and public works maintenance activities. These procedures include the utilization of the storm sewer map, existing design plans, and other available data to locate the source of potential pollutants. The Village will continue these tracing activities as needed to reduce or eliminate non-stormwater discharges to the MS4.

BMP No. C.6 – Program Evaluation and Assessment

Brief Description of BMP: The Village performs an annual review of the effectiveness of the regulatory program. The Village also performs screenings of all Village outfalls to identify illicit discharges as part of its maintenance activities. The Village will continue to perform these activities.

BMP No. C.7 – Visual Dry Weather Screening

Brief Description of BMP: The Village performs inspections of all MS4 outfalls during dry weather conditions as determined by the inspection prioritization plan.

BMP No. C.8 – Pollutant Field Testing

Brief Description of BMP: The Village regularly samples, test, and documents the results of influent and effluent flow to various lakes and streams throughout the community.

BMP No. C.10 – Other Illicit Discharge Controls

Brief Description of BMP: The Village performs annual monitoring of the receiving waters as required by the ILR40 permit conditions.

A segment of Buffalo Creek (GST) is in an approved TMDL water quality plan (Des Plaines River/Higgins Creek Watershed TMDL Report, dated May 2013).

A segment of the Des Plaines River (G-36) is identified on the IEPAs 303d list as impaired for primary recreational contact (fecal coliform), aquatic life (total phosphorus), and fish consumption (mercury and PCBs). No TMDL has been identified for the segment of the Des Plaines River in the Village.

A segment of Indian Creek (GU-02) is identified on the IEPAs 303d list as impaired for aquatic life (DO). No TMDL has been identified for this segment of Indian Creek in the Village.

The Village will monitor the progress of watershed work groups and the establishment of any applicable TMDLs or other Watershed Management Plans. The Village will continue the monitoring and evaluation program.

4) CONSTRUCTION SITE RUNOFF CONTROL

The Village has ordinances and activities in place that meet the requirements of the Construction Site Runoff Control minimum control measure as a certified community under the Lake County Watershed Development Ordinance (WDO). These activities include BMPs D.1, D.2, D.3, D.4, D.5, and D.6. A brief description and status is provided below.

BMP No. D.1 – Regulatory Control Program

Brief Description of BMP: The Village has ordinances in place to require the review, inspection, and enforcement of construction site runoff controls. The Village will continue with these policies/procedures and update as needed based on the impending MS4 permit.

BMP No. D.2 – Erosion and Sediment Control BMPs and D.3 Other Waste Control Program

Brief Description of BMP: The Village has ordinances in place to require the review, inspection, and enforcement of soil erosion and sediment control BMPs. The Village will continue these procedures to reduce or prevent the discharge of soil and other potential pollutants from construction sites and amend as needed based on the impending permit. Other wastes which would leave the site, such as littering are also prohibited.

BMP No. D.4 – Site Plan Review Procedures

Brief Description of BMP: The Village has procedures that require the review of site plan for proposed developments for compliance. The Village will continue the review procedures for developments to verify compliance with applicable NDPES regulations.

BMP No. D.5 – Public Information Handling Procedures

Brief Description of BMP: The Village has procedures in place to receive, log, and address publicly-reported issues. The Village will continue these procedures and respond and/or investigate as needed.

BMP No. D.6 – Site Inspection/Enforcement Procedures

Brief Description of BMP: The Village and County have regulatory control programs for the inspection and enforcement of construction site runoff control. The Village will continue the inspection and enforcement program to prevent the discharge of pollutants from construction sites.

5) POST-CONSTRUCTION RUNOFF CONTROL

The Village has ordinances and activities in place that meet the requirements of the Post-Construction Runoff Control minimum control measure as a certified community under the Lake County Watershed Development Ordinance (WDO). These activities include BMPs E.1, E.2, E.3, E.4, E.5, and E.6. A brief description and status is provided below.

BMP No. E.1 – Community Control Strategy and E.2 – Regulatory Control Program

Brief Description of BMP: The Village has ordinances in place that require the review, inspection, and enforcement of post-construction runoff control measures. The Village will continue to enforce the ordinances and verify compliance of all developments following construction to reduce or prevent the discharge of pollutants to the MS4.

BMP No. E.3 – Long-Term O&M Procedures

Brief Description of BMP: The Village has procedures for assisting and evaluating long-term maintenance of stormwater BMPs. The Village will continue to assist developers, residents, and other target audiences by providing sample maintenance plans and conducting inspections as needed.

BMP No. E.4 – Pre-Construction Review of BMP Designs

Brief Description of BMP: The Village's existing practices include the pre-construction review of BMP designs. These procedures include pre-application meetings for large-scale developments. The Village will continue the review procedures and modify as necessary to maintain compliance.

BMP No. E.5 – Site Inspections During Construction

Brief Description of BMP: The Village performs site inspections during and after construction at new development and redevelopment projects to verify compliance with the runoff control requirements. The Village will continue these procedures aimed at preventing the discharge of pollutants to the MS4.

Additionally, the Village, Lake County, and MWRDGC have ordinances and procedures in place that protect water quality and reduce the discharge of pollutants by controlling construction site runoff. These procedures include review of the BMP designs by qualified staff and inspection/enforcement during and after construction.

BMP No. E.6 – Post-Construction Inspections

Brief Description of BMP: The Village, Lake County, and MWRDGC have ordinances and procedures in place that protect water quality and reduce the discharge of pollutants by controlling post-construction site runoff. These procedures include review of the BMP designs by qualified staff and inspection/enforcement during and after construction.

6) POLLUTION PREVENTION AND GOOD HOUSEKEEPING

The Village performs a number of activities that meet the requirements of the Pollution Control and Good Housekeeping minimum control measure. These activities include BMPs F.1, F.2, F.3, F.4, F.5, and F.6. A brief description and status is provided below.

BMP No. F.1 – Employee Training Program

Brief Description of BMP: The Village conducts annual stormwater pollution prevention training for Village employees to reduce or eliminate the discharge of pollutants from Village-owned facilities to the storm sewer system. The Village staff also includes trained and licensed pesticide applicators.

BMP No. F.2 - Inspection and Maintenance Program

Brief Description of BMP: This year the village has an inspection and maintenance program in place to evaluate and maintain the municipal stormwater facilities. The Village has performed 16,000 linear feet of storm sewer televising and cleaning during the previous permit year. The Village also completed the Navajo storm sewer relining and headwall restoration project last year. The Village activities also include the Village's street sweeping program. The Village will continue this program aimed at reducing the amount of debris and other potential pollutants entering the MS4.

BMP No. F.3 – Municipal Operations Storm Water Control and F.4 – Municipal Operations Waste Disposal

Brief Description of BMP: The Village has procedures and policies to prevent the discharge of pollutants to the MS4 from municipal operations. These policies include dewatering procedures, pumping activities, and waste disposal. The Village has performed the annual evaluation of the Village's Pollution Prevention Plan and will continue these operations and re-evaluate and/or modify as needed to prevent the discharge of pollutants to the MS4.

The Village also has a comprehensive Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Public Works facility to reduce the potential impacts to the environment. Specifically, the SPCC plan details operating procedures that prevent spills and/or discharges, control measures installed to prevent spills from reaching the environment, and countermeasures to contain, clean up, and mitigate a spill or discharge that reaches the environment.

BMP No. F.5 - Flood Management/Assess Guidelines

Brief Description of BMP: The Village, Lake County, and MWRDGC ordinances require the appropriate management of development and other uses within special flood hazard areas. The Village completed the streambank stabilization of Buffalo Creek during the previous permit year, but held the dedication invitation event this year. The dedication invitation and pictures from the event are enclosed.

BMP No. F.6 - Other Municipal Operations Controls

Brief Description of BMP: The Village performs a variety of activities that reduce or prevent pollutants including pesticides, herbicides, fertilizers and trash from entering the storm sewer system and to minimize exposure. These activities are part of the Village's municipal operations controls and include proper storage and handling, certification, spill and leak prevention, and response procedures, street sweeping, and waste recycling.

BUFFALO GROVE VILLAGE NEWS

Inside This Issue:

Public Works Qualifies for Nearly $10 Million in Grants

The Buffalo Grove Public Works Department, and the Village as a whole, believe that maximizing grant funding opportunities is vitally important to maintaining efficient streets and roadways, and reducing the overall burden on Buffalo Grove taxpayers.

Over the last few years, Public Works Engineering Division has successfully identified roads that could qualify to become Federal Aid Urban (FAU) routes, which enable certain projects to be funded in part, by grants. In 2016 that is exactly what happened with Thompson Boulevard and Brandywyn Lane. Since then, the Engineering Division has applied for and successfully received $9.8 million in federal funds for the reconstruction of these two roads, which was previously estimated at a cost of $12.4 million. Due to these grants, the Village will only be responsible for approximately $2.5 million of the costs. Bernard Drive has also been approved as an FAU route within Cook County, and the Village plans to apply for federal funding when grants become available.

Help Preserve Buffalo Grove's Water Environment

In accordance with state and federal storm sewer regulations, residents are reminded that it is unlawful to dump chemicals, paints, solvents or any other pollutants in inlets, creeks, or on Buffalo Grove streets.

The Clean Water Act authorizes the Environmental Protection Agency (EPA), to regulate point sources that discharge pollutants into waters of the US through the National Pollutant Discharge Elimination System (NPDES) permit program.

'Point sources' are generated from a variety of municipal, construction and industrial operations, including treated wastewater, processed water, cooling water and stormwater runoff from drainage systems. In place since 1990, the NPDES Stormwater Program regulates discharges from municipal separate storm sewer systems (MS4s), construction activities, industrial activities and those designated by EPA due to water quality impacts.

If residents observe activities that are believed to be adding pollutants into inlets, creeks or on streets, or have questions about pollution reports or stormwater quality concerns, they are asked to contact the Public Works Department at **847-459-2547**. For more information on Buffalo Grove's NPDES program visit **vbg.org/588/NPDES-Annual-Report**.

Buffalo Grove Employee Spotlight
Deputy Director of Public Works Mike Skibbe

Mike Skibbe began his career at the Village of Buffalo Grove in 1998, after his drafting teacher at Buffalo Grove High School advised him to apply for a part-time position in the Engineering Department. Following graduation from Valparaiso University with a degree in Mechanical Engineering and a minor in Management, Mike began working full-time in the Engineering division at the Village. He has since gone on to receive as a Master of Business Administration degree from Elmhurst College.

Mike was promoted to Deputy Director of Public Works in 2013, and currently oversees operational sections including Building Maintenance, Forestry, Fleet Maintenance, Streets, Water, Sewer and Drainage. He has a strong technological focus which includes data-driven decision making which has led to many integrated technologies being utilized under his leadership. This includes the mapping of utilities, managing underground utilities and other assets, and receiving/responding to resident requests through a dedicated, streamlined process. This innovative work led to the Public Works Department receiving the Management Innovation Award from the American Public Works Association (APWA) in March of 2019, and the Clarity Award from the Engaging Local Government Leaders (ELGL) in 2018.

Mike is an active member of APWA, ELGL, and the American Water Works Association (AWWA). He writes about leadership and local government for the ELGL Morning Buzz team and plays ice hockey with the AWWA "Water Hammers" charity hockey team. His volunteering has included being a past president of the Des Plaines History Center, and he is a Shriner that supports the Shriner Children's Hospital. He and his wife Katie have two sons, John and Miles. In his free time, Mike is constantly making house repairs due to damage caused by their Bernese Mountain Dog, Boulder, who Mike says is a creature 'as smart as his name'.

Only Rain Down the Drain

Storm drains and roadside ditches lead to inland lakes, streams, rivers - and to Lake Michigan. Any motor oil, pet waste, leaves, grass clippings or dirty water from washing a car that enters a storm drain gets into the water without being treated.

Residents are reminded not to dump these substances, or anything else down the storm drain or into a ditch. Pollutants that get into storm drains can poison fish, birds and other wildlife, and find their way into drinking water supplies. In addition, dirt, litter, branches and grass clippings can also clog storm drains and cause flooding. Be sure to report anyone dumping materials into a storm drain or ditch to Buffalo Grove officials by calling **847-459-2525**.

How Residents Can Prevent Water Pollution:

1. Sweep up driveways and sidewalks instead of hosing them down with water or blowing debris into the street.
2. Never dump anything down a storm drain or into a ditch.
3. Plant bare spots in your yard.
4. Compost yard waste.
5. Use fertilizers sparingly and avoid pesticides.
6. Direct downspouts away from paved surfaces.
7. Take your car to a car wash instead of washing it in the driveway.
8. Check cars for leaks and recycle motor oil. Just four quarts of oil can form an eight-acre oil slick if spilled or dumped down a storm drain.
9. Pick up after your pet.
10. If you are on a septic system, have it inspected and pumped regularly.

Weiland and Lake Cook Road Project Update

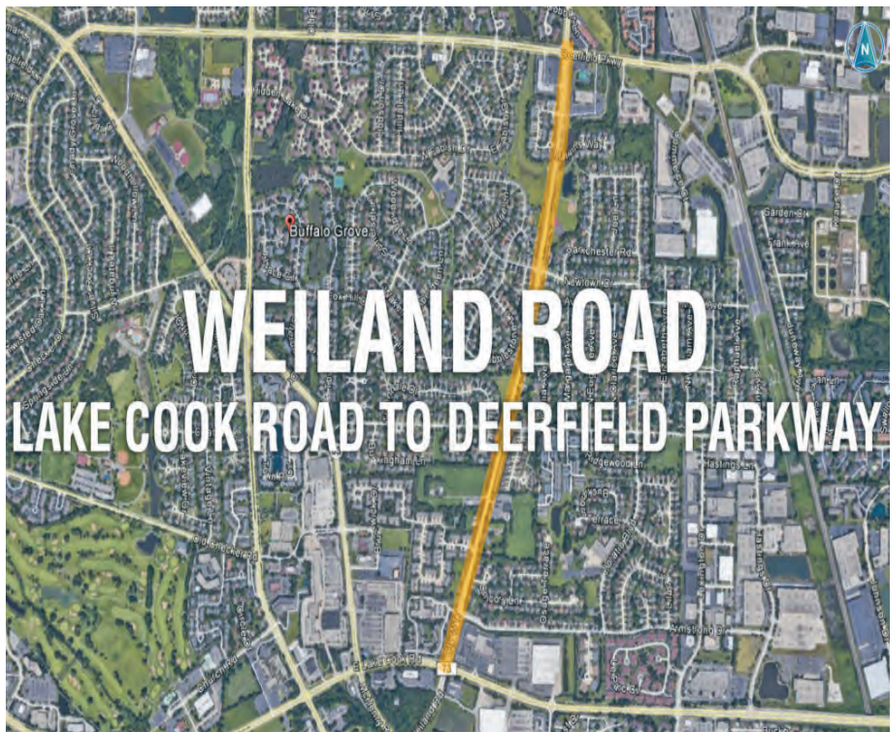
Buffalo Grove residents should be prepared for two upcoming major road projects. The Lake County Department of Transportation (LCDOT) will be managing the reconstruction of Weiland Road, from Lake Cook Road to Aptakisic Road; Lake Cook Road reconstruction from Raupp Boulevard to Hastings Drive, will be managed by Cook County.

Utility relocation has already begun for both the Lake Cook Road and Weiland Road projects, and is expected to continue throughout the spring and summer. This work may require lane closures or flaggers, which should be confined to between the hours of 9:00 a.m. and 3:00 p.m. Monday through Friday.

Weiland Road from Lake Cook Road to Deerfield Road will be the first road project to begin in 2019 with construction expected to start in June or July. While LCDOT is leading this project, they have hired Baxter and Woodman Consulting Engineers to oversee the day-to-day work.

Lake Cook Road from Raupp Boulevard to Hastings Drive, and Weiland Road from Deerfield Road to Aptakisic Road may begin before the end of the 2019 construction season; Cook County is still in the process of design and other procurements.

To stay up to date on road project schedules and sign up for updates, please visit **lakecookweiland.com**.



Des Plaines River Watershed Workgroup (DRWW)

Certificate of Completion

is hereby granted to

Michael Reynolds

to certify that he/she has completed to satisfaction ***1 Professional Development Hour***
at the

DRWW General Membership Meeting

November 15, 2018

Des Plaines River
Watershed Workgroup

Meeting of the Village of Buffalo Grove Village Board

Committee of the Whole
June 3, 2019 at 6:00 PM

Fifty Raupp Blvd
Buffalo Grove, IL 60089-2100
Phone: 847-459-2500

1. Call to Order

A. Pledge of Allegiance

2. Special Business

A. Exelon Smart Water Pilot Program Introduction (Trustee Pike) (Staff Contact: Michael Skibbe)

B. Water & Sewer System Study (Trustee Pike) (Staff Contact: Michael Reynolds)

C. Regulation of Sale of Pets (President Sussman) (Staff Contact: Dane Bragg)

D. Golf Course Business Analysis Discussion (Trustee Stein) (Staff Contact: Dane Bragg)

E. Stormwater Proforma (Trustee Pike) (Staff Contact: Michael Reynolds)

F. General Fund Five Year Financial Forecast FY 2020-2024 (Trustee Weidenfeld) (Staff Contact: Andrew Brown)

G. Permit Fee Discussion (Trustee Smith) (Staff Contact: Chris Stilling)

H. Website Phase II & III Update (Trustee Weidenfeld, Trustee Johnson) (Staff Contact: Evan Michel)

I. FEMA Training and EOC Exercise (Trustee Smith) (Staff Contact: Mike Baker)

3. Questions From the Audience

Questions from the audience are limited to items that are not on the regular agenda. In accordance with Section 2.02.070 of the Municipal Code, discussion on questions from the audience will be limited to 10 minutes and should be limited to concerns or comments regarding issues that are relevant to Village business. All members of the public addressing the Village Board shall maintain proper decorum and refrain from making disrespectful remarks or comments relating to individuals. Speakers shall use every attempt to not be repetitive of points that have been made by others. The Village Board may refer any matter of public comment to the Village Manager, Village staff or an appropriate agency for review.

4. Adjournment

The Village Board will make every effort to accommodate all items on the agenda by 10:30 p.m. The Board, does, however, reserve the right to defer consideration of matters to another meeting should the discussion run past 10:30 p.m.

The Village of Buffalo Grove, in compliance with the Americans with Disabilities Act, requests that persons with disabilities, who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the ADA Coordinator at 459-2525 to allow the Village to make reasonable accommodations for those persons.

You're Invited

Buffalo Creek Nature Preserve
Stream Bank Stabilization Project
Ribbon Cutting
Wednesday, April 24, 2019
10 a.m. - 11 a.m.

10:00 – Welcome & Introductions – Darren Monico, Village Engineer
10:05 – President Sussman
10:10 – Stakeholder Comments –SMC, EPA, Army Corps, Manhardt, Copenhaver, Rotary, Siemens
10:20 – Jeff Weiss, Buffalo Clean Water Partnership – Benefits of project & Earth Day Friday, April 25 and volunteer project on Saturday, April 26.
10:30 – Ribbon Cutting
10:40 – Closing Remarks – Darren Monico, Village Engineer

Project funded by Illinois Environmental Protection Agency, Village of Buffalo Grove

LAKE COUNTY STORMWATER MANAGEMENT COMMISSION

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

VILLAGE OF Buffalo Grove

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

L- Copy to file original to ME - M.R.

847/294-4000
847/294-4018 (Fax)

Village of Buffalo Grove

JUN - 1 2016

PW Admin

May 23, 2016

Village of Buffalo Grove
Mr. Micheal Reynolds
51 Raupp Boulevard
Buffalo Grove, IL 60089-2198

RE: Village of Buffalo Grove
NPDES Number: ILR400303

Dear Mr. Reynolds:

On February 5, 2016, an inspection of Village of Buffalo Grove was conducted by Chris Kallis representing the Illinois Environmental Protection Agency. The purpose of the visit was to review facility operations with regard to applicable state and federal water pollution control laws and regulations.

A copy of the inspection report is enclosed for your information.

Please contact Chris Kallis at 847/294-4000 if you have any questions regarding this inspection.

Sincerely,

DIVISION OF WATER POLUTION CONTROL

Jay Patel, Regional Manager
Field Operations Section – Des Plaines

JP:CK:dfab:VillageofBuffaloGrove.ltr.5-5-16

Enclosure

bc: Record Unit
Regional File

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

MEMORANDUM

DATE: May 4, 2016

TO: File

FROM: Chris Kallis CK

SUBJECT: Village of Buffalo Grove
NPDES Permit Number ILR400303

Attached is a copy of a Municipal Separate Storm Sewer System Inspection Report for the Village of Buffalo Grove. The inspection was conducted on February 5, 2016 . It was found that the Village is in substantial compliance with the MS4 NPDES Permit requirements. It is recommended that the Village review the added requirements of the general storm water NPDES Permit issued since the inspection on February 10, 2016. All permittees must comply with the new provisions by September 2016. The Village has been proactive in their monitoring program which will meet many of the new requirements. The Village has been proactive in their monitoring program which will meet many of the new requirements. However, major additions and improvements to the Storm Water Management Plan including ordinance modifications may be required.

CC: DWPC/FOS/RU
CK

EPA

United States Environmental Protection Agency

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	2 5 3 I L R 4 0 0 3 0 3 11	12 1 6 0 2 0 5 17	18 >	19 S	20 1

Remarks

21 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved	
67 0 0 1 69	70 N	71 N	72 N	73 74	75 80

Section B: Facility Data

Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number)	Entry Time/Date	Permit Effective Date
Village of Buffalo Grove **51 Raupp Blvd.** **Buffalo Grove, Illinois 60089**	**9:00a.m.-Feb 5**	
	Exit Time/Date **3:00p.m.- Feb 5**	Permit Expiration Date

Name(s) of On-Site Representative(s)/Title(s)/ Phone and Fax Number(s)	Other Facility Data
Micheal Reynolds- Director of Public Works **Darin Monico- Village Engineer**	
Name, Address of Responsible Official/Title/Phone and Fax Number	
Micheal Reynolds- 847/459-2547 Contacted [X] Yes [ ] No	

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)

	Permit		Flow Measurement		Operation & Maintenance		Storm Water
	Records/Reports		Self-Monitoring Program		Sludge Handling/Disposal		Combined Sewer Overflow
	Facility Site Review		Compliance Schedules		Pretreatment		Sanitary Sewer Overflow
	Effluent/Receiving Waters		Laboratory		Pollution Prevention	X	MS4

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation Codes, as necessary)

SEV Codes

SEV Description

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
	IEPA / DWPC / FOS	5/9/16
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date
	IEPA / DWPC / FOS	5/10/2016

cc:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
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BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

FIELD REPORT

Facility Name:	Village of Buffalo Grove
NPDES Permit No:	ILR400303
Inspection Date:	February 5, 2016
Inspected By:	Chris Kallis
Interviewed:	Michael Reynolds Director of Public Works
	Darren Monico Village Engineer
	Travis Perry Christopher Burke Engineering

GENERAL INFORMATION

This Village is located in both Lake and Cook Counties. At last census, the population was 41,500. With an area of 9.53 square miles (3% of which is water), the population density is approximately 4,368 per square mile. The tributaries are divided into four sub-basins of the Des Plaines River watershed. These are Aptakisic Creek, Kildeer Creek, Indian Creek and Buffalo Creek.

PROGRAM MANAGEMENT

The Village does have a completed Stormwater Management Plan with milestones. The coordination of the plan included Public Works, the Village Enjoiner and stakeholders. The plan includes specific milestones and quantities for each program Best Management Practice (BMP). Two of the sub-basins are listed as impaired on the Illinois 303d list. Contaminants of concern listed in the SWMP are Fecal Coliform, Chloride, Ammonia Nitrogen and Dissolved Oxygen. Monitoring is a significant part of the program. Evaluating success of the program is determined by reviewing monitoring results.

PUBLIC EDUCATION AND PARTICIPATION

The Villages newsletter is used for decimating public outreach concerning water pollution. The website is also used. However, information is most easily accrued by using the search tool. The SWMP and annual report are on the site. Several pollution prevention related brochures were available in the reception area. The Village in the past year was actively involved in the Buffalo Creek Clean Water Partnership, the Buffalo Grove Environmental Action Team and the Center for Watershed Protection.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Village has completed a concise storm sewer map which includes catch basins, outfalls, ditches and receiving streams. This includes areas the areas where streams enter an exit the Village. Inspections are documented and maps are used to track illicit discharges. The Village Ordnance addresses illicit discharges under chapter 13 (waterworks and sewage system) which indicates when sanitary sewers are required. The statute covers prohibited disposal and unlawful discharges. Sanitary sewer overflow prevention is addressed by inflow and infiltration smoke testing. Training of staff includes a power point covering all Ms4 compliance requirements including inspecting outfalls for illicit discharges. In addition, a Spill Prevention and Control Plan were developed by Stantec for the Village. The Village includes industrial parks. A review of the data base shows that there are no industries covered under the NPDES Permit for Storm Water Associated with Industrial Activity. There are several industries within the Village limits which have the applicable sic codes. However, they neither have NPDES coverage or a No Exposure Cortication. A site inspection was made of the receiving streams entering and leaving the Village. No major problems were noted.

CONSTRUCTION ACTIVITIES AND POST-CONSTRUCTION CONTROLS

The Village has its own Soil Erosion and Sediment Control Ordinance. It does include a plan review and permit requirement as a control mechanism with legal authority to enforce. The Village Engineer reviews and approves all plans and specifications. There are inspection procures with two DECI's on staff. A review of inspections showed that permit requirements are being met. The ordinance and plan review is alos used to insure post construction BMPs. More than 90% of the ponds in the Village are owned and operated byte Village. The remaining 10% are owned by the developer or the Homeowners Association. New ordinance is being developed for private pond operation and maintenance requirements.

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

The SWMP does include an operation and maintenance program that addresses the main NPDES requirements. The staff training includes building grounds, parking /storage area maintenance, landscape maintenance, waste handling and disposal outdoor activities such as container storage and process equipment. It also includes vehicular activities such as fueling, washing, maintenance and repair. Routine catch basin cleaning and storm sewer maintenance is ongoing and adequate records are kept. Salt application is controlled and beet juice is used to minimize chloride concentrations in runoff. Catch basin inspection and cleaning as well as storm sewer maintenance is a continuing activity and documented adequately. An inspection of the maintenance yard showed it to be clean and well maintained.

MONITORING, RECORDKEEPING AND REPORTING

Records confirm that the Annual Facility Inspection Reports have been submitted in accordance with the NPDES Permit. The most recent report reviewed was dated March 2015 and signed by Michael Reynolds. At the time of the inspection, the sections covering the six control measures appeared to be meeting the NPDES requirements. The reports do include qualitative sampling in the for contaminants of concern in the receiving stream.

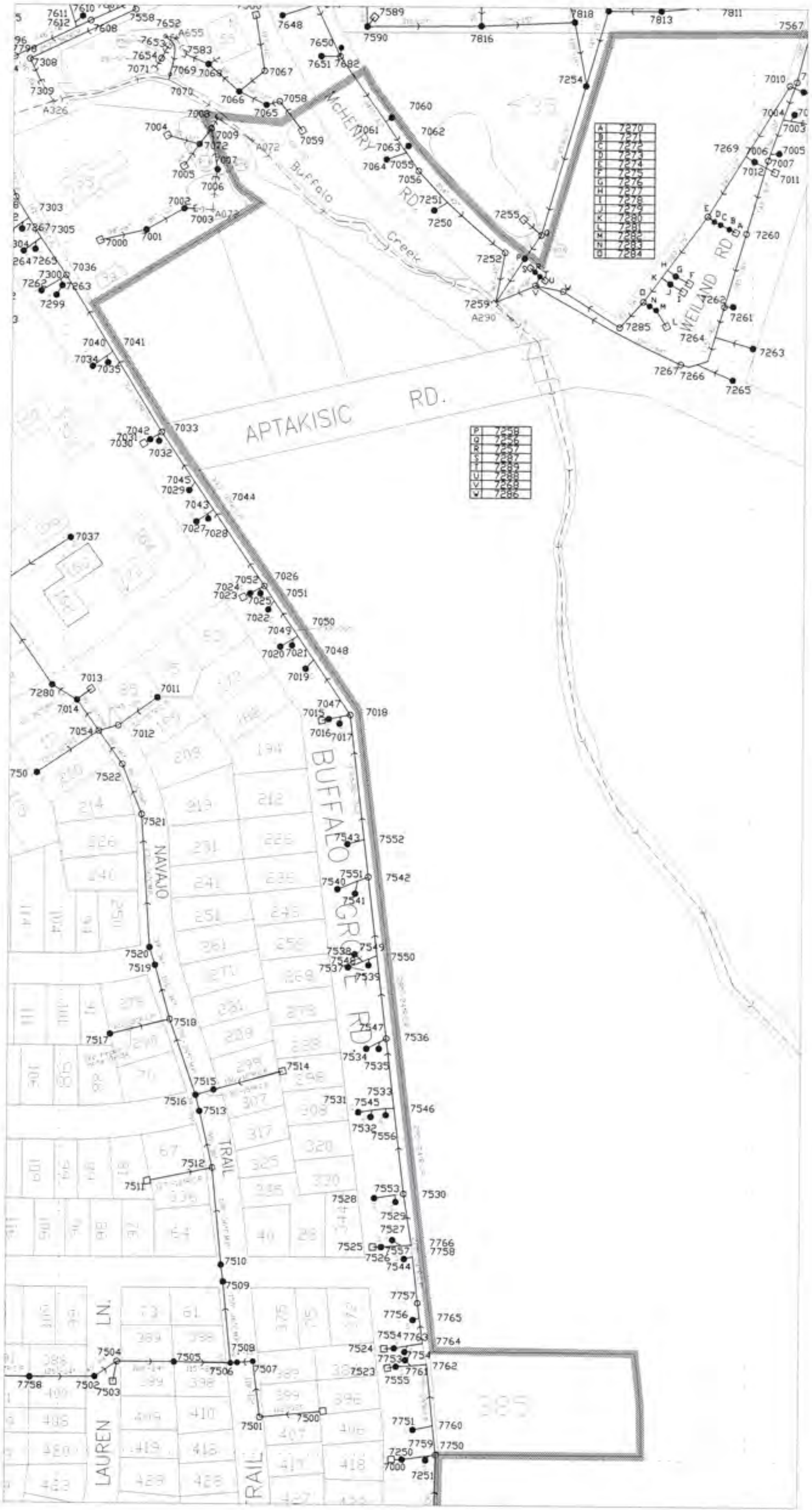
SUMMARY OF FINDINGS

It was found that the Village is in substantial compliance with the MS4 NPDES Permit requirements. It is recommended that the Village review the added requirements of the general storm water NPDES Permit issued since the inspection on February 10, 2016. All permittees must comply with the new provisions by September 2016. The Village has been proactive in their monitoring program which will meet many of the new requirements. However, major additions and improvements to the Storm Water Management Plan including ordinance modifications may be required.

Attached to this report are storm sewer maps with receiving streams entering and exiting the Village, storm sewer maintenance and repair documentation, list of no exposure certifications, 2015-2016 construction projects, community briefs and herbicide control documentation.

E 1/2 of the NW 1/4 of SEC 4
TOWNSHIP 42 N RANGE 11 E OF THE 3RD PM
Wheeling Township – Cook County IL

VILLAGE OF Buffalo Grove



D–13 DETAILS

STORM SEWER RESTRICTOR DETAILS

R56 – 1.17"dia. and 3.25"dia. drilled orifices in steel plates; steel plates are bolted to flanges of 8" D.I.P. outlet pipe; Bank Of America

R74 – 2L.F. of 4" pipe mortared inside of 8" outlet pipe; Mamati's Pizza

R75 – 2L.F. of 5" pipe mortared inside of 15" outlet pipe; Mamati's Pizza

R76 – 2L.F. of 4" pipe mortared inside of 10" outlet pipe; Ambulatory Care Center

STORM SEWER REPAIR NOTES

D–13A: Point repair, 5' of 12" PVC installed in 2004

Storm Atlas
(with I.D. numbers)

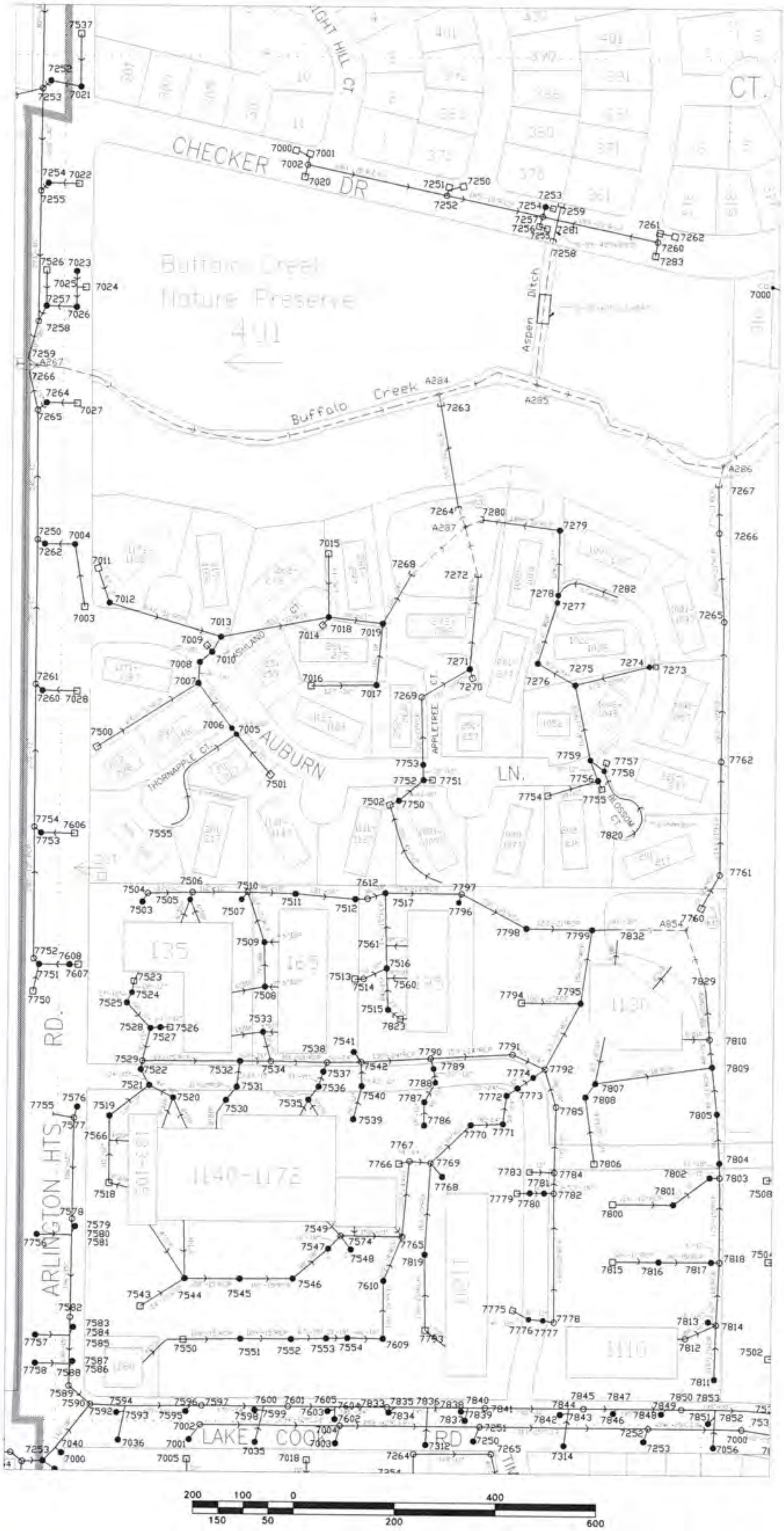
Last Revised: 07/24/12 By: KJH

200 100 0 400
150 50 200 600
(feet)

D–13

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

W 1/2 of the SW 1/4 of SEC 32
TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
Vernon Township – Lake County, IL



E–8 DETAILS

Storm Atlas (with I.D. numbers)

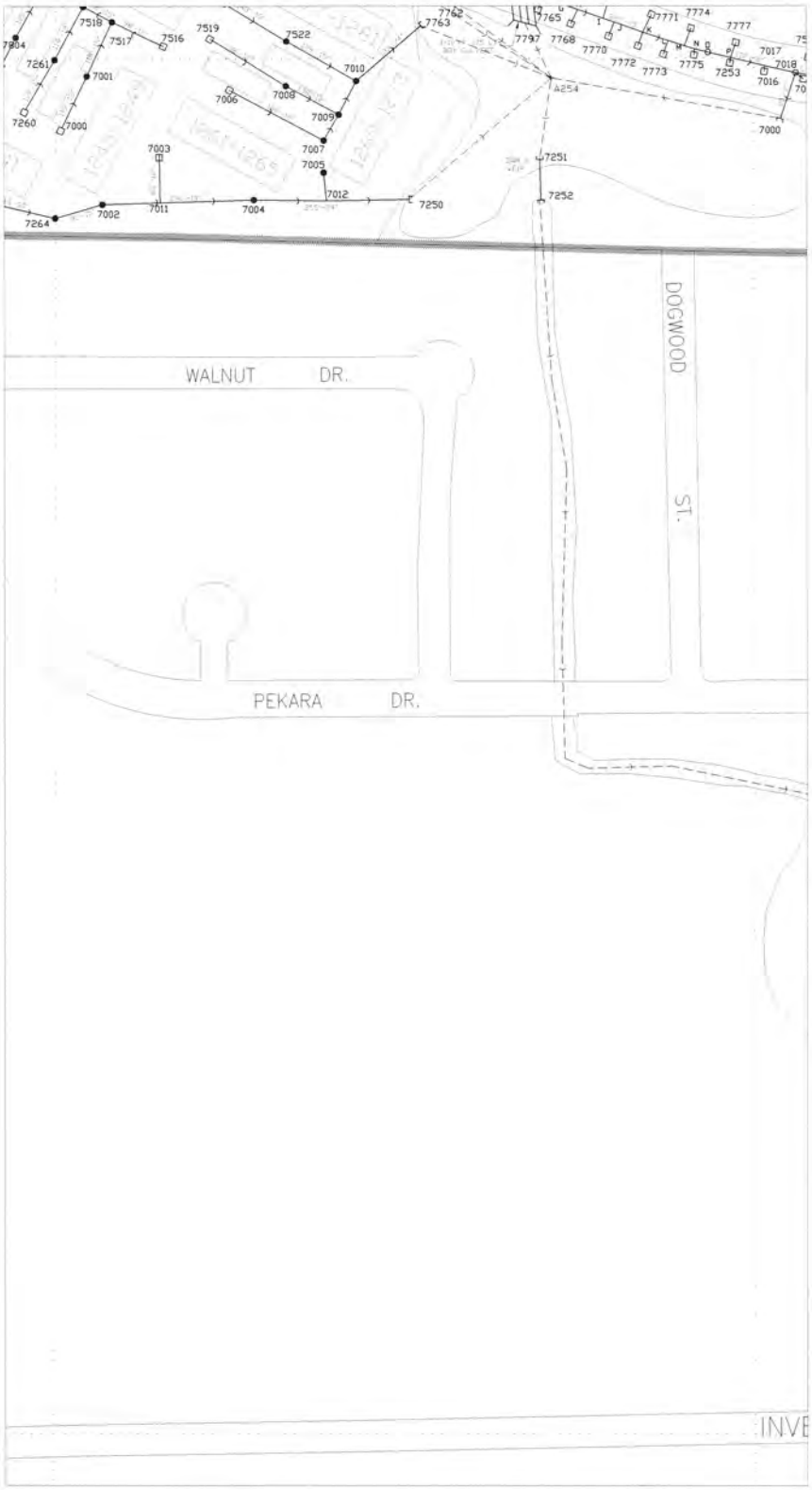
Last Revised: 07/24/12 By: KJH

E–8

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

E 1/2 of the NE 1/4 of SEC 34
TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
Vernon Township – Lake County, IL

VILLAGE OF Buffalo Grove



F–19 DETAILS

Storm Atlas
(with I.D. numbers)

Last Revised: 07/24/12 By: KJH

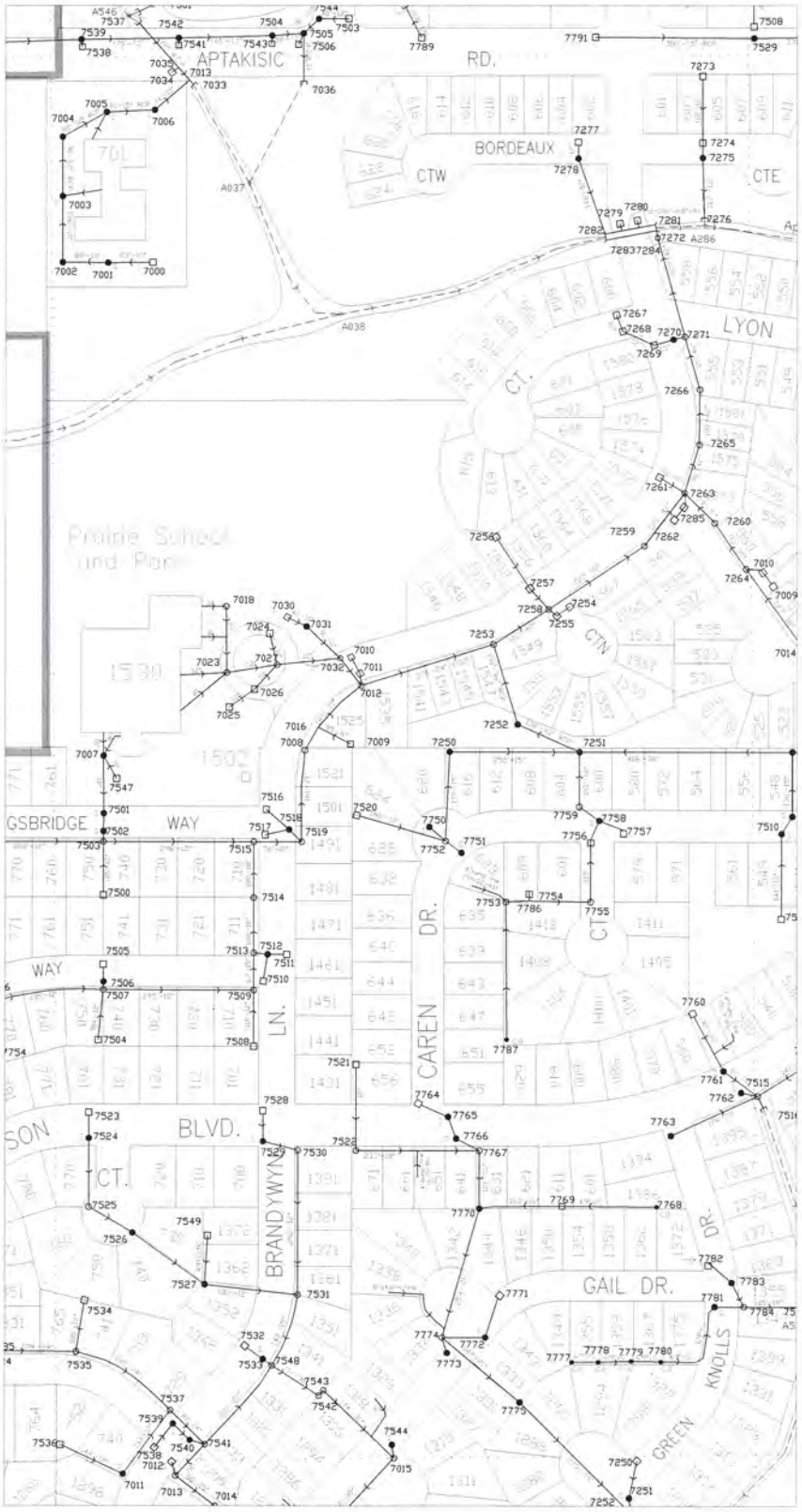
200 100 0 400
150 50 200 600
(feet)

F–19

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

W 1/2 of the NE 1/4 of SEC 29
TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
Vernon Township – Lake County, IL

VILLAGE OF Buffalo Grove



H–10 DETAILS

Storm Atlas
(with I.D. numbers)

Last Revised: 07/24/12 By: KJH

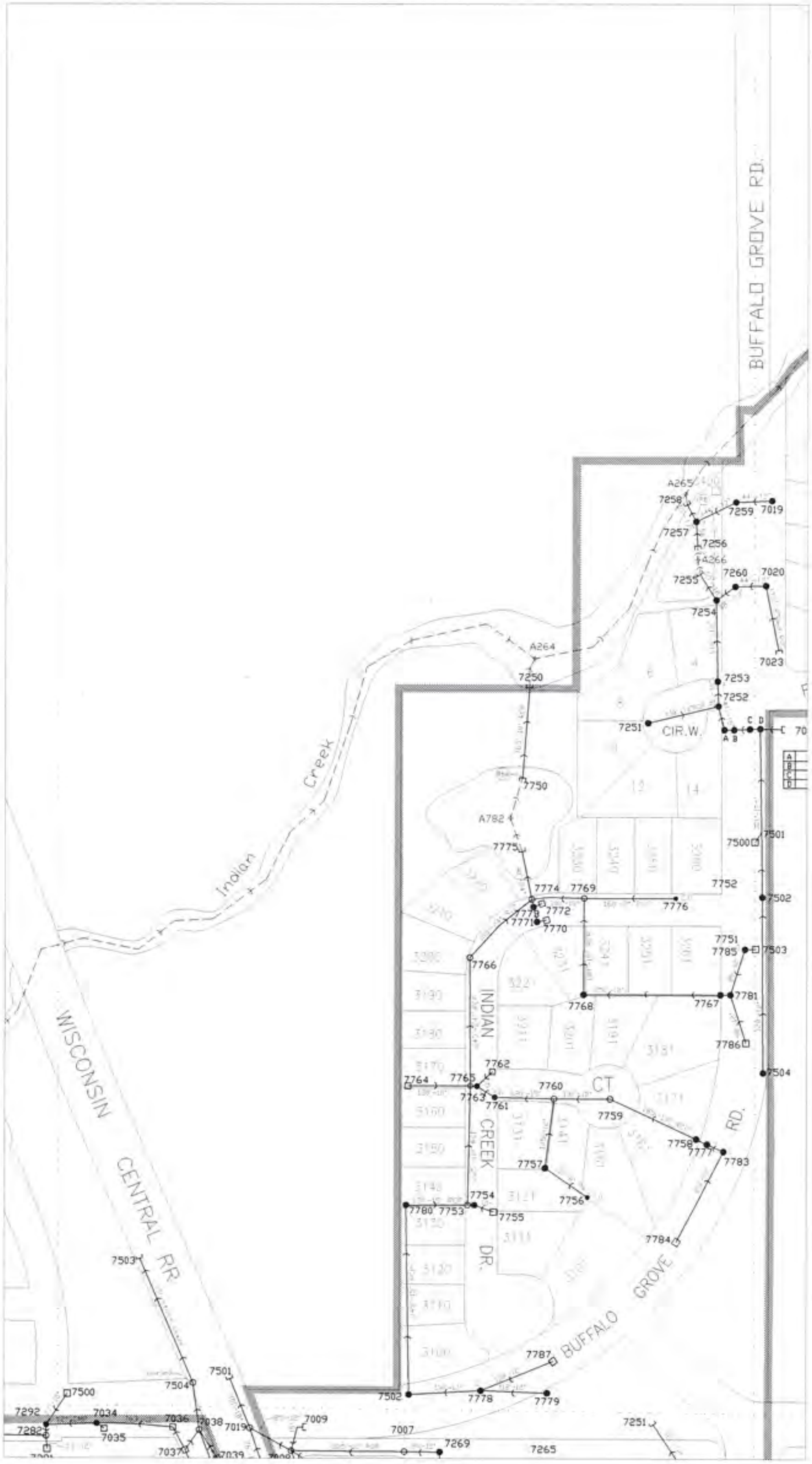
H–10

200 100 0 400
150 50 200 600
(feet)

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

E 1/2 of the NW 1/4 of SEC 16
TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
Vernon Township - Lake County, IL

VILLAGE OF Buffalo Grove



L-13 DETAILS

STORM SEWER RESTRICTOR DETAILS:

— 2L.F. of 4" PVC mortared inside of 12" RCP outlet pipe, River Oaks

— 4" dia. PVC pipe mortared inside of 10" outlet pipe, Indian Creek Subdivision

200 100 0 400
150 50 200 600
(feet)

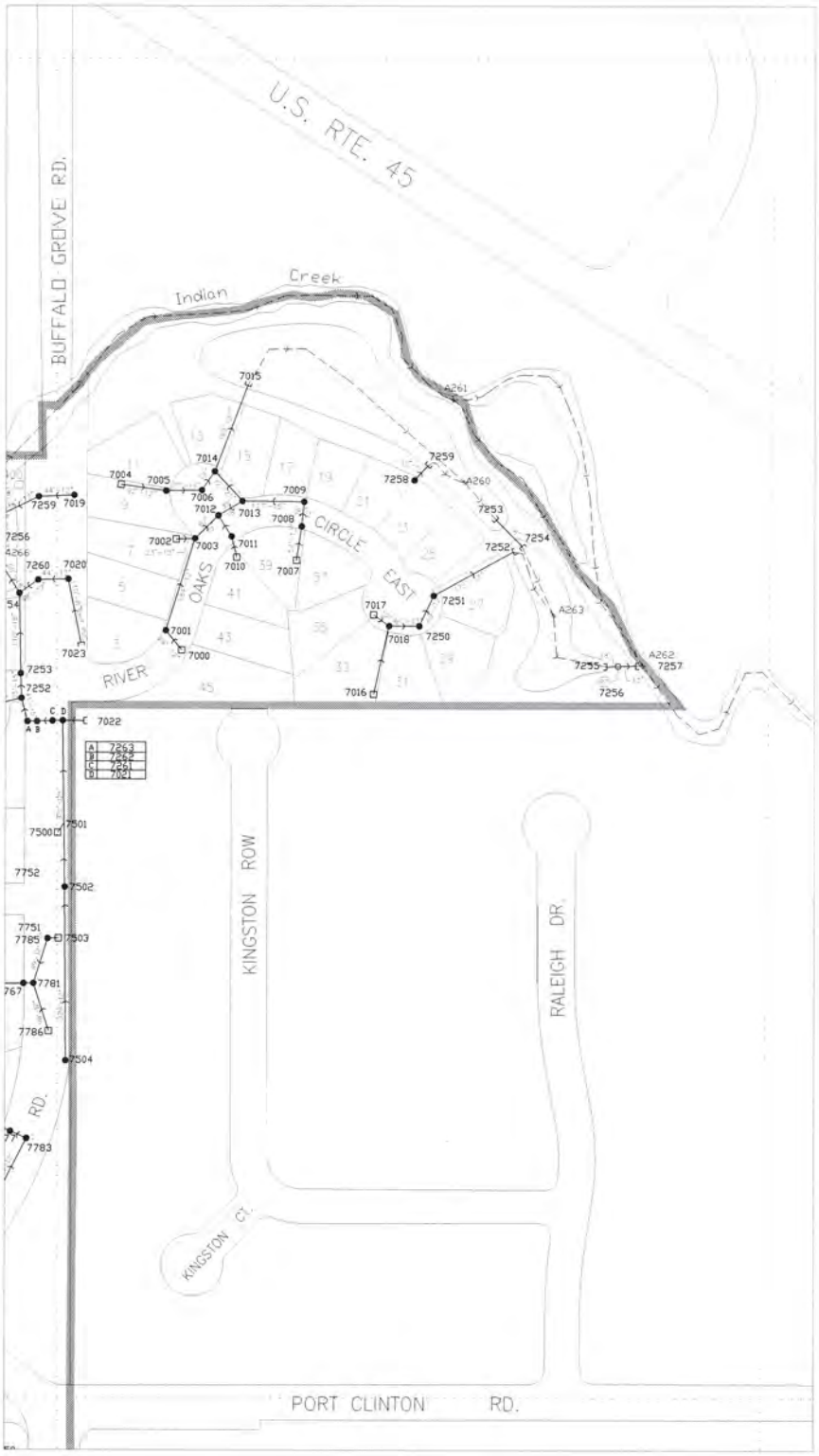
Storm Atlas (with I.D. numbers)

Last Revised: 07/24/12 By: KJH

L-13

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

W 1/2 of the NE 1/4 of SEC 16
TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
Vernon Township – Lake County, IL



L-14 DETAILS

STORM SEWER RESTRICTOR DETAILS

(87) – Weir with 6" brick and 2LF of 8"PVC mortared inside of 12"RCP outlet pipe. River Oaks

Storm Atlas
(with I.D. numbers)

Last Revised: 07/24/12 By: KJH

200 100 0 400
150 50 200 600
(feet)

L-14

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

Sewer
Mailed

Location of Work:	960 BUFFALO GROVE RD
Department:	PWOps-Water & Sewer
Contact:	Nino's 960 BUFFALO GROVE RD Buffalo Grove, IL 60089
☐ **Email when Completed**	
Assigned To:	Benjamin M Kruse
Date Submitted:	05/06/2015
Date Assigned:	05/06/2015
Date Completed:	05/06/2015

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	**Action Taken**
The sewer out front is draining slowly; please check for clog.	cleared restrictor, water went down

Attached Files:

Sewer
Mailed

Location of Work:	1679 JOSEPH CT	
Department:	PWOps-Street	
Contact:	DAVID SMOLLER 1679 JOSEPH CT Buffalo Grove, IL 60089	(847) 520-8080
☐ **Email when Completed**		
Assigned To:	Mike Marquardt	
Date Submitted:	03/10/2015	
Date Assigned:	03/10/2015	
Date Completed:	05/22/2015	

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	**Action Taken**
Sewer in front of driveway is sinking; black top around it is cracking; resident is concerned that it will fall in. Please check. Per Scott, please check sewer and repair as needed, then make new work order to repair road.	Checked Inlet H14-7058. Structure inside grate looks solid. Curb to the left facing inlet has dropped about 3 inches. Asphalt is cracked in front of inlet. Structure is good. Storm line runs south, not by the apron.

Attached Files:

Sewer
Mailed

Location of Work:	4 BRUCEWOOD CT	
Department:	PWOps-Water & Sewer	
Contact:	Jan Tupy 4 BRUCEWOOD CT Buffalo Grove, IL 60089	(847) 899-7523
☐ **Email when Completed**		
Assigned To:	Mike Marquardt	
Date Submitted:	05/20/2015	
Date Assigned:	05/20/2015	
Date Completed:	05/29/2015	

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	Action Taken
Please check the sewer drain in the far east corner of the backyard. Resident questions if there is a problem with the sewer since it is very dry. Please call resident.	Checked Inlet D12-7283. Inlet is clear and wet,not holding water, but is damp. Left message for homeowner what I found. 5/20/2015.

Attached Files:

Sewer
Mailed

Location of Work:	515 BUCKTHORN TER	
Department:	PWOps-Admin	
Contact:	M Holm 515 BUCKTHORN TER Buffalo Grove, IL 60089	(847) 537-9297
☐ **Email when Completed**		
Assigned To:	Steve Fritz	
Date Submitted:	06/15/2015	
Date Assigned:	06/15/2015	
Date Completed:	06/15/2015	

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	**Action Taken**
Drain in the neighbor's yard is blocked. Drain is about 20 ft. from the sidewalk. Mr. Holm said that about 10 homes all drain to this sewer.	Cleared Inlet E15-7264. Drained.

Attached Files:

Sewer
Mailed

Location of Work:	Marvins Way spillway
Department:	PWOps-Admin
Contact:	Steve Fritz Buffalo Grove, IL 60089
☐ **Email when Completed**	
Assigned To:	Steve Fritz Matt Berkowitz
Date Submitted:	06/12/2015
Date Assigned:	06/12/2015
Date Completed:	06/12/2015

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	**Action Taken**
Remove beaver dam/clear pipe	Removed beaver dam from spillway, two other locations, and cleared pipe. Also walked creek to Deerfield removing debris.

Attached Files:

Sewer
Mailed

Location of Work:	Marvins Way Spillway
Department:	PWOps-Water & Sewer
Contact:	Steve Fritz
	Buffalo Grove, IL 60089
☐ **Email when Completed**	
Assigned To:	Steve Fritz
Date Submitted:	06/12/2015
Date Assigned:	06/12/2015
Date Completed:	06/12/2015

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	**Action Taken**
Remove beaver dam and clear inlet.	Removed beaver dam from spillway; unclogged pipe.

Attached Files:

	Storm Sewer Maintenance Activities													
Date	Activity	Sheet Number and Line Segment Number	From Man Hole Number	To Man Hole Number	Length of Line Segment (feet)	Crew Leader	Equipment Used	Water Usage (gals)	basin diameter	top of ring to invert depth (inches) outflow pipe	top of ring to basin floor (inches)	top of ring to debris height (inches)	structure type (pre-cast,block,ect)	inspection and condition coments
8/6/2015	Sump pump connection	B13-8518			13'	JR	Fel2,453,436						4"sdr26	Cord a 4" hole in 12"RCP Installed 1 stick of 4"sdr26 & saddle for sump pump. 127 University Dr.
8/12/2015	Sump pump connection	D08-8306			20'	JR	Fel2,453,436						4"sdr26	Cord a 4" hole in 15"RCP Installed 1.5 sticks of 4"sdr26 & saddle for sump pump. 951 Country Ln.
8/13/2015	Inlet Repair	B10-7524				AP	Th1,456,453, E06						Block	Rebuilt inlet. 1 bag mortar,2 bags concrete,2cblock,2brick,4"3"2" rings. 1248 Milcreek Dr.

	Storm Sewer Maintenance Activities													
Date	Activity	Sheet Number and Line Segment Number	From Man Hole Number	To Man Hole Number	Length of Line Segment (feet)	Crew Leader	Equipment Used	Water Usage (gals)	basin diameter	top of ring to invert depth (inches) outflow pipe	top of ring to basin floor (inches)	top of ring to debris height (inches)	structure type (pre-cast,block,ect)	inspection and condition comments
7/1/2015	Sump pump connection	F09-7760			26'	JR	Th1,tr29,453 .456				3'		4"sdr26	Cord in MH F09-7760 connected to home owners 4" pipe for sump pump.760 Twisted Oak Ln.
7/2/2015	Catch Basin Repair	H10-7781				Ap	Th1,456,453 .435						Pre-cast	Rebuilt structure, bricks,mortar,concrete, and C-block. 1375 Gail Dr.
7/8/2015	Storm Sewer Pipe Replacement	F12-8774		F12-7774	3'	JR	Th1,456,453 .435						8" sdr26	Replaced 3" of sagging pipe that was an old repair by contractor. Televising 2012 report. 170 Toulon Dr.
7/9/2015	Catch Basin Repair	G10-8250		G10-7250		AP	Fel2.453,436						Pre-cast	Rebuilt structure around pipe. 1298 Green Knolls Dr.

Sewer
Mailed

Location of Work:	East pond at Tenerife	
Department:	PWOps-Water & Sewer	
Contact:	Susan M Slupik Public Works Administration, Public Works Center Buffalo Grove, IL 60089	(847) 459-2587
☐ **Email when Completed**		
Assigned To:	Jeffrey L Rogers	
Date Submitted:	04/15/2015	
Date Assigned:	04/17/2015	
Date Completed:	04/17/2015	

Sewer Type: ○ Sanitary Sewer ● Storm Sewer

Work Requested	Action Taken
Two residents have reported that the water in the east pond has not gone down yet after the rain. Please check.	Cleared sea weed from restricter plate. Pound is draining.

Attached Files:

f_name	f_street	sic
PLEXUS CORPORATION BIL	2400 MILLBROOK ST	3679
VAPOR BUS INTERNATIONAL	1010 JOHNSON DR	3499
BAXTER GLOBAL TECHNICAL SERV	900 CORPORATE GROVE DR	3841
ASSEMBLED PRODUCTS	300 HASTINGS DR	3469
FISHER CONTAINER CORP	1111 BUSCH PARKWAY	2673

ILR10W798	2016 Street Improvement Project - Phase 2	Buffalo Grove	Golfview Terrace, Park View Terrace, Covington Terrace, Brentwood Circle, Plum Grove Circle	Village of Buffalo Grove	847-459-2547	LAKE	04-19-2016	More Info.	
ILR10W487	RIDGELINE	BUFFALO GROVE	850 ASBURY DR	RIDGELINE PROPERTY GROUP LLC	630-561-6600	COOK	02-24-2016	More Info.	
ILR10W363	LAND & LAKES DEVELOPMENT	BUFFALO GROVE	21488 N MILWAUKEE AVE	PRAIRIE RECREATIONAL DEVELOPMENTS INC	847-825-5000	LAKE	02-04-2016	More Info.	View Files
ILR10W278	Willow Grove Elementary School Site Improvements	Buffalo Grove	777 Checker Drive	Kildeer School District #96	847-459-4260	LAKE	01-22-2016	More Info.	View Files
ILR10V832	23020 N EASTON AVE	BUFFALO GROVE	23020 N EASTON AVE	WEEKLEY HOMES LLC	847-241-4308	LAKE	09-03-2015	More Info.	View Files
ILR10U987	BUILDING	BUFFALO GROVE	1050 JOHNSON DR	HAMILTON PARTNERS	630-250-9700	LAKE	04-06-2015	More Info.	View Files
ILR10U677	Site Improvements - Twin Grove Middle School	Buffalo Grove	2600 N. Buffalo Grove Road	Buffalo Grove Park District	847-850-2122	LAKE	02-24-2015	More Info.	View Files
ILR10U501	Des Plaines River WRF Phases 2B & 3	Buffalo Grove	800 Krause Drive	Lake County Department of Public Works	847-377-7140	LAKE	01-14-2015	More Info.	View Files
ILR									

Pollution Prevention and Good Housekeeping

	Potential Pollutants								
Municipal Activity	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X		X
Waste Handling and Disposal	X	X	X	X	X	X	X	X	X
Vehicle and Equipment Fueling			X	X		X	X		
Vehicle and Equipment Maintenance and Repair				X		X	X		
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X	X
Outdoor Process Equipment	X		X	X		X	X		
Overwater Activities			X	X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X	X

Community Briefs

Automated Water Meters Coming to Buffalo Grove

The Village of Buffalo Grove is embarking on a program that will replace about 11,916 water meters with new automated meters. The new meters will replace older, out of date units with new technology that will identify high water usage and potential leaks. The new meters will result in smarter water use for customers.

The meters automatically transmit data wirelessly and eliminate the need to manually read each meter. This allows the Village to be more efficient and save money by preventing recording errors, eliminating time consuming manual meter reading and wear and tear on Village vehicles.

Every water customer will receive a new water meter at no additional cost. It will take about one year to replace all of the meters in the Village. The Village has contracted Siemens to perform this meter upgrade. The subcontracted installer will need to access your home to replace the meter. Siemens will work with you to arrange a convenient appointment time to complete this task.

Stay tuned for more information regarding the water meter upgrade.

Help Preserve Buffalo Grove's Water Environment

In accordance with State and Federal storm sewer regulations, residents are encouraged to report the unlawful dumping of chemicals, paints, solvents or any other pollutants in inlets, creeks or streets. Questions about pollution reports, stormwater quality concerns or any other related issues should be directed to the Public Works Department at (847) 459-2545. More information regarding stormwater management can be found on the Village's web site at vbg.org and connecting to the Public Works link or by visiting http://www.lakecountyil.gov/Stormwater/Pages/default.aspx.

VILLAGE OF
BUFFALO GROVE

Department of Public Works
Fifty One Raupp Blvd.
Buffalo Grove, IL 60089-2198
Fax 847-537-5845

Michael J. Reynolds
Director of Public Works
Phone 847-459-2547
mreynolds@vbg.org

November 7, 2014

Illinois Department of Agriculture
State Fairgrounds
P.O. Box 19281
Springfield, IL 62794-9281
ATTN: Mr. Warren D. Goetsch
Chief, Bureau of Environmental Programs

Dear Mr. Goetsch:

In accordance with the Lawn Care Products Application and Notice Act (415 ICLS 65/1 et Seq.), please see the attached agreement with the Buffalo Grove Golf Course and the Arboretum Golf Club with respect to our department's use of their facilities as it relates to Section 5 of the Act.

If you have any questions, please feel free to contact me.

Sincerely,

Michael J. Reynolds

Enclosures

c: Mike Skibbe, Deputy Director of Public Works
Hans Marx, Forestry & Grounds Manager

The Arboretum Club

November 5, 2014

Illinois Department of Agriculture
State Fairgrounds
P.O. Box 19281
Springfield, IL 62794-9281
ATTN: Mr. Warren D. Goetsch
Chief, Bureau of Environmental Programs

Dear Mr. Goetsch:

In accordance with the Lawn Care Products Application and Notice Act (415 ICLS 65/1 et Seq.), this letter serves as evidence our agreement with the Village of Buffalo Grove Public Works Department for the use of the Golf Course Facilities listed below for the purposes of complying with section 5 of the Act.

Buffalo Grove Golf Course
454 Checker Rd.
Buffalo Grove, IL 60089
Facility ID: LC0970087000
Permit No.: LC02071120

Arboretum Golf Course
451 Half Day Rd.
Buffalo Grove, IL 60089
Facility ID: LC0970062000
Permit No.: LC02041079

This agreement shall be in effect from January 1, 2015 to December 31, 2015.

If you have any questions, please feel free to contact me.

Sincerely,

Geoff Tollefson
Head Professional
Buffalo Grove Golf Club
Arboretum Golf Club

Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control

NOTICE OF INTENT (NOI)

GENERAL PERMIT FOR PESTICIDE APPLICATION POINT SOURCE DISCHARGES

APPLICANT INFORMATION

Applicant Name: Village of Buffalo Grove - Department of Public Works

Operator Type: ☐ Commercial Applicator ☑ Local Government ☐ Federal Government
☐ County Government ☐ State Government
☐ Special District: _____
☐ Other: _____

Mailing Address: 51 Raupp Blvd.

City: Buffalo Grove State: IL Zip: 60089 County: Cook & Lake

Contact Person: Michael J. Reynolds Title: Director of Public Works

E-mail: mreynolds@vbg.org Phone: 847-459-2547 Fax: 847-537-5845

Billing Address (If different from mailing address): _____

City: _____ State: _____ Zip: _____

IRS Federal Employer Identification Number (FEIN) (If applicable): 36 – 2525051

☐ New Permit ☑ Renewal for ILG87 0678 ☐ Change of information for ILG87 _____

Pesticide Use Patterns (Check all that apply):

☑ Mosquitoes and Other Insect Pest Control ☑ Weed and Algae Pest Control
☐ Animal Pest Control ☑ Forested Areas Pest Control
☑ Other Pest Control Activities: _____

Annual Treatment Area Thresholds (Check One):

☑ Total application area anticipated to be under the annual treatment area thresholds, as identified in the general NPDES permit.

☐ Total application area anticipated to exceed one or more of the annual treatment area thresholds, as identified in the general NPDES permit.

Are you a small entity as defined below? ☐ Yes ☑ No

Any (1) public entity that serves a population of 10,000 or less, (2) a person(s) applying pesticides on private property where they or any member of their immediate family reside or property that they own or lease, or (3) a private enterprise that does not exceed the Small Business Administration size standard as identified at: http://www.sba.gov/category/navigation-structure/contracting/contracting-officials/eligibility-size-standards.

Are you conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district? ☐ Yes ☑ No

Are you applying pesticides on private property where you or any member of your immediate family reside or on property that you own or lease? This does not include commercial property which may be privately owned but used for commercial business purposes other than farming. ☐ Yes ☑ No

If required, has a copy of Pesticide Discharge Management Plan (PDMP) been submitted to the Agency? Submit PDMP electronically to: epa.ILG87pestpdmp@illinois.gov ☐ Yes ☐ No ☑ Not Applicable

Information required by this form must be provided to comply with 415 ILCS 5/39. Failure to do so may prevent this form from being processed and could result in your application being denied.

PEST MANAGEMENT AREA (Add additional pages if necessary)

For each use pattern checked on page 1, complete the following:

Use Pattern: ☑ Mosquitoes and Other Insect Pests ☐ Aquatic Nuisance Animals ☑ Weeds and Algae
☑ Forested Area Pests ☑ Other Pesticide Uses

Pest Management Area # 1 of 1

1. Pest Management Area Name: _____

Check One

☐ Map provided of location of pesticide application for this use (attach map).

☐ Pest Management Area description: _____

_____

☐ Seeking coverage for the entire State.

☑ List counties where pesticide application will occur: Cook & Lake

2. Receiving Waters (Check One):

☑ Coverage requested for all waters of the State within the Pest Management Area identified above

☐ Coverage requested for all waters of the State within the Pest Management Area identified above except for: _____

_____

☐ Coverage requested specifically for the following waters of the State within the Pest Management Area identified above: _____

_____

ENDANGERED SPECIES COMPLIANCE

Have the treatment areas been submitted to the Illinois Department of Natural Resources (IDNR) to satisfy applicable requirements for compliance with the Illinois Endangered Species Protection Act, for listed species and protected natural areas:

☐ Yes ☑ No ☐ Not Applicable (Application is an exempt activity)

Exempt Activities (Check all that apply):

☑ Annual, routine cultivation of existing agricultural lands; and maintenance of existing lawns, yards and ornamental plantings.

☑ Microbial larvicides applied to catch basins and storm sewers.

☑ Pesticides applied to artificial impoundments under 10 acres.

☑ Pesticide applications within maintained road rights-of-way that adjoin land used for agricultural or urban purposes, **except** those portions of the right-of-way adjacent to borrow pits, railroads, streams, wetlands, lakes, or other natural areas or open space. Right-of-way's adjacent to a designated Nature Preserve or registered Land and Water Reserve are **not** exempt from review.

WATER QUALITY IMPAIRED WATERS

Operators are not eligible under this permit for any discharges from a pesticide application to waters of the State if the waters are identified as impaired by a substance which is either an active ingredient in the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the Permit.

Check One

☑ Waters are NOT impaired by any substance which is either an active ingredient in the pesticide to be discharged or a degradate of such an active ingredient.

☐ Waters are on a current state list as being impaired by a substance which is either an active ingredient in the pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I certify that the provisions of the permit will be complied with.

Signature of Responsible Official: _____ Date: June 1, 2016

Title: Director of Public Works

Printed Name: Michael J. Reynolds

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Submit completed form to: epa.ILG87pestNOI-NOT@illinois.gov

Or mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
P.O. Box 19276
Springfield, Illinois 62794-9276

INSTRUCTIONS FOR COMPLETION OF THE NOTICE OF INTENT FORM

Electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" in the lower left hand corner of page 1. This fillable form may be completed online, a copy saved locally, printed, and signed before it is submitted to:

Submit completed form electronically to: epa.ILG87pestNOI-NOT@illinois.gov

Or mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
P.O. Box 19276
Springfield, Illinois 62794-9276

NOIs must be typed or printed legibly and signed. Original signature must be submitted to the Agency.

Any operator who is not presently covered by the General NPDES Permit for Pesticide Application Point Source Discharges is considered a new operator.

If this is a change in your application information or renewal, etc., please fill in your NPDES permit number on the appropriate line. When selecting a change in information, fill out all of the fields on the NOI that need to be modified. Changes of information or permit renewal notifications do not require an application fee.

Note: If the operator mailing address is not where the permit records will be located, the application should note where records will be located.

For all pesticide application use patterns checked on page 1, please fill out a separate page 2 for each pesticide application use pattern.

Documentation is not required to be submitted for Endangered Species Compliance. These records should be kept in accordance with Section 7.1 of the permit. The Endangered Species Consultation does not have to be completed prior to submitting your NOI, but consultation with IDNR must be completed prior to pesticide application.

The location of the treatment areas must be submitted to the IDNR EcoCAT website to determine if protected natural resources are in the vicinity, www.dnrecocat.state.il.us/ecopublic/. Consultation with the Department is required under the Illinois Endangered Species Protection Act, 520 ILCS 10/11(b) and the Illinois Natural Areas Preservation Act, 525 ILCS 30/17, for all permittees unless exempted per IDNR regulations or the Memorandum of Understanding between IDNR and IEPA.

Instructions on how to use EcoCAT are located on the home page of the IDNR website, at http://www.dnrecocat.state.il.us/ecopublic/. You should submit a treatment area location at least 30 days before pesticide application. If no protected resources are in the vicinity, EcoCAT will terminate the consultation immediately. If resources are identified by EcoCAT, IDNR staff will review the location and either terminate consultation as unlikely to have an adverse impact, or recommend measures to avoid or minimize potential adverse impact. Note: In the project description entered into EcoCAT, include the type of pesticide being used and the method of application.

An EcoCAT report that terminates consultation for this project or a letter from IDNR that terminates consultation for this project must be available upon request. If protective measures for listed species or natural areas are recommended by IDNR, documentation that you have incorporated those measures into your treatment process should also be available upon request.

Currently there is no annual fee associated with this NPDES permit. If at a later date an annual fee is instituted, submission of the initial fee is required prior to the Notice of Intent being considered complete for coverage by the ILG87 General Permit. Please make checks payable to: Illinois EPA at the address above.

For the first year of the permit, the PDMP must be submitted 90-days after coverage under the General Permit. After October 31, 2012, the PDMP must be submitted with the NOI for the application to be considered complete r coverage under the General Permit. The PDMP should be submitted electronically to: epa.ILG87pestpdmp@illinois.gov. The PDMP must be submitted in a PDF format.

NPDES Permit No. ILG87

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
www.epa.illinois.gov

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit
For
Pesticide Application Point Source Discharges

Expiration Date: October 31, 2021

Issue Date: October 14, 2016

Effective Date: November 1, 2016

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board and Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1), and the Clean Water Act, and the regulations thereunder the following discharges are authorized by this permit in accordance with the conditions and attachments herein.

This permit is available to operators who discharge to waters of the State from the application of biological pesticides or chemical pesticides that leave a residue, when the pesticide application is for one of the following pesticide use patterns:

1. Mosquito and Other Insect Pest Control
2. Weed and Algae Pest Control
3. Animal Pest Control
4. Forested Areas Pest Control
5. Other Pest Control Activities

Discharges may be authorized to any surface water of the State excluding waters identified as impaired by that pesticide or its degradates. This permit does not authorize discharges, to any waters of the State which are designated as a outstanding resource water by the Agency in accordance with 35 Ill. Adm. Code 302.105(b).

To receive authorization to discharge under this general permit, an operator must submit the proper application form to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.

Alan Keller

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

Table of Contents

1.0 Coverage under this Permit

This permit covers any operator that meets the eligibility requirements identified in Part 1.1 and if so required, submits a Notice of Intent (NOI) in accordance with Part 1.2.

For the purpose of this permit, all operators are defined in Appendix A to be:

a. The person(s) with control over the hiring of a contract applicator, or making the decision to perform pesticide applications, including the ability to modify those decisions, that results in a discharge to waters of the State, and/or

b. The person(s) who performs the application of pesticides or who has day-to-day control of the pesticide application, that results in a discharge to waters of the State.

If the operator under part "a" of the definition is different than the operator actually performing the application of pesticides, only one of the two is required to obtain coverage under this permit.

This permit is not applicable for general use or restricted use pesticides that under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), are not registered for application to or use in waters of the State.

Pursuant to section 12(f) of the Illinois Environmental Protection Act, no permit shall be required for any discharge for which a permit is not required under the Federal Water Pollution Control Act.

1.1 Eligibility

1.1.1 Activities Covered

This permit is available to operators who discharge to waters of the State from the application of (1) biological pesticides or (2) chemical pesticides that leave a residue (collectively called pesticides), when the pesticide application is for one of the following pesticide use patterns:

1. **Mosquito and Other Insect Pest Control** – to control public health/nuisance and other insect pests that develop or are present during a portion of their life cycle in or above standing or flowing water. Public health/nuisance and other insect pests in this use category include but are not limited to mosquitoes and black flies.

2. **Weed and Algae Pest Control** – to control weeds, algae, and pathogens that are pests in water and at water's edge, include but are not limited to ditches and/or canals.

3. **Animal Pest Control** – to control animal pests in water and at water's edge. Animal pests in this use category include, but are not limited to fish, lampreys, insects, mollusks, and pathogens.

4. **Forested Areas Pest Control** – application of a pesticide to a forested area to control the population of a pest species, (e.g., insect or pathogen) where, to target the pests effectively, a portion of the pesticide unavoidably will be applied over and deposited to water.

5. **Other Pest Control Activities** – any application of pesticides not identified above, which leave a residue, to waters of the State or at the water's edge.

A portion of every application of a pesticide over a water of the State will fall directly into the water of the State thereby requiring coverage under an NPDES permit. Any person who wishes to contest this determination must submit scientific data to prove that no quantity of the pesticide falls into a water of the State. A permit may not be necessary if IEPA receives scientific information which convinces the Agency that no portion of a chemical pesticide applied over a water of the State will fall into the water of the State.

A portion of every application of a pesticide into a water of the State will leave a residue in the water of the State thereby requiring coverage under an NPDES permit. Any person who wishes to dispute this determination must submit scientific data to prove that no quantity of the pesticide will remain as a residue in a water of the State. This information should include data to show what level of the pesticide can be detected in water, and at what level in

water the pesticide provides a pesticidal benefit. Such data should address the properties of the chemical pesticide under different water conditions (e.g., different pH, organic content, temperature, depth, etc.) that might affect the pesticide's properties. A permit may not be necessary if IEPA receives scientific information that convinces the Agency that a chemical pesticide applied into a water of the State will not remain as a residue in the water of the State.

1.1.2 Limitations on Coverage

1.1.2.1 Discharges to Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to waters of the State if the water is identified as impaired by a substance which either is an active ingredient in that pesticide or is a degradate of such an active ingredient. For purposes of this permit, impaired waters are those that have been identified by the State pursuant to Section 303(d) of the Clean Water Act (CWA) as not meeting applicable State water quality standards or not meeting the intended use of the water body. Impaired waters for the purposes of this permit may include both waters with USEPA-approved or USEPA-established Total Maximum Daily Loads (TMDLs) and waters for which USEPA has not yet approved or established a TMDL. A list of the 303(d) waters is available on the Internet at www.epa.illinois.gov/topics/forms/water-permits/pesticide/303d-list/index. If a discharge from a pesticide application would not be eligible under this permit because the water is listed as impaired for that specific pesticide, but there is evidence that shows the water is no longer impaired, operators may submit this information to IEPA and request that coverage be allowed under this permit.

1.1.2.2 Discharges to Waters Designated as Outstanding Resource Waters for Antidegradation Purposes

Operators are not eligible for coverage under this permit for discharges from a pesticide application to waters designated by the State as Outstanding Resource Waters for anti-degradation purposes under 35 Ill. Adm. Code 302.105(b).

1.1.2.3 Discharges Currently or Previously Covered by another Permit

Pesticide discharges are not eligible for coverage under this permit if any of the following circumstances apply:

a. The discharge is covered by another NPDES permit, or

b. The discharge was included in a permit that in the past 5 years has been or is in the process of being denied, terminated, or revoked by IEPA (this does not apply to the routine reissuance of permits every 5 years).

1.2 Authorization to Discharge under This Permit

1.2.1 How to Obtain Authorization

To obtain authorization under this permit, an operator must:

a. Meet the eligibility requirements identified in Part 1.1, and

b. Submit a complete and accurate Notice of Intent (NOI) consistent with the requirements of Parts 1.2.2 and 1.2.3.

1.2.2 Operators Required to Submit a Notice of Intent

The following operators are required to submit a Notice of Intent to obtain coverage under this general permit for discharges to waters of the State resulting from the application of pesticides:

a. Person(s), group, or entity with control over the hiring of a contract applicator, or making the decision to per pesticide application, that will result in a discharge to waters of the State; or

b. Person(s), group, or entity performing the application of pesticides, that will result in a discharge to waters of the State.

Operators must submit an NOI to IEPA electronically. Operators should refer to www.epa.illinois.gov/topics/forms/water-permits/pesticide/index for instruction on submitting the NOI. IEPA will post on the Internet, at www.epa.illinois.gov/topics/forms/water-permits/pesticide/notices/index, all NOIs received. Late NOIs will be accepted, but authorization to discharge will not be retroactive. NOI submissions must be in accordance with the deadlines in Part 1.2.3.

Coverage will be available for the duration of the permit for operators who file an NOI, including the operator's employees, contractors, subcontractors, and other agents, for all activities identified on the NOI unless coverage is terminated pursuant to Parts 1.2.5 or 1.3. If a submitted NOI is not timely, accurate, or complete, then any employee, contractor, subcontractor or other entity that discharges without the required NOI is not covered by this permit.

The NOI form is available on the Internet at www.epa.illinois.gov/Assets/iepa/forms/water-quality/wastewater/pesticide/noi.pdf.

1.2.3 Discharge Authorization Date

Unless modified, exempted, or stayed by legislative action or court order, discharges to waters of the State as a result of pesticide applications must be authorized under an NPDES permit. Operators that are eligible for coverage under Part 1.1 are authorized to discharge under this permit consistent with the NOI submission and the Table 1 below.

Table 1. Original NOI Submittal Deadlines and Discharge Authorization Date

Category	NOI Submittal Deadline	Discharge Authorization Date
Operators are required to submit an NOI prior to commencement of discharge.	At least 14 days prior to commencement of discharge.	No earlier than 14 days after IEPA posts on the Internet the receipt of the complete and accurate NOI.
Operators commencing discharge in response to a declared pest emergency situation as defined in Appendix A.	No later than 30 days after commencement of discharge.[1]	Immediately, for activities conducted in response to declared pest emergency situation.

To remain authorized, all operators must submit NOI changes, as necessary, consistent with Table 2 below.

Table 2. NOI Change of Information Submittal Deadlines and Discharge Authorization Date

Category	NOI Submittal Deadline	Discharge Authorization Date
Operators requiring permit coverage for a new use pattern or for a treatment area not within the pest management area, previously identified on a NOI submitted to IEPA.	At least 14 days prior to commencement of discharge in that newly identified treatment area.	No earlier than 14 days after IEPA posts on the Internet the receipt of the complete and accurate NOI.
Operators requiring permit coverage for a new use pattern or for a treatment area in response to a declared pest emergency situation not within the pest management area, previously identified on a NOI submitted to IEPA.	No later than 30 days after commencement of discharge.[1]	Immediately, for activities conducted in response to declared pest emergency situation.

[1] In the event that a discharge occurs prior to submitting an NOI, the operator must comply with all other requirements of this permit immediately.

Based on a review of the NOI or other information, IEPA may determine that additional technology-based and/or water quality-based effluent limitations are necessary, or deny coverage under this permit and require submission of an application for an individual NPDES permit, as detailed in Part 1.3.

Unless notified by the Agency to submit additional information, operators who submit an NOI in accordance with the requirements of this permit are authorized to discharge under the terms and conditions of this permit 30 days after the date the NOI is received by the Agency.

1.2.4 Continuation of this Permit

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 CFR 122.6 and 35 Ill. Adm. Code, Subtitle C, Chapter I and remain in force and effect. If a permittee was authorized to discharge under this permit prior to the expiration date, any discharges authorized under this permit will automatically remain covered by this permit until the earliest of the following:

a. A permittee is authorized for coverage under a reissued permit or a replacement of this permit, following the timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and in compliance with the requirements of the NOI;

b. The permittee submits a Notice of Termination (NOT) and that notice is processed consistent with Part 1.2.5.1;

c. An individual NPDES permit for a discharge resulting from application of a pesticide that would otherwise be covered under this permit is issued or denied;

d. IEPA issues a formal permit decision not to reissue this general permit, at which time IEPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease when coverage under another permit is granted/authorized; or

e. IEPA has informed the permittee that the discharge is no longer covered under this permit.

1.2.5 Terminating Coverage

1.2.5.1 Submitting a Notice of Termination

To terminate permit coverage, a permittee must submit a complete and accurate Notice of Termination. Permittees must submit the Notice of Termination electronically. The authorization to discharge under this permit is terminated the day that a complete Notice of Termination is processed. If a permittee submits a Notice of Termination without meeting one or more of the conditions identified in Part 1.2.5.2, the Notice of Termination is not valid. Permittees are responsible for complying with the terms of this permit until authorization is terminated. If required to submit annual reports pursuant to Part 7, the permittee must file an annual report for the portion of the year up through the date of termination. The annual report shall be submitted with the completed Notice of Termination.

Permittees may not terminate coverage under this permit and reapply in order to remain below the annual treatment area thresholds.

The NOT form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/not.pdf.

1.2.5.2 When to Submit a Notice of Termination

A permittee must submit a Notice of Termination within 30 days after one or more of the following conditions have been met:

a. The permittee has ceased all discharges from the application of pesticides for which permit coverage was obtained and the permittee does not expect to discharge during the remainder of the permit term for any of the use patterns as identified in Part 1.1.1; or

b. The permittee has obtained coverage under an individual NPDES permit or an alternative NPDES general permit for all discharges required to be covered by an NPDES permit, unless the permittee obtained coverage consistent with Part 1.3, in which case coverage under this permit will terminate automatically.

1.2.6 Transfer of Permit Coverage

If a new operator takes over responsibility of pest control activities covered under an existing NOI, the new operator must submit the following:

a. A new NOI for the new operator; and

b. A letter from the existing permittee referencing the existing NPDES permit number, date of coverage, and requesting transfer of the permit.

1.3 Alternative Permits

1.3.1 Requiring Coverage under an Alternative Permit

In accordance with 40 CFR 122.64, 40 CFR 124.5, and 35 Ill. Adm. Code, Subtitle C, Chapter I, IEPA may require operators to apply for and/or obtain authorization to discharge under either an individual NPDES permit or an alternative NPDES general permit.

If IEPA requires an operator to apply for an individual NPDES permit, IEPA will notify the operator in writing that a permit application is required. This notification will include a brief statement of the reasons for the decision and will provide application information. In addition, for permittees whose discharges are authorized under this permit, any notice will set a deadline to file the permit application and will include a statement that on the effective date of the individual NPDES permit, coverage under this general permit will terminate. IEPA may grant additional time to submit the application if the operator submits a request setting forth reasonable grounds for additional time. If covered under this permit and the permittee fails to submit an individual NPDES permit application as required by IEPA, the applicability of this permit to such permittee is terminated at the end of the day specified by IEPA as the deadline for application submittal. IEPA may take enforcement action for any unpermitted discharge or violation of any permit requirement.

1.3.2 Operator Requesting Coverage under an Alternative Permit

If an operator does not want to be covered by this general permit, but needs permit coverage, the operator can apply for an individual NPDES permit. In such a case, the operator must submit an individual permit application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to IEPA. The request may be granted by issuance of an individual NPDES permit or authorization of coverage under an alternative NPDES general permit.

When an individual NPDES permit is issued, or the operator is authorized under an alternative NPDES general permit to discharge a pollutant to waters of the State as a result of a pesticide application, authorization to discharge under this permit is terminated on the effective date of the individual NPDES permit or the date of authorization of coverage under the alternative NPDES general permit.

1.4 Severability

Invalidation of a portion of this permit does not render the whole permit invalid. IEPA's intent is that the permit will remain in effect to the extent possible; if any part of this permit is invalidated, the remaining parts of the permit will remain in effect unless IEPA issues a written statement stating otherwise.

1.5 Other Federal and State Laws

Permittees must comply with all other applicable federal and state laws and regulations that pertain to application of pesticides. For example, this permit does not relieve the permittee of the responsibility of complying with the requirements or provisions of the Federal Insecticide, Fungicide, and Rodenticide Act and its implementing regulations to use registered pesticides consistent with the product's labeling. In fact, applications in violation of certain FIFRA requirements could also be a violation of this permit and therefore a violation of the CWA (e.g. exceeding label application rates). Additionally, other laws and regulations might apply to certain activities that are also covered under this permit (e.g., United States Coast Guard regulations).

1.6 Endangered Species Compliance

The location of the treatment areas must be submitted to the Illinois Department of Natural Resources (IDNR) EcoCAT website to determine if protected natural resources are in the vicinity, www.dnr.illinois.gov/ecopublic/. Consultation with the Department is required under the Illinois Endangered Species Protection Act, 520 ILCS

10/11(b) and the Illinois Natural Areas Preservation Act, 525 ILCS 30/17, for all permittees covered by this perm... unless exempted below.

The following applications are exempt from consultation unless there will be an adverse impact to a listed species or its essential habitat or to a Natural Area:

1. Per consultation regulations (17 Ill. Adm. Code, Part 1075) – annual, routine cultivation of existing agricultural lands; and maintenance of existing lawns, yards and ornamental plantings.

2. Per a Memorandum of Understanding between IEPA and IDNR – microbial larvicide applied to catch basins and storm sewers.

1.7 Reopener Clause

If there is evidence indicating potential or realized adverse impacts on water quality due to any pesticide discharge covered by this permit, the permittee may be required to obtain an individual permit or an alternative general permit in accordance with Section 1.3.1 of this permit or the permit may be modified to include different limitations and/or requirements.

Permit modification or revocation will be conducted according to provisions of 35 Ill. Adm. Code, Subtitle C, Chapter I and the provisions of 40 CFR 122.62, 122.63, 122.64, and 124.5 and any other applicable public participations procedures.

The Agency will reopen and modify this permit under the following circumstances:

a. The USEPA amends its regulations concerning public participation;

b. A court of competent jurisdiction binding in the State of Illinois or the 7th Circuit issues an order necessitating modification of public participation for general permits; or

c. To incorporate federally required modifications to the substantive requirements of this permit.

2.0 Technology-Based Effluent Limitations

This part includes technology-based effluent limitations applicable to all permittees for any discharge authorized under this permit, with compliance required upon beginning such discharge. If the permittee is not the applicator, the technology-based effluent limitations are also applicable to the contract applicator.

If a permittee's discharge of pollutants results from the application of pesticides that is being used solely for the purpose of "pesticide research and development," as defined in Appendix A, the permittee must use such pesticide consistent with any applicable research plan and experimental use permit.

As stated in Part 1.5, this permit required all permittees to comply with other applicable federal or state laws and regulations that pertain to application of pesticides by the permittee.

2.1 Level 1: Technology- Based Effluent Limitations

All permittees must meet Level 1 of the technology-based effluent limitations in Part 2.1 to minimize the discharge of pesticides to waters of the State from the application of pesticides, through the use of Pest Management Measures, as defined in Appendix A. If the permittee is not the applicator, the Level 1 technology-based effluent limitations are also applicable to the contract applicator.

2.1.1 Use only the amount of pesticide and frequency of pesticide application necessary to control the target pest, using equipment and application procedures appropriate for this task.

2.1.2 Maintain pesticide application equipment in proper operating condition, including the requirement to calibrate, clean, and repair such equipment and prevent leaks, spills, or other unintended discharges.

2.1.3 Assess weather conditions (e.g. temperature, precipitation and wind speed) in the treatment area to ensure application is consistent with all applicable federal and state requirements.

2.2 Level 2: Technology-Based Effluent Limitations

Level 2 of the technology-based effluent limitations applies to permittees which exceed one or more of the annual (i.e. calendar year) treatment area threshold(s) listed in Table 3 below, as defined in Appendix A. If the permittee is not the applicator, the Level 2 technology-based effluent limitations are also applicable to the contract applicator.

Table 3. Annual Treatment Area Threshold

Section	Pesticide Use	Annual Threshold
2.2.1	Mosquito and Other Insect Pest Control	
	- Adult Mosquitoes and Other Insect Pests	6,400 acres of treatment area
	- Mosquito and Other Insect Aquatic Larviciding	80 acres of treatment area (i.e. surface area)
2.2.2	Weed and Algae Pest Control	
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area
2.2.3	Animal Pest Control	
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area
2.2.4	Forested Areas Pest Control	6,400 acres of treatment area
2.2.5	Other Pest Control Activities	
	- Ground or Aerial	6,400 acres of treatment area
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area

For calculating the annual treatment area, count each treatment area only once, regardless of the number of pesticide application activities when applying with the same pesticide product. For example, applying pesticides 3 times a year to the same 3,000 acre site using the same pesticide product, the annual treatment area should be counted as 3,000 acres. If a different pesticide product is applied to the same treatment area, these activities would be counted as separate treatment areas for each different pesticide product. For example, applying pesticides 3 times a year to the same 3,000 acre site using a different pesticide product each time the annual treatment area should be counted as 9,000 acres.

For linear features (e.g., a canal or ditch) use the length of the linear feature whether treating in or adjacent to the feature. For example, when treating the bank on one side of a 10 mile long ditch, banks on both sides of the ditch, and/or water in the ditch, the total treatment area is 10 miles.

2.2.1 Mosquito and Other Insect Pest Control

This part applies to discharges from the application of pesticides for mosquito and other insect pest control as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish densities for larval and adult mosquitoes or other insect pest populations or identify environmental condition(s), either current or based on historical data, to serve as action threshold(s) for implementing Pest Management Measures;

2. Identify target pest(s) to develop Pest Management Measures based on developmental and behavioral considerations for each pest;

3. Identify known breeding sites for source reduction, larval control program, and habitat management;

4. Analyze existing surveillance data to identify new or unidentified sources of mosquito or other insect pest problems as well as sites that have recurring pest problems; and

5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.1.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control mosquitoes or other insect pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage mosquitoes or other insect pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct larval and/or adult surveillance in an area that is representative of the pest problem or evaluate existing larval surveillance data, environmental conditions, or data from adjacent areas prior to each pesticide application to assess the pest management area and to determine when action threshold(s) is met;

2. Reduce the impact on the environment and on non-target organisms by applying the pesticide only when the action threshold(s) has been met;

3. In situations or locations where practicable and feasible for effective control, use larvicides as a preferred pesticide for mosquito or other insect pest control when the larval action threshold(s) has been met; and

4. In situations or locations where larvicide use is not practicable or feasible for efficacious control, use adulticides for mosquito or other insect pest control when the adult action threshold(s) has been met.

2.2.2 Weed and Algae Pest Control

This part applies to discharges from the application of pesticides for weed, algae, and pathogens as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Identify areas with pest problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);

2. Identify target pest(s);

3. Identify possible factors causing or contributing to pest problem (e.g., nutrients, invasive species, etc);

4. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A , for implementing Part 2.2.2.b; and

5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.2.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each pesticide application to assess the pest management area and to determine when the action threshold(s) is met; and

2. Reduce the impact on the environment and non-target organisms by applying the pesticide only when the action threshold(s) has been met.

2.2.3 Animal Pest Control

This part applies to discharges from the application of pesticides for control of animal pests as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Identify areas with pest problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);

2. Identify target pest(s);

3. Identify possible factors causing or contributing to the problem (e.g., nutrients, invasive species);

4. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.3.b; and

5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.3.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each year thereafter prior to the first pesticide application during that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Biological control agents
5. Pesticides

c. Pesticide Use

If a pesticide is selected to manage pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of pest problem prior to each application to assess the pest management area and to determine when the action threshold(s) is met:; and

2. Reduce the impact on the environment and non-target organisms by evaluating site restrictions, application timing, and application method in addition to applying the pesticide only when the action threshold(s) has been met.

2.2.4 Forested Area Pest Control

This part applies to discharges from the application of pesticides for forested area pest control as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application in that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.4.b;

2. Identify target pest(s) to develop a Pest Management Measures based on developmental and behavioral considerations for each pest;

3. Identify current distribution of the target pest and assess potential distribution in the absence of Pest Management Measures; and

4. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.4.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the St and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a

combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical/physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage forestry pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each application to assess the pest management area and to determine when the pest action threshold(s) is met;

2. Reduce the impact on the environment and non-target organisms by evaluating the restrictions, application timing, and application methods in addition to applying the pesticide only when the action threshold(s) have been met; and

3. Evaluate using pesticides against the most susceptible developmental stage.

2.2.5 Other Pest Control Activities

This part applies to discharges from the application of pesticides not identified in Parts 2.2.1, 2.2.2, 2.2.3, or 2.2.4.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application in that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.5.b;

2. Identify target pest(s) to develop Pest Management Measures based on developmental and behavioral considerations for each pest;

3. Identify current distribution of the target pest and assess potential distribution in the absence of Pest Management Measures; and

4. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.5.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical/physical methods

4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage other activities not covered under the other four use patterns and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each application to assess the pest management area and to determine when the pest action threshold(s) is met;

2. Reduce the impact on the environment and non-target organisms by evaluating the restrictions, application timing, and application methods in addition to applying the pesticide only when the action threshold(s) have been met; and

3. Evaluate using pesticides against the most susceptible developmental stage.

3.0 Water Quality-Based Effluent Limitations

All permittees must control discharges as necessary to meet applicable numeric and narrative State water quality standards, for any discharge authorized under this permit, with compliance required upon the beginning of such discharge. Discharges covered by this permit, alone or in combination with other sources, shall not cause a violation of any applicable water quality standards outlined in 35 Ill. Adm. Code 302, in light of the provisions of 35 Ill. Adm. Code 302.210(g).

If at any time a permittee becomes aware (e.g., through self-monitoring or by notification from the State), or IE determines, that the discharge causes or contributes to an excursion of applicable water quality standards, the permittee must take corrective action as required in Part 6, up to and including the ceasing of the discharge, if necessary.

4.0 Monitoring

4.1 Visual Monitoring Requirements

During any pesticide application or post-application surveillance of any pesticide application with discharges authorized under this permit, all permittees must, when considerations for safety and feasibility allow and while observing reentry periods for pesticides application, visually assess the area to and around where pesticides are applied for possible and observable adverse incidents, as defined in Appendix A, caused by application of pesticides, including the unanticipated death or distress of non-target organisms and disruption of wildlife habitat, recreational or municipal water use.

If the permittee is not the applicator, this section is also applicable to the contract applicator.

5.0 Pesticide Discharge Management Plan

Permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 must prepare and submit a Pesticide Discharge Management Plan (PDMP). This section does not apply to the following:

1. Any application made in response to a declared pest emergency situation, as defined in Appendix A.

2. Permittees who meet the definition of a small entity, as defined in Appendix A.

3. Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) wh are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district.

The PDMP and all supporting documents must be submitted with the NOI. The PDMP must be submitted electronically in Adobe Acrobat format to epa.ILG87pestPDMP@illinois.gov.

The plan must be kept up-to-date thereafter for the duration of coverage under this general permit, even if the discharges subsequently fall below the applicable treatment area thresholds listed in Table 3.

The PDMP does not contain effluent limitations as the effluent limitations are specified in Parts 2 and 3 of the permit. The PDMP documents how the permittee will implement the effluent limitations in Parts 2 and 3 of the permit, including the evaluation and selection of Pest Management Measures to meet those effluent limitations in order to minimize discharges. In the PDMP, the permittee may incorporate by reference any procedures or plans in other documents that meet the requirements of this permit. If the permittee relies upon other documents to comply with the effluent limitations in this permit, such as a pre-existing pest management plan, the permittee must attach to the PDMP a copy of any portions of any documents that are used to document the implementation of the effluent limitations.

5.1 Contents of the Pesticide Discharge Management Plan

The PDMP must include the following elements:

a. Pesticide Discharge Management Plan Team
b. Problem Identification
c. Pest Management Options Evaluation
d. Response Procedures
    1. Spill Response Procedures
    2. Adverse Incident Response Procedures
e. Signature Requirements

5.1.1 PDMP Team

Permittees must identify all persons (by name and contact information) that compose the team as well as each person's individual responsibilities, including:

a. Person(s) responsible for managing pests in relation to the pest management area;

b. Person(s) responsible for developing and revising the PDMP; and

c. Person(s) responsible for developing, revising, and implementing corrective actions and other effluent limitation requirements.

5.1.2 Problem Identification

Permittees must document the following:

a. Pest problem description. Document a description of the pest problem at the pest management area, including identification of the target pest(s), source(s) of the pest problem, and source of data used to identify the problem in Parts 2.2.1, 2.2.2, 2.2.3, 2.2.4, and 2.2.5.

b. Action Threshold(s). Describe the action threshold(s) for the pest management area, including the data used in developing the action threshold(s) and method(s) to determine when the action threshold(s) has been met.

c. General location map. In the plan, include a general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) that identifies the geographic boundaries of the area to which the plan applies and location of the waters of the State.

d. Water quality standards. Document any water(s) identified as impaired by a substance which either is an active ingredient or a degradate of such an active ingredient.

5.1.3 Pest Management Options Evaluation

Permittees must document the evaluation of the pest management options, including combination of the pest management options, to control the target pest(s). Pest management options include the following: No action, prevention, mechanical/physical methods, cultural methods, biological control agent, and pesticides. In the

evaluation, permittees must consider the impact to water quality, impact to non-target organisms, feasibility, cost-effectiveness, and any relevant previous Pest Management Measures.

5.1.4 Response Procedures

Permittees must document the following procedures in the PDMP:

a. Spill Response Procedures – At a minimum, the permittees must have:

1. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases to waters of the State. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the PDMP team.

2. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies.

b. Adverse Incident Response Procedures – At a minimum, the permittees must have:

1. Procedures for responding to any adverse incident resulting from pesticide applications.

2. Procedures for notification of the adverse incident, both internal to the permittee agency/organization and external. Contact information for State permitting agency, nearest emergency medical facility, and nearest hazardous chemical responder must be in locations that are readily accessible and available.

5.1.5 Signature Requirements

Permittees must sign, date and certify the PDMP in accordance with Appendix B.

5.2 Pesticide Discharge Management Plan Modifications

Permittees must modify the PDMP whenever necessary to address any of the conditions for corrective action in Part 6.1 or when a change in pest control activities significantly changes the type or quantity of pollutants discharged. Changes to the PDMP must be made before the next pesticide application that results in a discharge, if practicable, or if not, no later than 90 days after any change in pesticide application activities. The revised PDMP must be signed and dated in accordance with Appendix B. Permittees must submit the modified PDMP electronically to epa.ILG87pestPDMP@illinois.gov.

5.3 Pesticide Discharge Management Plan Availability

Permittees must retain a copy of the current PDMP, along with all supporting maps and documents, at the address provided on the NOI. The PDMP and all supporting documents must be readily available and copies of any of these documents provided, upon request, to IEPA or to any local agency governing discharges or pesticide applications within their respective jurisdictions; and to representatives of any federal or state agencies. IEPA may provide copies of the PDMP or other information related to this permit that is in its possession to members of the public. Any Confidential Business Information (CBI), as defined in 40 CFR Part 2, may be withheld from the public provided that a claim of confidentiality is properly asserted and documented in accordance with 40 CFR Part 2; however, CBI must be submitted to IEPA, if requested, and may not be withheld from those staff within IEPA, or any other state or federal agency cleared for CBI review.

6.0 Corrective Action

All permittees must comply with the provisions of Part 6 for any discharges authorized under this permit, with compliance required upon the beginning of such discharge. If the permittee is not the applicator, this section is applicable to the contract applicator.

6.1 Situations Requiring Revision of Pest Management Measures

Permittees must review and, as necessary, revise the evaluation and selection of Pest Management Measures consistent with Parts 2.1 and 2.2 for the following situations:

a. An unauthorized release or discharge associated with the application of pesticides (e.g., spill, leak, or discharge not authorized by this or another NPDES permit) occurs.

b. Permittee becomes aware, or IEPA concludes, that Pest Management Measures are not adequate/sufficient for the discharge to meet applicable State water quality standards;

c. Any monitoring activities indicate failure to meet applicable technology-based effluent limitations in Part 2.

d. An inspection or evaluation of activities by IEPA reveals that modifications to the Pest Management Measures are necessary to meet the effluent limitations in this permit.

e. Any permittee observes or is otherwise made aware of an adverse incident, as defined in Appendix A.

6.2 Corrective Action Deadlines

If a permittee determines that changes to the Pest Management Measures are necessary to eliminate any situation identified in Part 6.1, such changes must be made before or, if not practicable, as soon as possible after the next pesticide application that results in a discharge.

6.3 Effect of Corrective Action

The occurrence of a situation identified in Part 6.1 may constitute a violation of the permit. Correcting any situation identified in Part 6.1 does not absolve permittees of liability for any original violation. However, failure to comply with Part 6.2 constitutes an additional permit violation. IEPA will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

IEPA may impose additional requirements and schedules of compliance, including requirements to submit additional information concerning the condition(s) requiring corrective action or schedules and requirements more stringent than specified in this permit. Those requirements and schedules will supersede those of Parts 6.1 and 6.2 if such requirements conflict.

6.4 Adverse Incident Documentation and Reporting

6.4.1 Twenty-Four Hour Adverse Incident Notification

6.4.1.1 Adverse Incident Notification Required

If a permittee observes or is otherwise made aware of an adverse incident, as defined in Appendix A, which may have resulted from a discharge from a pesticide application, made by the permittee or a contract applicator, the permittee must immediately notify the Illinois Emergency Management Agency (IEMA) and USEPA, Region 5, Pesticide Program. This notification must be made by telephone within 24 hours of the permittee becoming aware of the adverse incident and must include at least the following information:

a. The caller's name and telephone number;

b. Permittees name and mailing address;

c. NPDES permit number;

d. The name and telephone number of a contact person, if different than the person providing the 24-hour notice;

e. How and when the permittee became aware of the adverse incident;

f. Description of the location of the adverse incident;

g. Description of the adverse incident identified and the pesticide product, including USEPA pesticide registration number, for each product applied in the area of the adverse incident; and

h. Description of any steps the permittee has taken or will take to correct, repair, remedy, clean-up, or otherwise address any adverse effects.

If a permittee is unable to notify IEMA within 24 hours, the permittee must do so as soon as possible and also provide an appropriate rationale why the permittee was unable to provide such notification within 24 hours.

The adverse incident notification and reporting requirements are in addition to what the registrant is required to submit under FIFRA section 6(a)(2) and its implementing regulations at 40 CFR Part 159.

6.4.1.2 Adverse Incident Notification Not Required

Reporting of adverse incidents is not required under this permit in the following situations:

a. A permittee is aware of facts that indicate that the adverse incident was not related to toxic effects or exposure from the pesticide application;

b. A permittee has been notified by IEMA and retains such notification, that the reporting requirement has been waived for this incident or category of incidents;

c. A permittee receives information of an adverse incident, but that information is clearly erroneous; or

d. An adverse incident occurs to pests that are similar in kind to potential target pests identified on the FIFRA label.

6.4.2 Fifteen Day Adverse Incident Written Report

Within fifteen (15) business days of a reportable adverse incident pursuant to Part 6.4.1, permittees must provide a written report of the adverse incident to the IEPA Compliance Assurance Section. Permittees must submit the 15-day adverse incident report electronically to epa.ILG87pest5day@illinois.gov. The adverse incident report must include at least the following information:

a. Information required to be provided in Part 6.4.1;

b. Date and time the permittee contacted IEMA notifying the Agency of the adverse incident, who the permittee spoke with at IEMA, and any instructions received from IEMA;

c. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc);

d. A description of the circumstances of the adverse incident including species affected, estimated number of individual and approximate size of dead or distressed organisms;

e. Magnitude and scope of the affected area (e.g. estimate aquatic surface area or total stream distance affected);

f. Pesticide application rate; intended use site (e.g., on the bank, above waters, or directly to water), method of application; and name of pesticide product and USEPA pesticide registration number;

g. Description of the habitat and the circumstances under which the adverse incident occurred (including any available ambient water data for pesticides applied);

h. If laboratory tests were performed, an indication of what test(s) were performed, and when; additionally, a summary of the test results within 5 days after they become available if not available at the time of submissic the 15-day adverse incident report;

i. Description of actions to be taken to prevent recurrence of adverse incidents; and

j. Signature, date, and certification in accordance with Appendix B.

The Adverse Incident Report form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/adverse-incident.pdf.

6.4.3 Adverse Incident to Federally Threatened or Endangered Species or Critical Habitat

Notwithstanding any of the other adverse incident notification requirements of this section, if a permittee or contract applicator becomes aware of an adverse incident affecting a federally listed threatened or endangered species or its federally designated critical habitat which may have resulted from a discharge from the permittee's pesticide application, the permittee must immediately notify the United States Fish and Wildlife Service (FWS). This information must be made by telephone, to the contacts listed on USFWS's website at www.fws.gov/offices, immediately upon the permittee becoming aware of the adverse incident, and must include at least the following information:

a. The caller's name and telephone number;

b. Permittee name and mailing address;

c. The name of the affected species;

d. How and when the permittee became aware of the adverse incident;

e. Description of the location of the adverse incident;

f. Description of the adverse incident and the pesticide product, including the USEPA pesticide registration number, for each product applied in the area of the adverse incident, and;

g. Description of any steps the permittee has taken or will take to alleviate the adverse impact to the species.

Additional information on federally listed threatened or endangered species and federally designated critical habitat is available from FWS (www.fws.gov) for terrestrial or freshwater species.

6.5 Reportable Spills and Leaks

6.5.1 Spill, Leak, or Other Unpermitted Discharge Notification

Where a leak, spill, or other release into waters of the State containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs in any 24-hour period, the permittee or contract applicator must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302. The permittee must also notify IEMA at (800) 782-7860. Both of these Agencies shall be notified immediately and as soon as the permittee has knowledge of the release. Contact information must be in locations that are readily accessible and available in the area where the spill, leak, or other unpermitted discharge may occur.

Local requirements may necessitate also reporting spills or leaks to local emergency response, public health, or drinking water supply agencies.

6.5.2 Fifteen-Day Spill, Leak, or Other Unpermitted Discharge Documentation

If a permittee becomes aware of a spill, leak, or other unpermitted discharge which initiates the notification requirements in Part 6.5.1 and results in an adverse incident, then the permittee must report the incident per the requirements in Parts 6.4.1 and 6.4.2. If the spill, leak, or other unpermitted discharges initiates the notification requirements in Part 6.5.1, but does not result in an adverse incident, then permittee must document and retain the following information within 15 business days of becoming aware of the situation:

a. Information required to be provided in Part 6.5.1

b. Summary of corrective action taken or to be taken including date initiated and date completed or expected to be completed; and

c. Any measures to prevent recurrence of such a spill or leak or other discharge, including notice of whether PDMP modifications are required as a result of the spill or leak.

6.6 Other Corrective Action Documentation

For situations identified in Part 6.1, other than for adverse incidents (addressed in Part 6.4), or reportable spills or leaks (addressed in Part 6.5), permittees must document the situation requiring corrective action and the planned corrective action within fifteen (15) business days of becoming aware of that situation and retain a copy of this documentation. This documentation must include the following information:

a. Identification of the condition requiring the need for corrective action review, including any ambient water quality monitoring that assisted in determining that discharges did not meet water quality standards;

b. Brief description of the situation;

c. Date the problem was identified.

d. Brief description of how the problem was identified, how the permittee learned of the situation, and date the permittee learned of the situation;

e. Summary of corrective action taken or to be taken, including date initiated and date completed or expected to be completed; and

f. Any measures to prevent reoccurrence of such an incident, including notice of whether PDMP modifications are required as a result of the incident.

7.0 Recordkeeping and Annual Reporting

The recordkeeping and annual reporting requirements vary depending on whether a permittee meets the definition of a small entity, as defined in Appendix A, and/or exceeds one or more of the annual treatment area thresholds listed in Table 3.

Permittees must keep written records as required in this permit for all discharges covered under this permit. These records must be accurate and complete to demonstrate the permittees compliance with the conditions of this permit. Permittees may rely on records and documents developed for other obligations, such as requirements under FIFRA, and state or local pesticide programs, provided all requirements of this permit are satisfied.

IEPA recommends that all permittees covered under this permit keep records of acres or linear miles treated for all applicable use patterns covered under this general permit. The records shall be kept up-to-date to help the permittee determine if the annual treatment area thresholds, as identified in Part 2.2, are met during any calendar year.

7.1 Level 1: Recordkeeping

Level 1 recordkeeping applied to all permittees which must keep the following records:

a. A copy of the NOI submitted to IEPA, any correspondence exchanged between the permittee and IEPA specific to coverage under this permit, and a copy of the IEPA acknowledgment letter assigning the permit number;

b. A copy of this permit;

c. A copy of any Adverse Incident Reports (Part 6.4.2);

d. Rationale for any determination that reporting of an identified adverse incident is not required consistent w allowances identified in Part 6.4.1.2;

e. A copy of any corrective action documentation (Part 6.6);

f. A copy of any spill, leak, or other unpermitted discharge documentation (Part 6.5.2); and

g. Endangered Species Compliance Documentation

Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district are only required to perform Level 1 recordkeeping.

7.2 Level 2: Recordkeeping

Level 2 recordkeeping applies to permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and meet the definition of a small entity, as defined in Appendix A, must retain the following records at the address provided on the NOI. If the permittee is not the applicator, some of the records listed below shall be kept by the contract applicator.

a. Documentation of equipment calibration; and

b. Information on each treatment area to which pesticides are discharged, including:

1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharged are tributary;

2. Pesticide use pattern(s) (i.e., mosquito or other insect pest control, etc.)

3. Target pest(s) and explanation of need for pest control;

4. Description of pest management measures(s) implemented prior to the first pesticide application;

5. If different from the permittee, company name and contact information for contract applicator;

6. Name of each pesticide product used including the USEPA pesticide registration number;

7. Quantity of each pesticide product applied to each treatment area;

8. Pesticide application start and end date(s);

9. Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not; why not and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides; and

10. Name of any waters of the State in the treatment area currently listed as impaired for pesticides on the 303(d) list. This should include the name of the pesticide for which it is impaired.

An evaluation worksheet for documenting this information for each treatment area is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/discharge-evaluation.pdf.

7.3. Level 3: Recordkeeping

Level 3 recordkeeping applies to permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and do not meet the definition of a small entity, as defined in Appendix A, must retain the following records at the address provided on the NOI. If the permittee is not the applicator, some of the records listed below shall be kept by the contract applicator.

a. A copy of the PDMP, including any modifications made to the PDMP during the term of this permit;

b. A copy of the annual reports submitted to IEPA;

c. Documentation of equipment calibration; and

d. Information on each treatment area to which pesticides are discharged, including:

1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharged are tributary;

2. Pesticide use pattern(s) (i.e., mosquito or other insect pest control, etc.)

3. Target pest(s) and explanation of need for pest control;

4. Action threshold(s);

5. Method and/or data used to determine that action threshold(s) has been met;

6. Description of pest management measures(s) implemented prior to the first pesticide application;

7. If different from the permittee, company name and contact information for contract applicator;

8. Name of each pesticide product used including the USEPA pesticide registration number;

9. Quantity of each pesticide product applied to each treatment area;

10. Pesticide application start and end date(s);

11. Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not; why not and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides; and

12. Name of any waters of the State in the treatment area currently listed as impaired for pesticides on the 303(d) list. This should include the name of the pesticide for which it is impaired.

7.4 Additional Recordkeeping Requirements for All Permittees

All required records must be documented as soon as possible but no later than 15 business days following completion each pesticide application. Permittees must retain any records required under this permit for at least 3 years from the date that coverage under this permit expires or is terminated. Permittees must make available to IEPA, including an authorized representative of IEPA, all records kept under this permit upon request and provide copies of such records, upon request.

7.5 Annual Reporting

Permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and do not meet the definition of a small entity, as defined in Appendix A, must submit an annual report to IEPA. Once the permittee meets the obligation to submit an annual report, the permittee must submit an annual report each calendar year thereafter for the duration of coverage under this general permit, whether or not the permittee has discharges from the application of pesticides in any subsequent calendar year. Permittees must submit the annual report electronically to epa.ILG87pestAnnRep@illinois.gov. The annual report must be submitted to IEPA no later than February 15th of the following year for all pesticide activities covered under this permit occurring during the previous calendar year.

Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district are not required to submit an annual report.

The annual report must include information for the calendar year, with the first annual report required to include activities for the portion of the calendar year after the effective date of the NOI. If the effective date is after December 1, the permittee is not required to submit an annual report for that first partial year but must submit annual reports thereafter, with the first annual report submitted also including information from the first partial year.

When permittees terminate permit coverage, as specified in Part 1.2.5, an annual report must be submitted for the portion of the year up through the date of termination. The annual report is due no later than 45-days after the termination date, or February 15th of the following year, whichever is earlier.

The annual report must contain the following information:

a. Permittee's name and contact information;

b. NPDES permit number;

c. Contact person name, title, e-mail address (if any), and phone number; and

d. For each treatment area, report the following information:

   1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharge are tributary;

   2. Pesticide use pattern(s) (i.e., mosquito and other insects, etc.) and target pest(s);

   3. Company name(s) and contact information for the pesticide applicator(s), if different from the permittee;

   4. Total amount of each pesticide product applied for the reporting year by the USEPA pesticide registration number(s) and by application method (e.g., aerially by fixed-wing or rotary aircraft, broadcast spray, etc.);

   5. Whether this pest control activity was addressed in the PDMP prior to pesticide application;

   6. If applicable, an annual report of any adverse incidents as a result of these treatment(s), for incidents, as described in Part 6.4.1; and

   7. If applicable, description of any corrective action(s), including spill responses, resulting from pesticide application activities and the rationale for such action(s).

The Annual Report form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/annual-report.pdf.

8.0 Contact Information and Mailing Addresses

Permittees must submit the following documents to the email addresses listed below.

a. PDMP to epa.ILG87pestPDMP@illinois.gov

b. Annual Reports to epa.ILG87pestAnnRep@illinois.gov

c. Within 15 business days of becoming aware of an adverse incident, permittees must send all incident reports under Part 6.4 to epa.ILG87pest5day@illinois.gov

All other written correspondence concerning discharges covered under this permit and directed to the IEPA, including individual NPDES permit applications, must be sent to the IEPA Headquarters address listed below.

Note: If IEPA notifies dischargers (either directly, by public notice, or by making information available on the Internet) of other reporting options that become available at a later date (e.g., electronic submission), permittees may take advantage of those options, in accordance with the instructions provided by IEPA, to satisfy the reporting requirements of this permit.

8.1 IEPA Headquarters Address

Illinois Environmental Protection Agency
Division of Water Pollution Control, Mail Code #15
Attention: Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
www.epa.illinois.gov/topics/forms/water-permits/pesticide/index

8.2 USEPA, Region 5 Address

United States Environmental Protection Agency
Region 5
Attention: Pesticide Program
77 W. Jackson Blvd.
Chicago, IL 60604

Appendix A
Definitions, Abbreviations, and Acronyms

A.1. DEFINITIONS

Action Threshold – the point at which pest populations or environmental conditions cannot be tolerated necessitating that pest control action be taken based on economic, human health, aesthetic, or other effects. An action threshold may be based on current and/or past environmental factors that are or have been demonstrated to be conducive to pest emergence and/or growth, as well as past and/or current pest presence. Action thresholds are those conditions that indicate both the need for control actions and the proper timing of such actions.

Active Ingredient – any substance (or group of structurally similar substances if specified by the Agency) that will prevent, destroy, repel or mitigate any pest, or that functions as a plant regulator, desiccant, or defoliant within the meaning of FIFRA sec. 2(a). [40 CFR 152.3] Active ingredient also means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for the production of such a pesticidal substance. [40 CFR 174.3]

Adverse Incident – means an unusual or unexpected incident that a permittee or contract applicator has observed upon inspection or of which the permittee otherwise become aware, in which:

1. There is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and

2. The person or non-target organism suffered a toxic or adverse effect.

The phrase toxic or adverse effects includes effects that occur within waters of the State on non-target plants, fish or wildlife that are unusual or unexpected (e.g., effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to a pesticide residue, and may include:

- Distressed or dead juvenile and small fishes
- Washed up or floating fish
- Fish swimming abnormally or erratically
- Fish lying lethargically at water surface or in shallow water
- Fish that are listless or nonresponsive to disturbance
- Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants
- Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

The phrase, toxic or adverse effects, also includes any adverse effects to humans (e.g., skin rashes) or domesticated animals that occur either from direct contact with or as a secondary effect from a discharge (e.g., sickness from consumption of plants or animals containing pesticides) to waters of the State that are temporally and spatially related to exposure to a pesticide residue (e.g., vomiting, lethargy).

Annual Treatment Area Threshold – an area (in acres) or in linear distance (in miles) in a calendar year to which a permittee is authorizing and/or performing pesticide applications in that area for activities covered under this permit.

Applicator – any person(s) who performs the application of a pesticide or who has day-to-day control of the application (i.e., they are authorized to direct workers to carry out those activities) that results in a discharge to waters of the State.

Biological Control Agents – these agents are organisms that can be introduced to operator sites, such as herbivores, predators, parasites, and hyperparasites. [Source: USFWS IPM Guidance, 2004]

Biological Pesticides (also called biopesticides) – include microbial pesticides, biochemical pesticides and plant-incorporated protectants (PIP). Microbial pesticide means a microbial agent intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or dessicant, that (1) is a eucaryotic microorganism including, but not limited to, protozoa, algae, and fungi; (2) is a procaryotic microorganism, including, but not limited to, Eubacteria and Archaebacteria; or (3) is a parasitically replicating microscopic element, including but not limited to, viruses. [40 CFR 158.2100(b)] Biochemical pesticide mean a pesticide that (1) is a naturally-occurring substance or structurally-similar and functionally identical to a naturally-occurring substance; (2) has a history of exposure to humans and the environment demonstrating minimal toxicity, or in the case of a synthetically-derived biochemical pesticides, is equivalent to a naturally-occurring substance that has such a history; and (3) has a non-toxic mode of action to the target

pest(s). [40 CFR 158.2000(a)(1)] Plant-incorporated protectant means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for production of such a pesticidal substance. It also includes any inert ingredient contained in the plant, or produce thereof. [40 CFR 174.3]

Chemical Pesticides – all pesticides not otherwise classified as biological pesticides.

Contract Applicator – any person(s) who make contractual pesticide applications for which they or their employer receives compensation (e.g., pest control companies).

Cultural Methods – manipulation of the habitat to increase pest mortality by making the habitat less suitable to the pest.

Declared Pest Emergency Situation – an event defined by a public declaration by a federal, state, or local governmental body or agency of a pest problem determined to require control through application of a pesticide beginning less than ten days after identification of the need for pest control. This public declaration may be based on:

1. Significant risk to human health;
2. Significant economic loss; or
3. Significant risk to:
   i. Endangered species,
   ii. Threatened species,
   iii. Beneficial organisms, or
   iv. The environment.

Director – means the Director of the Illinois Environmental Protection Agency or an authorized representative.

Discharge – when used without qualification, means the "discharge of a pollutant." [40 CFR 122.2]

Discharge of a pollutant – any addition of any "pollutant" or combination of pollutants to "waters of the State" from any "point source," or any addition of any pollutant or combination of pollutants to the water of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. This includes additions of pollutants into waters of the State from: surface runoff that is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. [Excerpted from 40 CFR 122.2]

USEPA Approved or Established Total Maximum Daily Loads (TMDLs) – "USEPA Approved TMDLs" are those that are developed by the State and approved by USEPA. "USEPA Established TMDLs" are those that are issued by USEPA.

Facility or Activity – any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. [40 CFR 122.2]

Impaired Water (or "Water Quality Impaired Water" or "Water Quality Limited Segment") – a water is impaired for purposes of this permit if it has been identified by the State pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 CFR 130.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

Inert Ingredient – any substance (or group of structurally similar substances if designated by the Agency), other than an active ingredient, that is intentionally included in a pesticide product. [40 CFR 152.3] Inert ingredient also means any substance, such as a selectable marker, other than the active ingredient, where the substance is used to confirm or ensure the presence of the active ingredient, and includes the genetic material necessary for the production of the substance, provided that genetic material is intentionally introduced into a living plant in addition to the active ingredient. [40 CFR 174.3]

Mechanical/Physical Methods – mechanical tools or physical alterations of the environment, for pest prevention or removal.

Minimize – to reduce and/or eliminate pesticide discharges to waters of the State through the use of Pest Management Measures to the extent technologically available and economically practicable and achievable.

Non-target Organisms – includes the plant and animal hosts of the target species, the natural enemies of the target species living in the community, and other plants and animals, including vertebrates, living in or near the community that are not the target of the pesticide.

Operator – for the purpose of this permit, means any person(s) associated with the application of a pesticide that results in a discharge to waters of the State that meets either or both of the following two criteria:

a. The person(s) with control over the hiring of a contract applicator, or making the decision to perform pesticide applications, including the ability to modify those decisions, that results in a discharge to waters of the State, or

b. The person(s) who performs the application of pesticides or who has day-to-day control of the pesticide application, that results in a discharge to waters of the State.

Outstanding Resource Water – is a surface water body or water body segment that is of exceptional ecological or recreational significance and must be designated by the Illinois Pollution Control Board pursuant to 35 Ill. Adm. Code 102.Subpart H.

Permittee – an operator that has obtained coverage under this general permit.

Person – any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their legal representative, agent or assigns.

Pest – consistent with 40 CFR 152.5, any organism under circumstances that make it deleterious to man or the environment, if it is:

a. Any vertebrate animal other than man;

b. Any invertebrate animal, including but not limited to, any insect, other arthropod, nematode, or mollusk such as a slug and snail, but excluding any internal parasite of living man or other living animals;

c. Any plant growing where not wanted, including any moss, alga, liverwort, or other plant of any higher order, and any plant part such as a root; or

d. Any fungus, bacterium, virus, or other microorganism, except for those on or in living man or other living animals and those on or in processed food or processed animal feed, beverages, drugs (as defined in FFDCA sec. 201(g)(1)) and cosmetics (as defined in FFDCA sec. 201(i)).

Pest Management Area – the area of land, including any water, for which the permittee has responsibility for and is authorized to conduct pest management activities as covered by this permit (e.g., for a permittee who is a mosquito control district, the pest management area is the total area of the district).

Pest Management Measure – any practice used to meet the effluent limitations that comply with manufacturer specifications, industry standards and recommended industry practices related to the application of pesticides, relevant legal requirements and other provisions that a prudent permittee would implement to reduce and/or eliminate pesticide discharges to waters of the State.

Pesticide – means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and (3) any nitrogen stabilizer, except that the term "pesticide" shall not include any article that is a "new animal drug" within the meaning of section 201(w) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321(w)), that has been determined by the Secretary of Health and Human Services not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of section 201(x) of such Act (21 U.S.C. 321(x)) bearing or containing a new animal drug. The term "pesticide" does not include liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical or semi-critical device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321). For purposes of the preceding sentence, the term "critical device" includes any device that introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body and the term "semi-critical device" includes any device that contacts intact mucous membranes but

which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. [FIFRA Section 2(u)]

The term "pesticide" applies to insecticides, herbicides, fungicides, rodenticides, and various other substances used to control pests. The definition encompasses all uses of pesticides authorized under FIFRA including uses authorized under sections 3 (registration), 5 (experimental use permits), 18 (emergency exemptions), 24(c) (special local needs registrations), and 25(b) (exemptions from FIFRA).

Note: Drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc).

This permit uses the term "pesticide" when referring to the "pesticide, as applied." When referring to the chemical in the pesticide product with pesticidal qualities, the permit uses the term "active ingredient."

Pesticide Product – a pesticide in the particular form (including composition, packaging, and labeling) in which the pesticide is, or is intended to be, distributed or sold. The term includes any physical apparatus used to deliver or apply the pesticide if distributed or sold with the pesticide.

Pesticide Research and Development – activities undertaken on a systematic basis to gain new knowledge (research) and/or the application of research findings or other scientific knowledge for the creation of new or significantly improved products or processes (experimental development).

Pesticide Residue – includes that portion of a pesticide application that is discharged from a point source to waters of the State and no longer provides pesticidal benefits. It also includes any degradates of the pesticide.

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff. [40 CFR 122.2]

Pollutant – dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. [Excerpted from 35 Ill. Adm. Code 301.340] For purposes of this definition, a "biological pesticide" is considered a "biological material," and any "pesticide residue" resulting from use of a "chemical pesticide" is considered a "chemical waste." [Excerpted from 40 CFR 122.2]

Small Entity – any (1) public entity that serves a population of 10,000 or less, (2) a person(s) applying pesticides on private property where they or any member of their immediate family reside or property that they own or lease, or (3) a private enterprise that does not exceed the Small Business Administration size standard as identified at 13 CFR 121.201.

Target Pest – the organism(s) toward which pest management measures are being directed.

Total Maximum Daily Loads (TMDLs) – a TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount of the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. [See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7]

Treatment Area – the entire area, whether over land or water, where a pesticide application is intended to provide pesticidal benefits within the pest management area. In some instances, the treatment area will be larger than the area where pesticides are actually applied. For example, the treatment area for a stationary drip treatment into a canal includes the entire width and length of the canal over which the pesticide is intended to control weeds. Similarly, the treatment area for a lake or marine area is the water surface area where the application is intended to provide pesticidal benefits.

Waters – all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this state.

Water Quality Impaired – see 'Impaired Water'.

Water Quality Standards – a water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. Water quality standards also include an antidegradation policy and implementation procedures. See 35 Ill. Adm. Code 302.

Wetlands - means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. [40 CFR 122.2]

A.2. ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
CWA	Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)
FFDCA	Federal Food, Drug, and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §136 *et seq*
FWS	United States Fish and Wildlife Service
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
IEMA	Illinois Emergency Management Agency
IPM	Integrated Pest Management
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
ORW	Outstanding Resource Water
PDMP	Pesticide Discharge Management Plan
TMDL	Total Maximum Daily Load
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
WQS	Water Quality Standard

Appendix B
Standard Permit Conditions – Attachment H

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hou period.

8-Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hou period.

Flow Proportional Composite Sample means a combination o sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot o the volume of each aliquot is proportional to either the stream flow a the time of sampling or the total stream flow since the collection o the previous aliquot.

(1) **Duty to comply.** The permittee must comply with al conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

(2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.

(3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

(9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) **Monitoring and records.**

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
(c) Records of monitoring information shall include:
  (1) The date, exact place, and time of sampling or measurements;
  (2) The individual(s) who performed the sampling or measurements;
  (3) The date(s) analyses were performed;
  (4) The individual(s) who performed the analyses;
  (5) The analytical techniques or methods used; and
  (6) The results of such analyses.
(d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.

(a) **Applications.** All permit applications shall be signed as follows:
  (1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation:
  (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
(b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  (1) The authorization is made in writing by a person described in paragraph (a); and
  (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
  (3) The written authorization is submitted to the Agency.
(c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
(d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(12) **Reporting requirements.**

(a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.
Notice is required when:
  (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
  (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
  (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal

sites not reported during the permit application process or not reported pursuant to an approved land application plan.

(b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) **Transfers.** This permit is not transferable to any person except after notice to the Agency.

(d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(e) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
(2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.

(f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
(1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
(2) Any upset which exceeds any effluent limitation in the permit.
(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.
The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.

(g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).

(h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.

(13) **Bypass.**
(a) Definitions.
(1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
(2) Severe property damage means substantial physica damage to property, damage to the treatment facilities which causes them to become inoperable, o substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays ir production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essentia maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).

(c) Notice.
(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).

(d) Prohibition of bypass.
(1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(iii) The permittee submitted notices as required under paragraph (13)(c).
(2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).

(14) **Upset.**
(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant

evidence that:
(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated; and
(3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
(4) The permittee complied with any remedial measures required under paragraph (4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
(a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
(b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:
(1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
(2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
(3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.

(16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
(1) One hundred micrograms per liter (100 ug/l);
(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
(3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
(4) The level established by the Agency in this permit.
(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.

(17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
(a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
(b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
(c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
(a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
(b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
(c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.

(19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.

(20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.

(21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.

(22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both.
Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).

(23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both

(24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

(26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.

(27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.

(28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev. 7-9-2010 bah)

Part C. Information and Data Collection Results

(Provide information and water quality sampling/monitoring data related to illicit discharge detection and elimination collected during the reporting period.)

The 2019 Water Quality Monitoring Results for NPDES Phase II Permit Requirements, Buffalo Grove, Lake & Cook Counties, Illinois have been prepared as in previous years and are available upon request.

Information is also provided regarding events and procedures utilized to meet measurable goals for the minimum control measures.

MEMORANDUM

DATE: April 24, 2020

TO: Darren Monico/Mike Reynolds, Village of Buffalo Grove, Public Works

CC: Darren Olson, PE, CBBEL
Travis Parry, PE, CBBEL

FROM: Eric Japsen, CBBEL

SUBJECT: 2019 Water Quality Monitoring Results for NPDES Phase II Permit Requirements, Buffalo Grove, Lake & Cook Counties, Illinois
(CBBEL Project No. 190207)

On October 22, 2019, Christopher B. Burke Engineering, Ltd. (CBBEL) completed water quality monitoring for the Village of Buffalo Grove (Village) to address Illinois Environmental Protection Agency (IEPA) National Pollutant Discharge Elimination System (NPDES) Phase II requirements for its Municipal Separate Storm Sewer System (MS4) Permit No. ILR400303. 2019 was the 11th year that CBBEL has monitored and reported water quality results for the Village to address NPDES requirements, including applicable Total Maximum Daily Loads (TMDLs) for the Des Plaines River watershed.

The year 2019 was the fourth year since water sampling for some pollutants was added for similarity to water sampling results collected by the Buffalo Creek Clean Water Partnership (BCCWP) as published in the IEPA approved Buffalo Creek Watershed Plan, dated December 2015. In addition, relevant water quality monitoring results collected by the Des Plaines River Watershed Workgroup (DRWW) were presented in a "Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries, 2016", prepared by Midwest Biodiversity Institute (MBI), dated December, 2017 (http://www.drww.org/wp-content/uploads/2018/04/MBI-Upper-Desplaines-Bioassessment-Report-20180403-FINAL-REVISED-II.pdf) are included with the October 22, 2019 water sampling results in this report. The Village is an active member of the DRWW (www.drww.org) and the BCCWP. A bioassessment, such as that completed in the DRWW report, was not within this project scope.

A map showing the sampling sites and photo exhibit are attached in Appendix 1. A DRWW monitoring location map is available under Reports, 2018 Monitoring Strategy, at (http://www.drww.org/wp-content/uploads/2017/02/Map-4-DesPlaines-Watershed-Map-with-WWTP-and-DAF-with-303d-Waters-IEPAUSGS-Monitoring-Locations-NOAERIAL-SuburbanLabDRWWSitesFINAL.pdf). Water testing laboratory results and summary spreadsheets are attached in Appendix 2. Recommendations for 2020 water quality sampling, monitoring, and reporting are listed at the end of this document.

Purpose

The NPDES permit for MS4 communities specifies that stormwater discharges shall not cause or contribute to a violation of state water quality standards (35 IAC 302). Compliance

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with state water quality standards is mandatory for MS4 permittees. TMDLs for pollutants within the impaired reach of Buffalo Creek (IL_GST), a portion of which lies within Village limits, were developed using water quality data from the Metropolitan Water Reclamation District of Greater Chicago (MWRD) Site WW-12. TMDLs for fecal coliform, chloride, and dissolved oxygen (DO) were approved by IEPA in August 2013.

The NPDES permit states that when a TMDL is approved for a waterbody, MS4s must attempt to comply with Waste Load Allocations (WLAs) for those pollutants having TMDLs. WLAs were allocated for each discharger based on the size of the MS4 and percent area within the Des Plaines River watershed (Appendix 3). The BCCWP includes MS4s in its watershed wide attempt to meet water quality standards through TMDLs.

To satisfy NPDES monitoring requirements, the Village's annual stream water sampling program measures pollutant concentrations over time. The use of each year's single sample results in calculating pollutant loading to compare to WLAs (to address TMDLs) may not be representative of water quality conditions throughout the remainder of the year; thus, were not presented here. Calculations such as those related to sediment and nutrient loading using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) by the USEPA were not included in the scope of water sampling provided by CBBEL. If comparison of pollutant loads to WLAs is desired, Buffalo Creek discharge rates obtained from the USGS stream gauge at Wheeling, near sampling Site BC-2, can be used to determine IEPA approved TMDL flow regimes for pollutants causing impairments.

TMDL development is underway, but not yet approved (as of 2018) for total suspended solids (TSS) for Buffalo Creek(IL_GST), and for DO in Indian Creek (IL_GU-02). Both Buffalo Creek (TSS) and Indian Creek (DO) are on the 2018 303(d) list of impaired waters. The IEPA determined that carbonaceous biological oxygen demand (CBOD) and ammonia nitrogen are the two pollutants that must be controlled in order to improve DO levels in Buffalo Creek. The 303(d) listing for DO in the impaired reach of Indian Creek includes the portion of Indian Creek that occurs within Village limits. Aptakisic Creek and Kildeer Creek Tributary are not on the State's 303(d) list, but are within the Des Plaines River watershed. We understand that periodic water quality sampling is completed by DRWW at or near several of the stream sampling sites located within the Village's upstream or downstream limits; the most recent sampling results we are aware of were from 2016.

MWRD results collected periodically from Buffalo Creek between 1977-2009 and on five dates in 2015 are presented along with 11 years of sampling data collected by CBBEL between 2009-2019. The data can be found in Appendix 2. DRWW and BCCWP sampling results associated with streams within the Village's limits are also included in Appendix 2.

Methods

On October 22, 2019, water samples were collected from creeks/tributaries near upstream and downstream Village boundaries at eight locations to describe its MS4 discharge for the 2019 NPDES monitoring/reporting period. The eight samples were collected in the same locations as previous years' sampling to maintain consistency for comparison of results.

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Sampling sites numbered “1” are located at upstream Village limits; sites numbered “2” are located at downstream Village limits. The eight sampling sites are shown on the Village map in Appendix 1.

Aptakisic Creek AC-1 & AC-2	Indian Creek IC-1 & IC-2
Kildeer Creek Tributary KCT-1 & KCT-2	Buffalo Creek BC-1 & BC-2

IEPA sampling guidelines require that water samples be collected within 48 hours of a rain totaling at least 0.25 inch. On October 21-22, 2019 (Monday evening to Tuesday morning), rain totaling 0.32 inches was recorded at nearby Children’s Park in Buffalo Grove, Illinois (Weather Underground - www.wunderground.com, KILBUFFA10). CBBEL collected water samples mid-morning to early afternoon on October 22, 2019.

CBBEL collected grab samples for laboratory testing of nine potential pollutants at each of the eight sampling sites. Water samples were collected in designated bottles and placed on ice for laboratory testing by our sub-contractor, PDC Laboratories, Inc., McHenry, Illinois, under standard chain-of-custody procedures. Field observations were recorded using a handheld Oakton 300 Series probe and an Oakton ECTestr at the time of sample collection at each site.

The Buffalo Creek sites (Sites BC-1 & BC-2) and Indian Creek sites (Sites IC-1 & IC-2) having TMDLs for DO were also sampled for CBOD and ammonia nitrogen, per IEPA guidance. In 2019, the following analytes were sampled at the eight sampling sites within the four streams:

Laboratory Tests	Field Observations
Fecal Coliform	Dissolved Oxygen (DO)
Chloride	pH
Total Suspended Solids (TSS)	Conductivity
Total Phosphorous (TP)	Temperature
Nitrate Nitrogen	
Nitrite Nitrogen	
Total Kjeldahl Nitrogen	
Total Nitrogen (TN)	
Oil & Grease	
CBOD (only Sites BC-1 & 2 and IC-1 & 2)	
Ammonia Nitrogen (only Sites BC-1 & 2 and IC-1 & 2)	

Laboratory test results were reported in terms of reporting limits or method detection limits (Appendix 2).

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Results and Discussion

On October 22, 2019, stream water levels appeared to be slightly above base flow conditions at all of the stream sampling sites. Water clarity was slightly murky to murky at all sites due to rain ending early that morning.

On October 22, 2019, the USGS stream gauge on Buffalo Creek at Wheeling reported a median discharge rate of 14.7 cubic feet per second and a stream gauge height of 1.94 feet. Historically, the median discharge rate over the 67 year recorded period was 2.2 cubic feet per second, with a stream gauge height of 1.34 feet. Therefore, the median discharge rate on October 22, 2019 was greater than 6 times the historical median flow rate due to the rain received October 21-22, 2019.

Water sampling results for each site over the past five years 2015-2019 are listed in the spreadsheet in Appendix 2. The results spreadsheet includes State water quality standards (WQS) and other measures for some constituents not having standards, as sourced from the 2015 Buffalo Creek Watershed Plan. Water quality testing results for Buffalo Creek are also presented in a separate spreadsheet for comparison to available MWRD data (Appendix 2). Although DRWW sampling in 2018 was planned, no data was found on the web-site. There are some 2016 results for DRWW stream sampling locations to compare with our 2019 sampling results within Village limits; these are provided in Appendix 2, as well, with some discussion in the results below. Refer to the DRWW website for reports that include water sampling results (www.DRWW.org) as well as the Lake County, IL website (https://www.lakecountyil.gov/2378/Buffalo-Creek, which now contains the BCCWP watershed plan). Note that DRWW sampling was completed monthly on five dates from May to September, as well as dates in March and November 2016 during stream baseflow conditions, which differs from the current requirement for NPDES sampling after a minimum 0.25 inch rain.

Each year's water quality results from the sampling points at the upstream Village limits (Sites AC-1, BC-1, IC-1 and KCT-1) may be considered as background levels. This provides a reference for which the water quality results at the downstream Village limits can be compared. The Village should note, attempt to find the causes, and/or remediate when water quality test results show:

1) Any sampling result exceeds State WQS;
2) Sampling results at the downstream Village limits (sites numbered "2") exceed those at the upstream limits (sites numbered "1"), which indicates that sources within the Village limits may be contributing to the pollutant level(s).

Laboratory Test Results

The 2019 laboratory and field test results for the tested parameters met State WQS (or other acceptable thresholds, as discussed above), except for fecal coliform at four of eight and pH at two of eight sites (Appendix 2).

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Most of the October 22, 2019 water sample results were similar to or showed improvement from previous years' results. Many results were at laboratory minimum recording levels. Notably, 2019 chloride results were at the lowest or next lowest levels over the past five years at the eight sample sites.

Discussion of water testing results below focuses on pollutants having TMDLs, those not meeting state WQS, and those differing substantially from previous sampling results or ranges.

Fecal Coliform

In 2019, five of the eight sample sites had fecal coliform levels exceeding the 200 colonies per 100 milliliters (100ml) and the 400 colonies/100ml WQS. These occurred at Sites IC-1 (249 colonies per 100ml), KCT-1 & 2 (649 & 770 colonies per 100ml), and BC-1 & 2 (480 & 882 colonies per 100ml).

The 2019 fecal results at all sites were lower than the high levels we reported in 2018, and much lower than the highest result recorded at WW-12 by MWRD on August 3, 2015 (11,000 colonies/100ml), and much lower than the highest MWRD result of 28,000 colonies/100ml observed at WW-12 on one date during 2000-2009 sampling.

As stated above, in 2019 and previous years' sampling, water samples were collected on only one sampling date each year in order to compare to previous years' testing results and to address the annual MS4 water quality monitoring requirement. Therefore, a minimum of five sampling results averaged over a maximum five-year period is required to evaluate the fecal coliform standards. Largely because of the high fecal results at nearly all sites in 2018 and 2016, the average fecal results over the recent five year period exceeded the WQS maximum of 200 colonies/100ml at all eight sampling sites.

The average of the most recent five samples for Buffalo Creek Sites BC-1 & 2 from our sampling results (over the most recent five years) and from MWRD results (June-October 2015) are listed in Table 1 below. DRWW Site 17-2 was near the Wheeling stream gage (Site BC-2).

Table 1. The Most Recent Five Sample Means of Fecal Coliform Samples, CBBEL Annual

Sampling Site	Mean* colonies/100ml, 2015-2019	Mean* colonies/100ml, 2014-2018	Mean* colonies/100ml, 2013-2017	Mean* colonies/100ml, 2012-2016	Mean* colonies/100ml, 2011-2015	MWRD 2015 Mean** colonies/100ml	DRWW 2016 Mean*** colonies/100ml
BC-1	1,090	1,034	554	548	116	-	-
BC-2	1,524	1,308	888	862	496	-	73.4 (B)
WW-12	-	-	-	-	-	2,514	-

Testing & MWRD Monthly Testing, within Buffalo Creek, IL_GST, Buffalo Grove, Illinois

*CBBEL sampling frequency was once annually; **MWRD sampling frequency was monthly June-October 2015; ***DRWW sampling frequency at its Site ID 17-2 was monthly May-September 2016. B indicates that monthly DRWW sampling was in baseflow conditions.

Although the 2019 fecal coliform results were lower than 2018 and 2016 results, the averages for the past four five-year periods have increased. This is a consequence of IEPA

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sampling guidelines that were revised to follow rain events beginning in 2016, which runoff is expected to contain elevated fecal coliform.

2019 fecal coliform test results indicate Not Supporting Primary Contact Use caused by fecal coliform in Buffalo Creek. The 2015-2019 five samples averages for Sites BC-1 & BC-2 exceeded 200 colonies/100ml and had at least 1 exceedance of the 400 colonies/100ml standard over the five-year period 2015-2019.

Results in Table 1 show:

1) the most recent five-year fecal coliform average (2015-2019) was lower at the Village upstream Site BC-1 than at downstream Site BC-2; and,
2) fecal coliform averages increased each year over the past five five-year periods.

Fecal coliform results have varied greatly in Buffalo Creek during CBBEL's 11 years of sampling and in results obtained by others. Mean 2016 fecal results at DRWW Site 17-2 (73.4 colonies/100ml) were much lower and maximum fecal results (167 colonies/100ml) were lower than our recent single sample results for Site BC-2. However, the 2013-2014 fecal results for nearby BCCWP Site BC11 ranged from 20 colonies/100ml in May 2014 to >1,900 colonies/100ml in October 2013. The October 2013 result was higher than 7 of the 11 sampling results we have observed at Site BC-2 during 2009-2019. Rain events contains fecal material in runoff that enters streams, lakes, and other waterbodies; therefore, higher fecal coliform test results might be expected following rain than during a dry period. Continued sampling and analyses are needed to account for rain and fecal contributions in five sample averages in the future. Identification of contributing sources of fecal coliform, such as flocks of geese on golf courses and failed septic systems are needed followed by remediation.

Chloride

None of the 2019 chloride results exceeded the State maximum WQS of 500 mg/L. The chloride levels ranged from 91 mg/L at Site KCT-2 to 130 mg/L at Site AC-2. Results were similar at both the upstream and downstream sampling sites at each respective stream. The 2019 chloride levels were comparable to the 2018 results (varying from ±4-30 mg/L at each site). The 2018 chloride levels ranged from 74 mg/L at Site IC-2 to 140 mg/L at Sites AC-1 and BC-1. On average, the chloride results peaked in 2015, and have since declined. Over the past five years, chloride levels were at their lowest levels in 2018 or 2019 at all eight sampling sites.

The lowest chloride levels of the year are expected to be observed in October before de-icing applications begin in November. The Village's annual efforts to reduce de-icer/chloride use began in 2014-2015 and has contributed to lower chloride sampling results. In 2015, the Village began pre-treating streets with an environmentally friendly beet product that has reduced liquid chloride and road salt use by 25% - 30%. The critical condition for chloride is over the winter season when de-icers are applied.

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Ammonia Nitrogen

Ammonia nitrogen sampling is not required at all streams and was limited to Sites BC-1, BC-2, IC-1 & IC-2 in 2019 because Buffalo Creek IL_GST has a TMDL for DO and a TMDL for DO was being developed for Indian Creek IL_GU-02. Per the IEPA, ammonia is a pollutant of concern that contributes to low DO levels (Integrated Report-2012). The 2019 ammonia nitrogen levels were <0.14 mg/L at all sampled sites. Actual results are less than the laboratory reporting limits; thus, the numerical results are unknown. These levels were much lower than the State WQS maximum of 15 mg/L. The DRWW report notes that the level at which ammonia impairs aquatic life is 0.15 mg/L. However, this level is not an Illinois WQS. The 2019 ammonia nitrogen levels at the sampling sites are less than the impairment threshold used in the DRWW report.

In the 2016 DRWW sampling at Site ID-15-2 (which is near the 2019 Village Site IC-1), the ammonia level was 0.1 mg/L and was below any standard or recommended threshold level. The low levels of ammonia recorded at Sites IC-1 and IC-2 in 2019 are consistent with the 2016 DRWW sampling results.

We did not sample ammonia at Site AC-2, which appears to be near DRWW Site ID 18-1 located downstream of the Lake County wastewater treatment site. In the 2016 DRWW sampling at this site, the ammonia level was 0.1 mg/L and was below any standard or recommended threshold level.

Carbonaceous Biochemical Oxygen Demand (CBOD)

CBOD sampling is not required at all streams and was limited to Sites BC-1 & 2 and IC-1 & IC-2 in 2019. Per the IEPA, CBOD is a pollutant of concern that contributes to low DO (Integrated Report-2012). The critical condition for CBOD is during the summer when decomposition of organic matter and other oxygen consuming processes are occurring.

The 2019 CBOD levels ranged from 0.96 mg/L at Site BC-2 to 1.3 mg/L at Site IC-2. Results were similar at both the upstream and downstream sampling sites at each respective stream. These CBOD levels were the lowest recorded at each sampled site since 2016 (i.e., the first year of CBOD sampling). All 2019 CBOD results were lower than the 8.0 mg/L standard that applies to wastewater effluent (there is currently no Illinois General Use WQS).

For comparison to BCCWP sampling at Site BC11 (near the 2019 Village Site BC-2), where BOD levels ranged from <4.0 mg/L to 23.7 mg/L over four 2013-2014 samplings, the 2019 result at Site BC-2 was lower at 0.96 mg/L.

Total Suspended Solids (TSS)

In 2019, seven of the eight test results for TSS were within ranges observed in past years. Only Site BC-1 had a result higher than in the past four years of sampling (72.0 mg/L. The high TSS result at Site BC-1 was likely due to restoration work within Buffalo Creek Lake located upstream of the sampling site. We noted that a silt curtain was in place approximately 150 feet upstream of sampling Site BC-1. We also observed that the

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recently stabilized streambanks located downstream of Site BC-1 were in good condition, and likely contributed to the lower TSS result of 40.0 m/L at downstream Site BC-2.

TSS results were somewhat higher at the downstream sampling sites of the other three streams, ranging from 5.2 mg/L at Site IC-2 to 32.0 mg/L at Site KCT-2.

There is no General Use water quality standard for TSS. Therefore, the test results for the eight sites were not exceedances of a State WQS. There is however, in the Buffalo Creek Watershed Plan, a recommended range of 15-30 mg/L for wastewater effluent proposed Buffalo Creek. The BC and KCT sites exceeded this range.

We expect to observe higher TSS due to particulates entering the streams following runoff from rain. Sediment, organic, and mineral particulates likely contributed to the laboratory TSS results and field observations of slightly murky or murky water at all sampling sites.

Four sampling results over 2013-2014 testing by BCCWP at nearby Site BC11 ranged from 4.0 mg/l to 19.0 mg/L, which were lower than our 2019 results. As noted above, restoration work within Buffalo Creek Lake and the requirement beginning in 2016 for testing after rain contributed to higher TSS results.

Nutrients

Stream sampling results for Total Phosphorous (P) were at the lowest levels in the past four years at seven of the sampling sites, and the second lowest level in the past four years at Site BC-2. TP results ranged from 0.025 mg/L at Site AC-2 to 0.069 mg/L at Site KCT-2. . Total Nitrogen (N), Nitrate N, Nitrite N, and Kjeldahl N had no applicable WQS, were at low levels or at laboratory minimum recording limits, and were lower than wastewater standards that were listed as a basis of comparison in the Buffalo Creek Watershed report.

The latest available DRWW nutrient sampling results(2016) near several of the Village's upstream and downstream sites, including DRWW Sites 15-2 (IC-2), 17-2 (BC-2), and 15-4 (KCT-2) were similarly low. Only DRWW Site 18-1 (near AC-2) had very high levels of nitrate nitrogen (17.4 mg/L) and TP (2.42 mg/L). These high levels were thought to be caused by wastewater effluent. In 2019, we observed a combined nitrate N level of <0.35 mg/l and a TP of 0.025 mg/L, much lower results at Site AC-2 where the concrete basin discharges into the 'natural' stream bed downstream of the wastewater treatment facility.

Oil & Grease

In 2019, oil and grease results were <4.0 mg/L at all sampling sites. Actual results are less than the laboratory reporting limits; thus, the numerical results are unknown. There is no General Use WQS for oil and grease. However, the standard for Public and Food Processing Water Supply (PFPWS) standard of 0.1 mg/L was used in the Buffalo Creek Watershed Report as a basis of comparison. A General Use WQS would likely be much higher than the PFPWS standards.

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Field Test Results

Dissolved Oxygen (DO)

On October 22, 2019, none of the sampling site results were lower than the State minimum WQS of 3.5 mg/L (applicable August through February). Our field testing results ranged from 4.92 mg/L at Site AC-1 to 7.41 mg/L at Site AC-2. See relevant discussion above for ammonia and CBOD that influence DO levels in Buffalo and Indian Creeks.

pH

The 2019 pH results were within the State WQS range of 6.5-9.0 at all sampling sites, except two downstream sites, KCT-2 (pH=9.24) and AC-2 (pH=9.21). These two sites were slightly over the State WQS upper limit and should be re-sampled. All downstream sites had pH levels that were similar to, or higher than, the upstream sites. In addition, the 2019 pH levels at all downstream sites approached the State WQS upper limit and were higher than data collected during the previous five years. The last five years of sampling and the MWRD 2015 pH results were all within the State WQS range.

High pH can result from increased photosynthesis (i.e., plants using sunlight to create stored energy), rock (limestone), soils, and other sources. Pollution can also change the pH of a stream. Runoff from construction sites, agricultural land, golf courses, or lawns can affect pH levels. pH levels should be monitored closely and investigated further if levels measured during 2020 sampling are not within the State WQS range.

Conductivity

Conductivity is a measure of electrically charged particles in water, such as salt, clay/soil, and bio-chemical, and other dissolved matter that tend to be high during winter or high flow, turbid stream conditions. The 2018 conductivity results were the lowest recorded by CBBEL over the previous 11 years of sampling at seven of the eight sampling sites (only Site BC-1 had higher results once during that period). The 2019 results are higher than 2018 results, but are still comparable to previous sampling since 2016. See chloride discussion above regarding BMPs implemented in 2015. The 2019 conductivity results ranged from 830 microsiemens (*m*s or umhos) at Site IC-I to 990 *m*s at Site AC-1, and are within the 50-1,500 *m*s range provided as the standard in the Buffalo Creek Watershed Plan (Volunteer Stream Monitoring Manual, USEPA, 1997).

Temperature

On October 22, 2019, water temperature readings for all sites were lower than the State maximum WQS of 32.0 degrees Celsius for April through November. Stream temperatures ranged from 10.2 degrees Celsius at Site BC-1 to 11.3 degrees Celsius at Sites IC-1 and AC-2.

Storm Water Controls

The Village is an active participant in the BCCWP, and continues its efforts to comply with MS4 NPDES requirements. Village programs and activities for implementing the six minimum control measures to reduce pollutants are described in the Village's 2019 Annual Report. Each year, the Village implements Best Management Practice (BMP) projects, such as the de-icer reduction program that benefit stream water quality. As mentioned

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previously, Buffalo Creek Lake restoration and Buffalo Creek streambank stabilization projects were major efforts implemented by the Village to improve stormwater pollution controls.

Recommendations for 2020

We recommend that the Village:

1) Continue to participate in the Des Plaines River Watershed Workgroup (DRWW) and the Buffalo Creek Clean Water Partnership (BCCWP).

2) Complete annual laboratory water quality sampling, within 48 hours of a rain event totaling at least 0.25 inches to meet minimum MS4 sampling and reporting requirements. Include sampling of Buffalo Creek and the Indian Creek sites for CBOD and ammonia to help address TMDLs for DO.

   A) Consider water quality sampling through the DRWW and/or BCCWP, in accordance with the format of the BCCWP 2015 Report, to meet the Village's annual MS4 water sampling requirements.

   B) Or, as in past years, contract CBBEL to sample all eight sites within the four streams located within Village limits for fecal coliform, chloride, TSS, nitrogen, total phosphorous, oil and grease, CBOD and ammonia (for Buffalo Creek and Indian Creek sites), and field test for DO, pH, conductivity, and temperature.

3) Investigate, attempt to identify, and remediate sources of fecal coliform pollution that enters Village streams, especially within Buffalo Creek and the Kildeer Creek Tributary.

4) Monitor pH levels closely and investigate further if levels measured during 2020 sampling are not within the State WQS range (particularly at Sites KCT-2 and AC-2).

5) Continue programs, informational postings, and activities that address the six minimum control measures to reduce pollutants to the maximum extent practicable (MEP), such as BMPs for:
   A) Public education and outreach
   B) Public participation/involvement
   C) Illicit discharge detection and elimination
   D) Construction site runoff control
   E) Post-construction runoff control
   F) Pollution prevention/good housekeeping

   Many public education and outreach initiatives are listed in the watershed plan for the Upper Des Plaines River:
   - Provide Information and training to riparian landowners on best practices for stream and lake shoreline restoration and maintenance that will reduce erosion and increase water quality.

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- Inform homeowners and municipalities about water quality problems associated with sump pump, septic systems, and illicit storm drain hookups.
- Inform municipalities, businesses, and homeowner associations about detention basin and stormwater inlet maintenance practices that improve water quality and reduce flooding.
- Support and promote the Conservation at Home program to reduce stormwater runoff.
- Facilitate public training for students, teachers, riparian landowners, lake associations, golf courses, and homeowner associations for lake, stream, and natural area stewardship and monitoring of water resources.
- Include stream name signs at all stream crossings.
- Incorporate watershed signage and information at public properties such as forest preserves, public parks, golf courses, and public lakes.

6) Leverage DPRWW and BCCWP involvement to fund and enact water quality improvement projects, stream restoration/maintenance, and cost-share opportunities for each of the four streams within Village limits that are tributary to the Des Plaines River.

7) Continue to incorporate BCCWP and DRWW updates and information in addressing NPDES requirements in annual reports.

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and
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N:\BuffaloGrove\190207\Env\Docs\2019 Report\Final\190207 M1-Summary 2019.042720.doc

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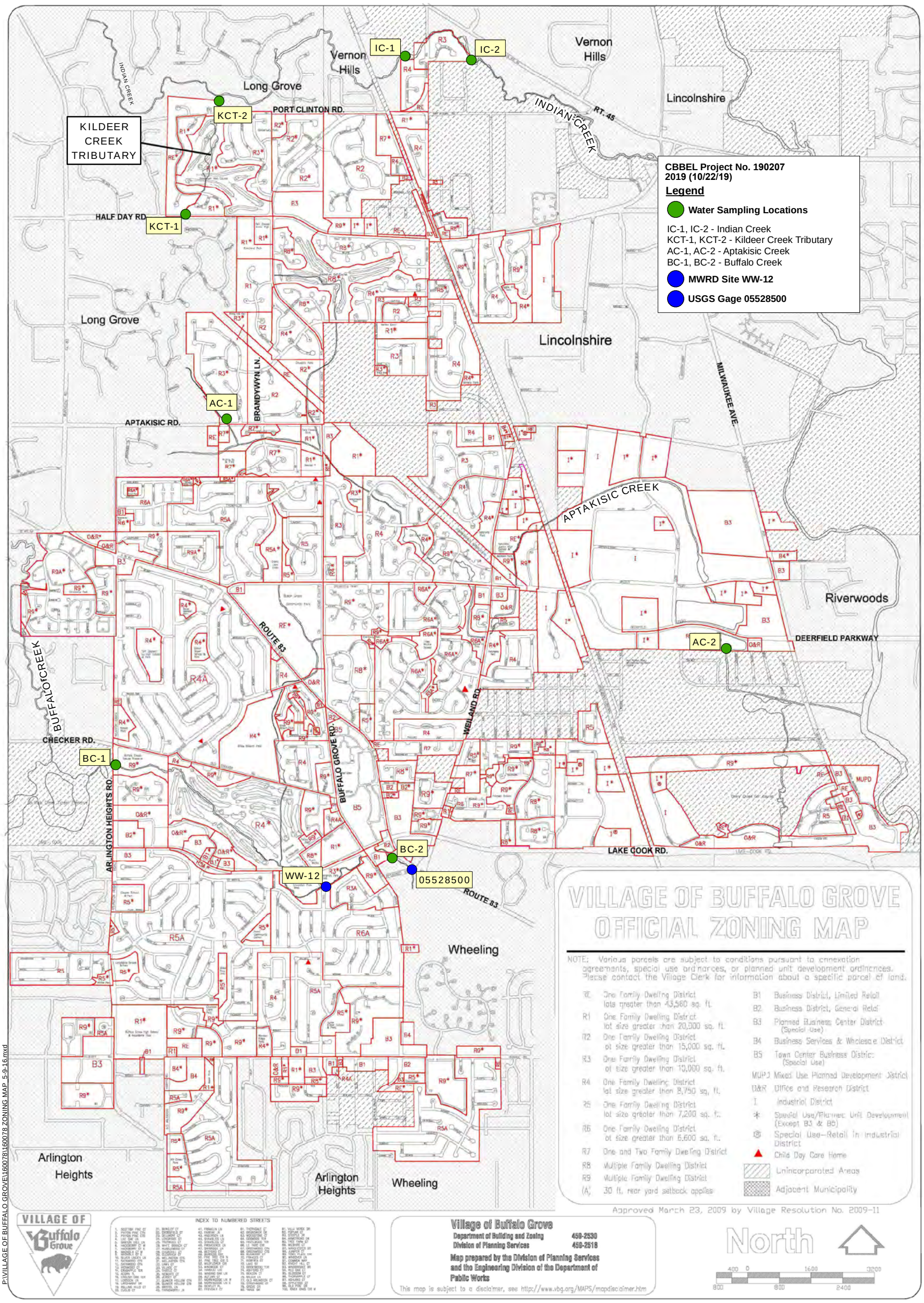
APPENDIX 1

Village Map of Sampling Sites
& 2019 Photo Exhibit


IC-1
IC-2
KCT-2
KCT-1
AC-1
AC-2
BC-1
BC-2
WW-12
05528500
KILDEER CREEK TRIBUTARY
INDIAN CREEK
APTAKISIC CREEK
BUFFALO CREEK
PORT CLINTON RD.
HALF DAY RD.
APTAKISIC RD.
CHECKER RD.
LAKE COOK RD.
DEERFIELD PARKWAY
ROUTE 83
RT. 45
BRANDYWYN LN.
ARLINGTON HEIGHTS RD.
BUFFALO GROVE RD.
WEILAND RD.
MILWAUKEE AVE.
Vernon Hills
Long Grove
Lincolnshire
Riverwoods
Wheeling
Arlington Heights
CBBEL Project No. 190207
2019 (10/22/19)
Legend
Water Sampling Locations
IC-1, IC-2 - Indian Creek
KCT-1, KCT-2 - Kildeer Creek Tributary
AC-1, AC-2 - Aptakisic Creek
BC-1, BC-2 - Buffalo Creek
MWRD Site WW-12
USGS Gage 05528500
VILLAGE OF BUFFALO GROVE
OFFICIAL ZONING MAP
NOTE: Various parcels are subject to conditions pursuant to annexation agreements, special use ordinances, or planned unit development ordinances. Please contact the Village Clerk for information about a specific parcel of land.
RE One Family Dwelling District lots greater than 43,560 sq. ft.
R1 One Family Dwelling District lot size greater than 20,000 sq. ft.
R2 One Family Dwelling District lot size greater than 15,000 sq. ft.
R3 One Family Dwelling District lot size greater than 10,000 sq. ft.
R4 One Family Dwelling District lot size greater than 8,750 sq. ft.
R5 One Family Dwelling District lot size greater than 7,200 sq. ft.
R6 One Family Dwelling District lot size greater than 6,600 sq. ft.
R7 One and Two Family Dwelling District
R8 Multiple Family Dwelling District
R9 Multiple Family Dwelling District
(A) 30 ft. rear yard setback applies
B1 Business District, Limited Retail
B2 Business District, General Retail
B3 Planned Business Center District (Special Use)
B4 Business Services & Wholesale District
B5 Town Center Business District (Special Use)
MUPD Mixed Use Planned Development District
O&R Office and Research District
I Industrial District
* Special Use/Planned Unit Development (Except B3 & B5)
Special Use—Retail in Industrial District
Child Day Care Home
Unincorporated Areas
Adjacent Municipality
Approved March 23, 2009 by Village Resolution No. 2009-11
INDEX TO NUMBERED STREETS
Village of Buffalo Grove
Department of Building and Zoning 459-2530
Division of Planning Services 459-2518
Map prepared by the Division of Planning Services and the Engineering Division of the Department of Public Works
This map is subject to a disclaimer, see http://www.vbg.org/MAPS/mapdisclaimer.htm
North
400 0 1600 3200
800 800 2400
P:\VILLAGE OF BUFFALO GROVE\1600781\160078 ZONING MAP_5-9-16.mxd

Sampling Location BC-1

Sampling Loc. BC-1 (view downstream-note stabilized steambanks)

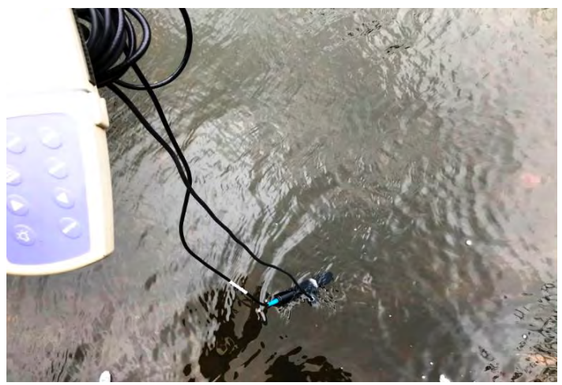
Sampling Loc. BC-1 (view upstream with silt curtain)

Sampling Loc. BC-2 (DO meter)

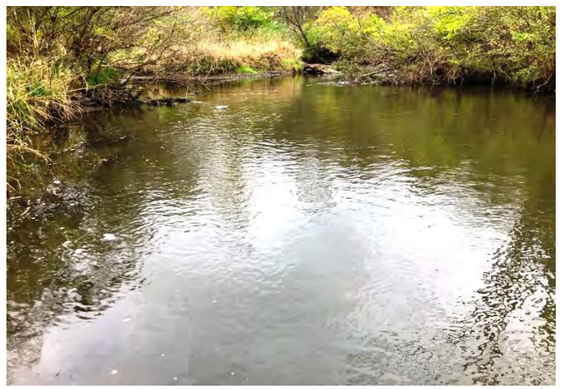
Sampling Location AC-1

Sampling Location AC-2

Sampling Location AC-2 (view downstream)

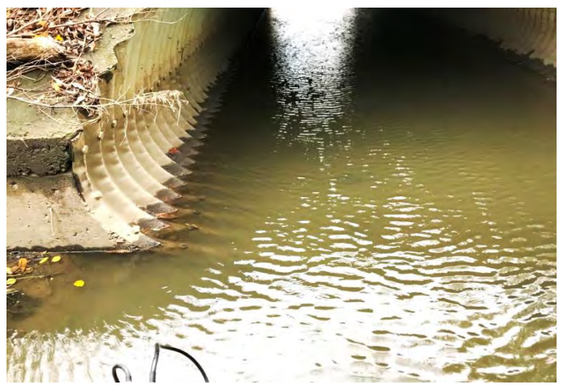


Sampling Location IC-1 (DO meter)



Sampling Location IC-1 (view upstream)

Sampling Location IC-2 (view upstream)



Sampling Location KCT-2

Sampling Location KCT-2 (view downstream)

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Client:	Village of Buffalo Grove	**Project No:**	190207
Title:	**NPDES Phase II MS4 Water Sampling, 2019**	**Date:**	10/22/19
		Exhibit No.:	1

APPENDIX 2

CBBEL & MWRD Results Spreadsheets,
PDC Laboratories, Inc. Test Results, 2019,
& Selected BCCWP and DRWW Water Quality Test Results

Buffalo Grove 2019, 2018, 2017, 2016, & 2015 Water Quality Sampling Results, MS4 Streams

CBBEL Project No. 190207

Site Location	IC-1					IC-2					KCT-1					KCT-2					AC-1					AC-2					BC-1					BC-2						State WQ Standard *
Analyte / Year	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**2019**	2018	2017	2016	2015	**Units**	**or Reference (NE IL)**
Fecal Coliform	**249**	1000	180	5300	50	**175**	1800	410	<9.9	10	**649**	3800	590	3200	<9.9	**770**	2300	590	2800	<9.9	**82**	3400	380	3100	<9.9	**39.9**	2700	470	<9.9	<9.9	**480**	2600	160	2200	<9.9	**882**	4200	530	2000	<9.9	no./100 mL	** >200 col/100 ml; >400 col/100 ml
Fluoride	**NA**	NA	NA	NA	0.134	**NA**	NA	NA	NA	0.122	**NA**	NA	NA	NA	0.126	**NA**	NA	NA	NA	0.118	**NA**	NA	NA	NA	0.14	**NA**	NA	NA	NA	0.195	**NA**	NA	NA	NA	0.12	**NA**	NA	NA	NA	0.186	mg/L	1.4 mg/L
Total Suspended Solids	**4.8**	27.0	<1.34	27.5	<4.0	**5.2**	22.0	3.0	30.0	<4.0	**7.6**	53.0	13.5	45.0	10.5	**32.0**	53.0	104.0	36.5	19.0	**5.2**	20.0	26.0	3.5	<4.0	**20.0**	29.0	23.0	21.5	12.0	**72.0**	61.0	15.5	26.0	5.5	**40.0**	58.0	<1.34	33.0	<4.0	mg/L	*** No GU Std; 15-30mg/L effluent
Phosphorus (Total)	**0.039**	0.089	0.062	0.121	NA	**0.041**	0.077	0.0597	0.147	NA	**0.063**	0.098	0.152	0.188	NA	**0.069**	0.083	0.165	0.15	NA	**0.036**	0.16	0.047	0.039	NA	**0.025**	0.06	0.103	0.0828	NA	**0.066**	0.094	0.067	0.147	NA	**0.054**	0.091	0.044	0.124	NA	mg/L	**** Standard NA; 0.05 mg/L
Chloride	**98**	78	131	119	286	**99**	74	166	121	293	**96**	90	295	150	230	**91**	87	138	145	207	**110**	140	132	157	291	**130**	110	194	135	679	**110**	140	169	176	399	**110**	130	172	171	490	mg/L	500 mg/L
Ammonia Nitrogen	**<0.14**	0.026	0.029	0.121	NA	**<0.14**	0.049	0.039	0.122	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**<0.14**	0.210	0.027	0.209	<0.1	**<0.14**	0.22	0.042	0.243	<0.1	mg/L	15 mg/L
CBOD	**1.2**	3.7	1.41	4.23	NA	**1.3**	3.6	1.65	4.35	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	**0.98**	4.0	1.74	4.53	2.88	**0.96**	3.5	1.26	3.30	2.70	mg/L	*** No GU Std; 8.0 mg/L effluent
Nitrate N	**<0.35**	0.24	<0.10	0.265	NA	**<0.35**	0.22	<0.10	0.281	NA	**<0.35**	0.11	<0.10	0.107	NA	**<0.35**	0.15	<0.10	0.124	NA	**<0.35**	0.081	<0.10	0.328	NA	**<0.35**	0.21	<0.10	0.228	NA	**<0.35**	0.23	<0.10	0.299	NA	**<0.35**	0.24	<0.10	0.27	NA	mg/L	No GU Std; 10.0 mg/L (PFPWS)
Nitrite N: N3+N2 (2019)	**0.17**	NA	<0.10	<0.10	NA	**0.15**	NA	<0.10	<0.10	NA	**0.19**	NA	<0.10	<0.10	NA	**0.19**	NA	<0.10	<0.10	NA	**0.3**	NA	<0.10	<0.10	NA	**<0.004**	NA	<0.10	<0.10	NA	**0.11**	NA	<0.10	<0.25	NA	**0.18**	NA	<0.10	<0.25	NA	mg/L	No WQS
Kjeldahl N	**<0.75**	<0.75	0.356	0.693	NA	**<0.75**	<0.75	0.401	0.743	NA	**<0.75**	0.76	0.8	0.949	NA	**<0.75**	0.86	1.29	0.926	NA	**0.84**	1.2	0.636	0.714	NA	**<0.75**	<0.75	0.753	0.608	NA	**<0.75**	0.94	0.682	1.07	NA	**<0.75**	0.78	0.561	0.80	NA	mg/L	20.0 mg/L (STEWW)
Total Nitrogen	**<1.0**	<1.0	<0.70	0.958	NA	**<1.0**	<1.0	<0.70	1.02	NA	**<1.0**	<1.0	0.8	1.06	NA	**<1.0**	1.0	1.29	1.05	NA	**1.1**	1.2	<0.70	1.04	NA	**<1.0**	<1.0	0.753	<0.85	NA	**<1.0**	1.2	<0.70	1.37	NA	**<1.0**	1.0	<0.70	1.08	NA	mg/L	No WQS
Oil & Grease	**<3.3**	<2.7	<2.0	<0.455	NA	**<.4**	<2.7	<2.0	<0.455	NA	**<3.6**	<2.7	<2.0	<0.459	NA	**<4.0**	<2.8	<2.0	<0.455	NA	**<3.4**	<2.8	1.23	0.505	NA	**<3.7**	<2.8	1.6	1.02	NA	**<3.4**	<2.7	<2.00	0.625	NA	**<3.3**	<2.8	1.43	0.81	NA	mg/L	No GU Std; 0.1 mg/L (PFPWS)
Field Observation																																									
Dissolved Oxygen	**6.50**	8.28	6.73	6.78	11.23	**6.73**	8.51	5.5	6.96	10.84	**6.25**	8.15	4.61	6.42	9.9	**6.94**	8.50	6.98	6.96	9.84	**4.92**	8.00	6.3	5.61	9.54	**7.41**	7.82	7.77	6.48	11.03	**6.77**	8.13	7.48	6.6	10.1	**6.57**	7.42	7.19	6.91	10.46	mg/L	Min 5.0 mg/L Mar-Jul; 3.5 mg/L Aug-Feb
pH	**8.95**	7.82	7.8	8.09	8.4	**8.92**	7.69	7.36	7.96	8.01	**8.02**	8.07	7.73	8.24	8.61	**9.24**	7.89	8.02	8.17	8.25	**7.96**	8.16	7.86	8.20	8.45	**9.21**	7.70	7.68	8.29	8.29	**8.2**	7.75	8.18	7.64	8.76	**8.97**	7.07	7.26	7.91	7.86	pH	6.5 - 9.0
Conductivity	**830**	620	930	780	1540	**840**	590	1010	820	1530	**870**	800	1140	960	1350	**840**	770	1030	960	1330	**990**	640	800	940	1510	**910**	710	1020	960	1530	**870**	840	830	900	1840	**880**	790	870	930	1960	*micro* siemens	50-1,500 *m* s (USEPA)
Temperature	**11.3**	16.7	18.2	11.1	7.1	**11.2**	16.8	19.4	11.0	7.0	**10.8**	16.8	20.7	10.5	7.6	**11.2**	16.9	22.4	10.5	7.5	**11.2**	17.3	17.6	11.6	7.3	**11.3**	17.1	19.8	10.5	5.6	**10.2**	17.6	20.9	11.2	7.5	**10.8**	17.5	17.4	11.1	6.1	degrees C	Max 32°C Apr-Nov; 16°C Dec-Mar

Note - 2019 sampling results are in bold type. Data is provided for samples collected on the following dates: October 22, 2019, October 2, 2018, October 9, 2017; October 27, 2016, and March 7, 2016 (2015). Data from August 28, 2014, August 21, 2013, August 31, 2012, August 19, 2011, August 18, 2010, and August 5, 2009 were provided in previous reports.

* Standard is listed for *General Use* , except as specified or not provided, per the Illinois Integrated Water Quality Report & Section 303(d) List - 2016.

** Fully Supporting Use is observed in protected waters when the mean of at least 5 samples within a 5 year period is less than 200 colonies/100 ml, or when less than 10% of samples exceed 400 colonies/100 ml within a 30 day period May-October (or within all samples May-October). This standard is for Primary Contact.

Designated Use applies to Buffalo Creek and Indian Creek, and not to Kildeer Creek Tributary & Aptakisic Creek.

*** There are no General Use Standards for TSS and Carbonaceous Biological Oxygen Demand (CBOD). However, the TSS standard for *Public & Food Processing Water Supply* is 500 mg/L and the standard for MS4 effluent is 15-30 mg/L. The CBOD standard for MS4 effluent is 8.0 mg/L.

**** Not applicable for the Village sampling sites. The TP water quality standard of 0.05 mg/L particularly applies to lakes and reservoirs with a surface area of ≥20 acres, or in streams at the point of entry into these lakes and reservoirs.

USEPA standard for conductivity from the USEPA Volunteer Stream Monitoring Manual (1997).

STEWW standard for Kjeldahl N from the Standard Methods for the Examination of Water and Wastewater (1999).

PFPWS, Public and Food Processing Water Supply, standards for Nitrate N and Oil and Grease.

Shaded cells indicate that the measurement does not meet State Water Quality Standards or other noted standards/recommendations.

< # means that the analyte was not detected; therefore, was reported as less than the numerical laboratory Recording Limit or Method Detection Limit.

NA = Not Applicable - sampling was discontinued or not completed.

Note - Beginning in 2016, some standards were added, modified, or omitted based on those used in the 2014 Water Quality Report, Buffalo Creek Watershed, Lake and Cook Counties, Illinois, prepared by the Buffalo Creek Clean Water Partnership, dated February 2015, or in response to developing TMDLs.

Note - In 2019, Nitrite results include sum of nitrate and nitrite due to laboratory methods/testing by PDC Laboratories, Inc.

Site Locations:
IC-1 at upstream Village limits; IC-2 at downstream Village limits (Indian Creek)
KCT-1 at upstream Village limits; KCT-2 at downstream Village limits (Kildeer Creek Tributary)
AC-1 at upstream Village limits; AC-2 at downstream Village limits (Aptakisic Creek)
BC-1 at upstream Village limits; BC-2 at downstream Village limits (Buffalo Creek)

Buffalo Grove 2019-2009 Selected Water Quality Sampling Results for MS4 & Historical Downstream Data for Buffalo Creek
CBBEL Project No. 190207

Site Location	BC-1											BC-2											MWRD	Units	State Water Quality Standard *
Analyte Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	Site WW-12^		or Reference (NE Illinois)
Fecal Coliform	**480**	2600	160	2200	<9.9	200	200	130	40	8	40	**882**	4200	530	2000	<9.9	100	1800	400	170	250	3170	856	no./100 mL	** 200/100 ml; 400/100 ml
Fluoride	**NA**	NA	NA	NA	0.12	0.131	0.158	0.223	0.213	0.167	0.239	**NA**	NA	NA	NA	0.186	0.143	0.166	0.215	0.214	0.172	0.296	NA	mg/L	1.4 mg/L
Total Suspended Solids	**72.0**	61.0	15.5	26.0	5.5	NA	25.0	31.0	38.0	50.5	21.3	**40.0**	58.0	<1.34	33.0	<4.0	NA	<4.0	<4.0	13.5	16.0	14.0	NA	mg/L	*** No GU Std; 15-30 mg/L effluent
Phosphorus (Total)	**0.066**	0.09	0.067	0.147	NA	NA	0.134	0.0914	0.174	0.181	0.237	**0.054**	0.091	0.044	0.124	NA	NA	0.078	0.088	0.126	0.152	0.125	0.16	mg/L	**** Standard NA; 0.05 mg/L
Chloride	**110**	140	169	176	399	171	206	198	126	126	225	**110**	130	172	171	490	174	221	206	126	130	254	249	mg/L	500 mg/L
Carbonaceous BOD	**0.98**	4.0	1.74	4.53	2.88	2.44	3.75	NA	NA	NA	NA	**0.96**	3.5	1.26	3.3	2.7	<2.0	<2.0	NA	NA	NA	NA	NA	mg/L	*** No GU Std; 8.0 mg/L effluent
Ammonia Nitrogen	**<0.14**	0.21	0.027	0.209	<0.1	<0.1	<0.1	NA	NA	NA	NA	**<0.14**	0.22	0.042	0.243	<0.1	<0.1	<0.1	<0.1	NA	NA	NA	NA	mg/L	15 mg/L
Field Observation																									
Dissolved Oxygen	**6.77**	8.13	7.48	6.6	10.1	7.12	7.99	8.47	7.27	6.81	8.15	**6.57**	7.19	7.19	6.91	10.46	6.24	7.56	5.42	4.82	6.84	4.30	9.9	mg/L	Min 5.0 mg/L Mar-Jul; 3.5 mg/L Aug-Feb
pH	**8.2**	7.75	8.18	7.64	8.76	7.8	8.05	9.08	8.36	8.34	NA	**8.97**	7.26	7.26	7.91	7.86	7.43	7.75	7.91	7.63	8.48	7.73	NA	pH	6.5 - 9.0
Conductivity	**8.7**	840	830	900	1840	930	1090	1100	910	920	910	**8.8**	870	870	930	1960	910	1110	1090	840	930	1420	NA	*micro* siemens	50-1,500 *m s* (USEPA)
Temperature	**10.2**	17.6	20.9	11.2	7.5	24.1	26.8	27.9	26.4	27	25.6	**10.8**	17.4	17.4	11.1	6.1	22.9	23.3	24.3	27	24.7	20.2	NA	degrees C	Max 32°C Apr-Nov; 16°C Dec-Mar

Notes

Site BC-1 is located at upstream Village limits; Site BC-2 is located at downstream Village limits of Buffalo Creek.

Data is provided for BC-1 & BC-2 samples collected on the following dates: October 22, 2019, October 2, 2018; October 9, 2017; October 27, 2016; March 7, 2016 (2015); August 28, 2014; August 21, 2013; August 31, 2012; August 19, 2011; August 18, 2010; August 5, 2009.

* Standard is listed for *General Use* , except as specified or not provided, per the Illinois Integrated Water Quality Report & Section 303(d) List - 2016.

** Fully Supporting Use (Good water quality) is observed in protected waters when the mean of at least 5 samples within a 5 year period is less than 200 colonies/100 ml, and when less than 10% of samples exceed 400 colonies/100 ml. within a 30 day period May-October (or within all samples May-October), for *Primary Contact* Designated Use (Buffalo Creek).

*** There are no General Use Standards for TSS and Carbonaceous Biological Oxygen Demand (CBOD). However, the TSS standard for Public & Food Processing Water Supply is 500 mg/L and for MS4 effluent is 15-30 mg/L. The CBOD standard for MS4 effluent is 8.0 mg/L.

**** Not applicable for the Village sampling sites. The TP water quality standard of 0.05 mg/L particularly applies to lakes and reservoirs with a surface area of >20 acres, or in streams at the point of entry into these lakes and reservoirs.

USEPA standard for conductivity from the USEPA Volunteer Stream Monitoring Manual (1997).

Shaded cells contain results that do not meet State Water Quality Standards or other noted standards/recommendations.

NA = Not Applicable - a WQS does not apply; or sampling was not completed.

Note - Beginning in 2016, some standards were added, modified, or omitted based on those used in the 2014 Water Quality Report, Buffalo Creek Watershed, Lake and Cook Counties, Illinois, prepared by the Buffalo Creek Clean Water Partnership, dated February 2015, or in response to developing TMDLs.

^ Historical averages of data collected 1977-2009 at Metropolitan Water Reclamation District stream gage WW-12 on Buffalo Creek (below).

WW-12 Ranges

Fecal (#/100ml) /Yr		Total P (mg/L) /Yr		D. oxygen (mg/l)/Yr		Chloride (mg/L)/Yr	
60-28,000	2000-09	0.14-0.18	'77-2007	2.1-13.4	2000-07	94-882	2001-07

November 01, 2019

Mr. Eric Japsen
Christopher B. Burke Engineering, LTD
9575 West Higgins Road Suite 600
Rosemont, IL 60018

RE: Buffalo Grove Streams

Dear Mr. Eric Japsen:

Please find enclosed the analytical results for the **8** sample(s) the laboratory received on **10/22/19 2:30 pm** and logged in under work order **9104502**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of PDC Laboratories, Inc.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

PDC Laboratories, Inc. appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lgrant@pdclab.com.

Sincerely,

Penny Janus
Wastewater Project Manager
(815) 344-4044 x1613
pjanus@pdclab.com

ANALYTICAL RESULTS

Sample: 9104502-01
Name: AC-1
Matrix: Stormwater - Grab

Sampled: 10/22/19 12:20
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 18:08	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
Chloride	110	mg/L		1	1.7	2.0	10/24/19 09:58	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	5.2	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.4	mg/L		1.453277	3.4	7.3	10/29/19 14:29	JEG	EPA 1664
Total Nitrogen	1.1	mg/L		1	0.75	1.0	10/31/19 12:20	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	82.0	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Phosphorus - total as P	0.036	mg/L		1	0.0059	0.010	10/29/19 12:17	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.30	mg/L		1	0.0039	0.020	10/25/19 10:58	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	0.84	mg/L	J	1	0.75	1.0	10/31/19 12:20	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-02
Name: AC-2
Matrix: Stormwater - Grab

Sampled: 10/22/19 10:10
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 18:33	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
Chloride	130	mg/L		1	1.7	2.0	10/24/19 09:59	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	20	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.7	mg/L		1.57208	3.7	7.9	10/29/19 14:43	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:22	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	39.9	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Phosphorus - total as P	0.025	mg/L		1	0.0059	0.010	10/29/19 12:18	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	< 0.0039	mg/L		1	0.0039	0.020	10/25/19 11:16	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:22	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-03
Name: IC-1
Matrix: Stormwater - Grab

Sampled: 10/22/19 10:40
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 18:59	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
BOD - carbonaceous	1.2	mg/L	C, J	1	0.90	2.0	10/23/19 11:33	BAG	SM 5210B
Chloride	98	mg/L	Q3	1	0.84	1.0	10/24/19 10:00	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	4.8	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.3	mg/L		1.437608	3.3	7.2	10/29/19 14:44	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:23	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	249	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Ammonia-N	< 0.14	mg/L		1	0.14	0.25	10/24/19 16:43	BAG	SM 4500 NH3-G
Phosphorus - total as P	0.039	mg/L		1	0.0059	0.010	10/29/19 12:19	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.17	mg/L		1	0.0039	0.020	10/25/19 11:29	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:23	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-04
Name: IC-2
Matrix: Stormwater - Grab

Sampled: 10/22/19 11:05
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 19:51	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
BOD - carbonaceous	1.3	mg/L	C, J	1	0.90	2.0	10/23/19 11:37	BAG	SM 5210B
Chloride	99	mg/L		1	0.84	1.0	10/24/19 10:04	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	5.2	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.4	mg/L		1.451589	3.4	7.3	10/29/19 14:44	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:25	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	175	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Ammonia-N	< 0.14	mg/L		1	0.14	0.25	10/24/19 16:43	BAG	SM 4500 NH3-G
Phosphorus - total as P	0.041	mg/L		1	0.0059	0.010	10/29/19 12:20	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.15	mg/L		1	0.0039	0.020	10/25/19 11:44	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:25	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-05
Name: BC-1
Matrix: Stormwater - Grab

Sampled: 10/22/19 12:40
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 20:16	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
BOD - carbonaceous	0.98	mg/L	C, J	1	0.90	2.0	10/23/19 11:40	BAG	SM 5210B
Chloride	110	mg/L		1	1.7	2.0	10/24/19 10:05	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	72	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.4	mg/L		1.466491	3.4	7.3	10/29/19 15:12	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:26	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	480	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Ammonia-N	< 0.14	mg/L	Q1	1	0.14	0.25	10/24/19 16:44	BAG	SM 4500 NH3-G
Phosphorus - total as P	0.066	mg/L		1	0.0059	0.010	10/29/19 12:21	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.11	mg/L		1	0.0039	0.020	10/25/19 09:57	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:26	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-06
Name: BC-2
Matrix: Stormwater - Grab

Sampled: 10/22/19 09:30
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 21:08	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
BOD - carbonaceous	0.96	mg/L	C, J	1	0.90	2.0	10/23/19 11:43	BAG	SM 5210B
Chloride	110	mg/L		1	1.7	2.0	10/24/19 10:12	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	40	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.3	mg/L		1.402131	3.3	7.0	10/29/19 15:12	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:32	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	882	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Ammonia-N	< 0.14	mg/L		1	0.14	0.25	10/24/19 16:47	BAG	SM 4500 NH3-G
Phosphorus - total as P	0.054	mg/L		1	0.0059	0.010	10/29/19 12:28	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.18	mg/L		1	0.0039	0.020	10/25/19 09:58	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:32	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-07
Name: KCT-1
Matrix: Stormwater - Grab

Sampled: 10/22/19 11:50
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 21:34	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
Chloride	96	mg/L		1	1.7	2.0	10/24/19 10:13	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	7.6	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 3.6	mg/L		1.533507	3.6	7.7	10/29/19 15:13	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:34	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	649	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Phosphorus - total as P	0.063	mg/L		1	0.0059	0.010	10/29/19 12:29	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.19	mg/L		1	0.0039	0.020	10/25/19 10:01	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:34	CJP	OIA/PAI-DK03 & EPA 351.2

ANALYTICAL RESULTS

Sample: 9104502-08
Name: KCT-2
Matrix: Stormwater - Grab

Sampled: 10/22/19 11:30
Received: 10/22/19 14:30
PO #: 190207

Parameter	Result	Unit	Qualifier	Dilution	MDL	MRL	Analyzed	Analyst	Method
Anions - CHI									
Nitrate-N	< 0.35	mg/L		1	0.050	0.35	10/22/19 22:25	PLJ/DLB	EPA 300.0
General Chemistry - CHI									
Chloride	91	mg/L		1	0.84	1.0	10/24/19 10:14	BAG	10-117-07-1-A
Solids - total suspended solids (TSS)	32	mg/L		1	0.90	4.0	10/25/19 16:55	KLV	SM 2540D
General Chemistry - PIA									
Oil & Grease - total	< 4.0	mg/L		1.719395	4.0	8.6	10/29/19 15:38	JEG	EPA 1664
Total Nitrogen	< 1.0	mg/L		1	0.75	1.0	10/31/19 12:35	CJP	varies
Microbiology - CHI									
Fecal coliform bacteria	770	MPN/100mL		1		1.00	10/22/19 16:00	PLJ	SM 9223B - QT
Nutrients - CHI									
Phosphorus - total as P	0.069	mg/L		1	0.0059	0.010	10/29/19 12:30	BAG	SM 4500-P F
Nutrients - PIA									
Nitrate/Nitrite-N	0.19	mg/L		1	0.0039	0.020	10/25/19 10:02	PMN	SM 4500-NO3 F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		1	0.75	1.0	10/31/19 12:35	CJP	OIA/PAI-DK03 & EPA 351.2

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B924483 - No Prep - CHIC WC Instr - EPA 300.0									
Calibration Blank (B924483-CCB1)				Prepared & Analyzed: 10/22/19					
Nitrate-N	0.00	mg/L							
Calibration Check (B924483-CCV1)				Prepared & Analyzed: 10/22/19					
Nitrate-N	1.38	mg/L		1.400		98	90-110		
MRL Check (B924483-MRL1)				Prepared & Analyzed: 10/22/19					
Nitrate-N	0.235	mg/L		0.2000		118	0-200		
MRL Check (B924483-MRL2)				Prepared & Analyzed: 10/22/19					
Nitrate-N	0.234	mg/L		0.2000		117	0-200		
MRL Check (B924483-MRL3)				Prepared & Analyzed: 10/22/19					
Nitrate-N	0.228	mg/L		0.2000		114	0-200		
Matrix Spike (B924483-MS1)	**Sample: 9104216-01**			Prepared & Analyzed: 10/22/19					
Nitrate-N	0.879	mg/L		0.8000	ND	110	80-120		
Matrix Spike (B924483-MS2)	**Sample: 9104502-05**			Prepared & Analyzed: 10/22/19					
Nitrate-N	0.876	mg/L		0.8000	0.163	89	80-120		
Matrix Spike Dup (B924483-MSD1)	**Sample: 9104216-01**			Prepared & Analyzed: 10/22/19					
Nitrate-N	0.902	mg/L		0.8000	ND	113	80-120	3	20
Matrix Spike Dup (B924483-MSD2)	**Sample: 9104502-05**			Prepared & Analyzed: 10/22/19					
Nitrate-N	0.852	mg/L		0.8000	0.163	86	80-120	3	20
Batch B924739 - No Prep - CHIC WC Instr - 10-117-07-1-A									
Calibration Blank (B924739-CCB1)				Prepared & Analyzed: 10/24/19					
Chloride	-0.0773	mg/L							
Calibration Check (B924739-CCV1)				Prepared & Analyzed: 10/24/19					
Chloride	50.8	mg/L		50.00		102	90-110		
Matrix Spike (B924739-MS1)	**Sample: 9103644-02**			Prepared & Analyzed: 10/24/19					
Chloride	259	mg/L		25.00	236	90	85.6-112		
Matrix Spike (B924739-MS2)	**Sample: 9103818-10**			Prepared & Analyzed: 10/24/19					
Chloride	12.7	mg/L		5.000	7.82	98	85.6-112		
Matrix Spike (B924739-MS3)	**Sample: 9104502-03**			Prepared & Analyzed: 10/24/19					
Chloride	102	mg/L	Q3	5.000	97.8	84	85.6-112		
Matrix Spike Dup (B924739-MSD1)	**Sample: 9103644-02**			Prepared & Analyzed: 10/24/19					
Chloride	258	mg/L		25.00	236	86	85.6-112	0.4	6.88
Matrix Spike Dup (B924739-MSD2)	**Sample: 9103818-10**			Prepared & Analyzed: 10/24/19					
Chloride	13.2	mg/L		5.000	7.82	108	85.6-112	4	6.88
Matrix Spike Dup (B924739-MSD3)	**Sample: 9104502-03**			Prepared & Analyzed: 10/24/19					
Chloride	101	mg/L	Q3	5.000	97.8	64	85.6-112	1	6.88
Batch B924824 - No Prep - CHIC WC Instr - SM 4500 NH3-G									
Calibration Blank (B924824-CCB1)				Prepared & Analyzed: 10/24/19					
Ammonia-N	-0.0210	mg/L							
Calibration Check (B924824-CCV1)				Prepared & Analyzed: 10/24/19					
Ammonia-N	15.2	mg/L		15.00		101	90-110		
Matrix Spike (B924824-MS1)	**Sample: 9104037-01**			Prepared & Analyzed: 10/24/19					

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B924824 - No Prep - CHIC WC Instr - SM 4500 NH3-G									
Matrix Spike (B924824-MS1)	**Sample: 9104037-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	7.24	mg/L		2.000	5.21	102	90-110		
Matrix Spike (B924824-MS2)	**Sample: 9104273-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	4.54	mg/L		2.000	2.41	106	90-110		
Matrix Spike (B924824-MS3)	**Sample: 9104502-05**			Prepared & Analyzed: 10/24/19					
Ammonia-N	2.28	mg/L	Q1	2.000	ND	114	90-110		
Matrix Spike (B924824-MS4)	**Sample: 9104776-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	97.6	mg/L		20.00	76.1	108	90-110		
Matrix Spike Dup (B924824-MSD1)	**Sample: 9104037-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	7.20	mg/L		2.000	5.21	99	90-110	0.6	20
Matrix Spike Dup (B924824-MSD2)	**Sample: 9104273-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	4.56	mg/L		2.000	2.41	108	90-110	0.4	20
Matrix Spike Dup (B924824-MSD3)	**Sample: 9104502-05**			Prepared & Analyzed: 10/24/19					
Ammonia-N	2.20	mg/L		2.000	ND	110	90-110	4	20
Matrix Spike Dup (B924824-MSD4)	**Sample: 9104776-01**			Prepared & Analyzed: 10/24/19					
Ammonia-N	96.6	mg/L		20.00	76.1	102	90-110	1	20
Batch B924845 - 05 - PO4 Prep - SM4500 P-B & QuikChem 10-115-01-F - SM 4500-P F									
Blank (B924845-BLK1)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	< 0.0059	mg/L							
Blank (B924845-BLK2)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	< 0.0059	mg/L							
LCS (B924845-BS1)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	0.0508	mg/L		0.05000		102	80-120		
LCS (B924845-BS2)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	0.0519	mg/L		0.05000		104	80-120		
Calibration Blank (B924845-CCB1)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	8.36E-6	mg/L							
Calibration Check (B924845-CCV1)				Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	0.204	mg/L		0.2000		102	90-110		
Matrix Spike (B924845-MS2)	**Sample: 9104517-02**			Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	1.12	mg/L	Q3	0.5000	1.03	18	76.3-125		
Matrix Spike (B924845-MS3)	**Sample: 9104049-04RE1**			Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	23.5	mg/L		2.500	21.3	88	76.3-125		
Matrix Spike Dup (B924845-MSD2)	**Sample: 9104517-02**			Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	1.17	mg/L	Q3	0.5000	1.03	28	76.3-125	4	1.94
Matrix Spike Dup (B924845-MSD3)	**Sample: 9104049-04RE1**			Prepared: 10/28/19 Analyzed: 10/29/19					
Phosphorus - total as P	23.5	mg/L		2.500	21.3	88	76.3-125	0	1.94
Batch B924880 - No Prep - SM 4500-NO3 F									
Blank (B924880-BLK1)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	< 0.0039	mg/L							
Blank (B924880-BLK2)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	< 0.0039	mg/L							
Blank (B924880-BLK3)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	< 0.0039	mg/L							

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B924880 - No Prep - SM 4500-NO3 F									
Blank (B924880-BLK4)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	< 0.0039	mg/L							
Blank (B924880-BLK5)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	< 0.0039	mg/L							
LCS (B924880-BS1)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.00	mg/L		1.000		100	90-110		
LCS (B924880-BS2)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	0.984	mg/L		1.000		98	90-110		
LCS (B924880-BS3)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.02	mg/L		1.000		102	90-110		
LCS (B924880-BS4)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.04	mg/L		1.000		104	90-110		
LCS (B924880-BS5)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.02	mg/L		1.000		102	90-110		
MRL Check (B924880-MRL1)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	0.00801	mg/L	J	0.01000		80	0-200		
MRL Check (B924880-MRL2)				Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	0.00797	mg/L	J	0.01000		80	0-200		
Matrix Spike (B924880-MS1)	**Sample: 9103634-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.95	mg/L		1.000	0.863	109	90-110		
Matrix Spike (B924880-MS2)	**Sample: 9103953-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.60	mg/L		1.000	0.566	103	90-110		
Matrix Spike (B924880-MS3)	**Sample: 9103953-04**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.74	mg/L		1.000	0.710	103	90-110		
Matrix Spike (B924880-MS4)	**Sample: 9104347-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.58	mg/L		1.000	0.549	103	90-110		
Matrix Spike (B924880-MS5)	**Sample: 9104470-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	2.58	mg/L		1.000	1.55	103	90-110		
Matrix Spike (B924880-MS6)	**Sample: 9104502-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.33	mg/L		1.000	0.298	103	90-110		
Matrix Spike (B924880-MS7)	**Sample: 9104502-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	0.990	mg/L		1.000	ND	99	90-110		
Matrix Spike (B924880-MS8)	**Sample: 9104502-03**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.22	mg/L		1.000	0.166	105	90-110		
Matrix Spike (B924880-MS9)	**Sample: 9104502-04**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.22	mg/L		1.000	0.154	107	90-110		
Matrix Spike Dup (B924880-MSD1)	**Sample: 9103634-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.86	mg/L		1.000	0.863	100	90-110	5	20
Matrix Spike Dup (B924880-MSD2)	**Sample: 9103953-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.54	mg/L		1.000	0.566	97	90-110	4	20
Matrix Spike Dup (B924880-MSD3)	**Sample: 9103953-04**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.73	mg/L		1.000	0.710	102	90-110	0.6	20
Matrix Spike Dup (B924880-MSD4)	**Sample: 9104347-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.59	mg/L		1.000	0.549	104	90-110	0.6	20
Matrix Spike Dup (B924880-MSD5)	**Sample: 9104470-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	2.54	mg/L		1.000	1.55	99	90-110	2	20

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B924880 - No Prep - SM 4500-NO3 F									
Matrix Spike Dup (B924880-MSD6)	**Sample: 9104502-01**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.33	mg/L		1.000	0.298	103	90-110	0	20
Matrix Spike Dup (B924880-MSD7)	**Sample: 9104502-02**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.05	mg/L		1.000	ND	105	90-110	6	20
Matrix Spike Dup (B924880-MSD8)	**Sample: 9104502-03**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.20	mg/L		1.000	0.166	103	90-110	2	20
Matrix Spike Dup (B924880-MSD9)	**Sample: 9104502-04**			Prepared & Analyzed: 10/25/19					
Nitrate/Nitrite-N	1.20	mg/L		1.000	0.154	105	90-110	2	20
Batch B924936 - No Prep - CHIC WC - SM 2540D									
Blank (B924936-BLK1)				Prepared & Analyzed: 10/25/19					
Solids - total suspended solids (TSS)	< 0.90	mg/L							
Duplicate (B924936-DUP1)	**Sample: 9104443-01**			Prepared & Analyzed: 10/25/19					
Solids - total suspended solids (TSS)	14.8	mg/L			15.2			3	5
Duplicate (B924936-DUP2)	**Sample: 9104531-01**			Prepared & Analyzed: 10/25/19					
Solids - total suspended solids (TSS)	5.60	mg/L			5.60			0	5
Batch B925118 - No Prep - EPA 1664									
Blank (B925118-BLK1)				Prepared & Analyzed: 10/29/19					
Oil & Grease - total	< 2.3	mg/L							
Blank (B925118-BLK2)				Prepared & Analyzed: 10/29/19					
Oil & Grease - total	< 2.3	mg/L							
LCS (B925118-BS1)				Prepared & Analyzed: 10/29/19					
Oil & Grease - total	31.7	mg/L		40.00		79	78-114		
LCS (B925118-BS2)				Prepared & Analyzed: 10/29/19					
Oil & Grease - total	37.6	mg/L		40.00		94	78-114		
LCS (B925118-BS3)				Prepared & Analyzed: 10/29/19					
Oil & Grease - total	36.5	mg/L		40.00		91	78-114		
Batch B925235 - No Prep - OIA/PAI-DK03 & EPA 351.2									
Blank (B925235-BLK1)				Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L							
LCS (B925235-BS1)				Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	49.0	mg/L		50.00		98	90-110		
Matrix Spike (B925235-MS1)	**Sample: 9104470-01**			Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	50.2	mg/L		50.00	ND	100	90-110		
Matrix Spike (B925235-MS2)	**Sample: 9104517-01**			Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	48.5	mg/L		50.00	0.890	95	90-110		
Matrix Spike Dup (B925235-MSD1)	**Sample: 9104470-01**			Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	49.5	mg/L		50.00	ND	99	90-110	1	20
Matrix Spike Dup (B925235-MSD2)	**Sample: 9104517-01**			Prepared: 10/30/19 Analyzed: 10/31/19					
Total Kjeldahl Nitrogen (TKN)	49.0	mg/L		50.00	0.890	96	90-110	1	20

NOTES

Specifications regarding method revisions and method modifications used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314 W Crystal Lake Road A, McHenry, IL 60050
TNI Accreditation for Drinking Water, Wastewater, Fields of Testing through IL EPA Lab No. 100279
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPIL - Springfield, IL - 1210 Capitol Airport Drive, Springfield, IL 62707
TNI Accreditation through IL EPA Lab No. 100323

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - St. Louis, MO - 3278 N Highway 67, Florissant, MO 63033
TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389
TNI Accreditation for Wastewater, Hazardous, and Solid Waste Analysis through IL EPA No. 200080
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050
Missouri Department of Natural Resources
Microbiological Laboratory Service for Drinking Water

Qualifiers

C	The associated blank spike failed to meet the required acceptance criteria.
J	Estimated value; value between the Method Detection Limit and Method Reporting Limit.
Q1	Matrix Spike failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q3	Matrix Spike/Matrix Spike Duplicate both failed % recovery acceptance limits. The associated blank spike recovery was acceptable.

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REGULATORY PROGRAM (CIRCLE):	NPDES
MORBCA	RCRA
CCDD	TACO: RES OR IND/COMM

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED _____

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT	PROJECT NUMBER	PROJECT LOCATION	PURCHASE ORDER #
Christopher Burke Engr	190207	Buffalo Grove	
ADDRESS	**PHONE NUMBER**	**E-MAIL**	**DATE SHIPPED**
9575 W Higgins Rd Ste 600	847-823-0500	ejapsen@cbbel.com	
CITY / STATE / ZIP	**SAMPLER (PLEASE PRINT)**	**MATRIX TYPES:**	
Rosemont IL 60018	Eric Japsen	WW- WASTEWATER DW- DRINKING WATER GW- GROUND WATER WWSL- SLUDGE NAS- NON AQUEOUS SOLID LCHT-LEACHATE OIL-OIL SO-SOIL SOL-SOLID	
CONTACT PERSON	**SAMPLER'S SIGNATURE**		
Eric Japsen			

2 SAMPLE DESCRIPTION (UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	PRES CODE CLIENT PROVIDED	3 ANALYSIS REQUESTED: FOG	TSS + Chl	TotN, NO3, P	Ammonia	CBOD	Fecal		4 REMARKS
AC-1	10/22/19	1220	X			5		X	X	X			X		
AC-2		1010	X					X	X	X			X		
IC-1		1040	X					X	X	X	X	X	X		
IC-2		1105	X					X	X	X	X	X	X		
BC-1		1240	X					X	X	X	X	X	X		
BC-2		930	X					X	X	X	X	X	X		
KCT-1		1150	X					X	X	X			X		
KCT-2		1130	X					X	X	X			X		

(FOR LAB USE ONLY)
LOGIN # 910450
LOGGED BY: BC
CLIENT: _____
PROJECT: _____
PROJ. MGR.: _____
CUSTODY SEAL #: _____

CHEMICAL PRESERVATION CODES:	1 – HCL	2 – H2SO4	3 – HNO3	4 – NAOH	5 – NA2S2O3	6 – UNPRESERVED	7 – OTHER

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
DATE RESULTS NEEDED
RUSH RESULTS VIA (PLEASE CIRCLE) EMAIL PHONE
EMAIL IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *I understand that by initialing this box I give the lab permission to proceed with analysis, even though it may not meet all sample conformance requirements as defined in the receiving facility's Sample Acceptance Policy and the data will be qualified. Qualified data may NOT be acceptable to report to all regulatory authorities.*
PROCEED WITH ANALYSIS AND QUALIFY RESULTS: (INITIALS) _____

7 RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
Eric Japsen	10/22/19 1300		
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
	10/22/19 1430		10/22/19 1430
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 5.7 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
SAMPLE ACCEPTANCE NONCONFORMANT REPORT IS NEEDED Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE _____

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

9104502

BLW

SENDING LABORATORY

PDC Laboratories, Inc.
4314-A Crystal Lake Road
McHenry, IL 60050
(815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(309) 692-9688

Sample: 9104502-01
Name: AC-1

Sampled: 10/22/19 12:20
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 12:20	
O&G SPE	10/31/19 16:00	11/19/19 12:20	
TKN GD	10/31/19 16:00	11/19/19 12:20	

Sample: 9104502-02
Name: AC-2

Sampled: 10/22/19 10:10
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 10:10	
O&G SPE	10/31/19 16:00	11/19/19 10:10	
TKN GD	10/31/19 16:00	11/19/19 10:10	

Sample: 9104502-03
Name: IC-1

Sampled: 10/22/19 10:40
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 10:40	
O&G SPE	10/31/19 16:00	11/19/19 10:40	
TKN GD	10/31/19 16:00	11/19/19 10:40	

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

9104502

SENDING LABORATORY

PDC Laboratories, Inc.
4314-A Crystal Lake Road
McHenry, IL 60050
(815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(309) 692-9688

Sample: 9104502-04
Name: IC-2

Sampled: 10/22/19 11:05
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 11:05	
O&G SPE	10/31/19 16:00	11/19/19 11:05	
TKN GD	10/31/19 16:00	11/19/19 11:05	

Sample: 9104502-05
Name: BC-1

Sampled: 10/22/19 12:40
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 12:40	
O&G SPE	10/31/19 16:00	11/19/19 12:40	
TKN GD	10/31/19 16:00	11/19/19 12:40	

Sample: 9104502-06
Name: BC-2

Sampled: 10/22/19 09:30
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 09:30	
O&G SPE	10/31/19 16:00	11/19/19 09:30	
TKN GD	10/31/19 16:00	11/19/19 09:30	

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

9104502

SENDING LABORATORY

PDC Laboratories, Inc.
4314-A Crystal Lake Road
McHenry, IL 60050
(815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(309) 692-9688

Sample: 9104502-07
Name: KCT-1

Sampled: 10/22/19 11:50
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 11:50	
O&G SPE	10/31/19 16:00	11/19/19 11:50	
TKN GD	10/31/19 16:00	11/19/19 11:50	

Sample: 9104502-08
Name: KCT-2

Sampled: 10/22/19 11:30
Matrix: Stormwater
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/31/19 16:00	11/19/19 11:30	
O&G SPE	10/31/19 16:00	11/19/19 11:30	
TKN GD	10/31/19 16:00	11/19/19 11:30	

Please email results to Penny Janus at pjanus@pdclab.com

Date Shipped: 10-23-19 Total # of Containers: 16 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: 10-31-19

Relinquished By	Date/Time	Received By	Date/Time
BK	10-23-19 9:00		10-23-19 1010
	10-23-19 1520	Melissa Sibley	10/23/19 15:20

Sample Temperature Upon Receipt	3 °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

APPENDIX 3

2013 Decision Document with TMDLs and WLAs for Buffalo Creek IL-GST

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

TMDL: Des Plaines River/Higgins Creek Watershed, Illinois
Date: AUG 26 2013

DECISION DOCUMENT FOR THE APPROVAL OF THE DES PLAINES RIVER/HIGGINS CREEK WATERSHED, IL, TMDL

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for EPA to determine if a submitted TMDL is approvable. These TMDL review guidelines are not themselves regulations. They are an attempt to summarize and provide guidance regarding currently effective statutory and regulatory requirements relating to TMDLs. Any differences between these guidelines and EPA's TMDL regulations should be resolved in favor of the regulations themselves.

1. Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the waterbody as it appears on the State's/Tribe's 303(d) list. The waterbody should be identified/georeferenced using the National Hydrography Dataset (NHD), and the TMDL should clearly identify the pollutant for which the TMDL is being established. In addition, the TMDL should identify the priority ranking of the waterbody and specify the link between the pollutant of concern and the water quality standard (see section 2 below).

The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as:

(1) the spatial extent of the watershed in which the impaired waterbody is located;
(2) the assumed distribution of land use in the watershed (e.g., urban, forested, agriculture);
(3) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources;
(4) present and future growth trends, if taken into consideration in preparing the TMDL (e.g., the TMDL could include the design capacity of a wastewater treatment facility); and

(5) an explanation and analytical basis for expressing the TMDL through *surrogate measures*, if applicable. *Surrogate measures* are parameters such as percent fines and turbidity for sediment impairments; chlorophyll *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

Comment:
Location Description: The Illinois Environmental Protection Agency (IEPA) developed **24** TMDLs for fecal coliform, chloride, ammonia, total phosphorus (TP) and carbonaceous biochemical oxygen demand (CBOD) substances for eighteen waterbody segments in the Des Plaines River/Higgins Creek (Des Plaines River) watershed in Lake, Cook, and DuPage Counties, Illinois. By implementing measures to reduce pollutant loadings, the TMDLs will address impairments of the Primary Contact Recreation, Aesthetic Quality, and Aquatic Life Uses. Table 1 below identifies the waterbodies addressed by the TMDLs as they appear on the partially approved Illinois 2008 303(d) list.

Table 1. TMDL waterbodies

Waterbody	Segment ID #	Pollutant*	Affected use
Albert Lake	IL_VGG	TP	Aquatic Life, Aesthetic Quality
Beck Lake	IL_RGE	TP	Aesthetic Quality
Big Bear Lake	IL_WGZU	TP	Aquatic Life, Aesthetic Quality
Big Bend Lake	IL_RGL	TP	Aesthetic Quality
Bresen Lake	IL_UGN	TP	Aesthetic Quality
Buffalo Creek Lake	IL_SGC	TP	Aquatic Life, Aesthetic Quality
Countryside Lake	IL_RGQ	TP	Aesthetic Quality
Diamond Lake	IL_RGB	TP	Aesthetic Quality
Forest Lake	IL_RGZG	TP	Aesthetic Quality
Half Day Pit	IL_UGB	TP	Aquatic Life, Aesthetic Quality
Lake Charles	IL_RGZJ	TP	Aesthetic Quality
Little Bear Lake	IL_WGZV	TP	Aesthetic Quality
Pond-A-Rudy	IL_UGP	TP	Aquatic Life, Aesthetic Quality
Salem Reed Lake	IL_WGK	TP	Aesthetic Quality
Sylvan Lake	IL_RGZF	TP, Fecal	Aesthetic Quality
Buffalo Creek	IL_GST	Chloride, Fecal, CBOD, ammonia	Aquatic Life, Recreational
Higgins Creek	IL_GOA-01	Chloride, Fecal	Aquatic Life, Recreational
Higgins Creek	IL_GOA-02	Chloride, Fecal	Aquatic Life, Recreational

* TP = total phosphorus, fecal = fecal coliform

The Des Plaines River watershed is located in northeast Illinois (HUC 0712000405). The Des Plaines River begins in Wisconsin and flows south, eventually merging with the Chicago Ship and Sanitary Canal and flowing into the Illinois River. The TMDLs address several waterbodies: fifteen lakes and two tributaries of the Des Plaines River (Figure 2-2 of the TMDL). The Illinois portion of the Des Plaines watershed covers approximately 223,000 acres. The TMDLs address nine miles of Buffalo Creek and three miles of Higgins Creek, both tributaries to the Des Plaines River. The TMDL report also addresses fifteen lakes in the watershed, ranging in size from 14 acres to 141 acres (Section 2.7 of the TMDL). Several lakes are natural, while several are the result of damming small tributaries in the area or old quarries/borrow pits from nearby road

construction. The waterbodies are listed as impaired due to the pollutants listed above. The TMDL does not address any of the inipaired mainstem segments of the Des Plaines River.

Distribution of land use: The land use for the Des Plaines River watershed is mainly urban in nature, with approximately 66% urbanized, 17% forested, and 12% agricultural (Section 2.3 of the TMDL). Most of the forested lands are along the mainstem of the Des Plaines River. Table 2 below contains the specific land use data for each of the impaired waterbodies.

Table 2: Land Use Data for the Des Plaines River Watershed

Watershed	Agricultural land	Forested land	Surface water	Urban and built-up land:	Wetland
Entire Des Plaines/Higgins Creek Watershed	11.8%	16.8%	2.7%	66.6%	2.1%
Albert Lake	1.8%	15.6%	1.9%	79.5%	1.2%
Beck Lake	—	56.5%	10.8%	30.7%	2.0%
Big Bear and Little Bear Lake	1.7%	5.9%	3.7%	88.1%	0.7%
Big Bend Lake	—	17.5%	6.2%	74.1%	2.2%
Bresen Lake	19.1%	11.7%	10.4%	52.4%	6.4%
Buffalo Creek	1.7%	19.4%	1.9%	74.1%	3.0%
Buffalo Creek Lake	1.9%	21.9%	2.0%	70.8%	3.3%
Countryside Lake	45.1%	16.2%	10.5%	26.4%	1.7%
Diamond Lake	32.5%	12.7%	8.5%	44.5%	1.7%
Forest Lake	5.3%	8.4%	7.6%	77.5%	1.2%
Half-day Pit	—	17.8%	41.9%	31.9%	8.3%
Higgins Creek	0.1%	7.1%	1.3%	91.0%	0.5%
Lake Charles	2.2%	6.6%	2.2%	88.5%	0.6%
Pond-a-Rudy	11.1%	35.0%	5.7%	38.2%	10.0%
Salem-Reed	11.3%	18.9%	27.6%	35.6%	6.6%
Sylvan Lake	38.0%	15.3%	5.9%	39.2%	1.6%

Population and future growth trends: The population of the watershed is approximately 915,000 people (Section 2.5 of the TMDL). Census data show the population density is highest in the southern portion of the watershed in Chicago, and more sparse in the northern portion of the watershed. IEPA noted that population growth is expected to increase significantly in the northern portions of the watershed (Section 2.6 of the TMDL).

Pollutants of concern: The TMDL submittal states the pollutants addressed in this TMDL for the watershed are fecal coliform, ammonia, chloride, CBOD, and TP (Table 1 above). One segment of Higgins Creek (IL_GOA_02) was identified as impaired due to low dissolved oxygen (DO). IEPA determined that the cause of the low DO is Sediment Oxygen Demand and the lack of re-aeration/low flow, and is not due to a pollutant. Therefore, IEPA did not develop a TMDL addressing low DO for this segment (Section 7.2.5 of the TMDL). All of the lakes have phosphorus TMDLs to either directly address exceedences of the phosphorus water quality standard or to control low dissolved oxygen (DO) levels in the lakes. Both segments of Higgins Creek are impaired due to high levels of fecal coliform and chlorides.

Buffalo Creek is impaired due to high levels of fecal coliform and chlorides, and low DO. To address the DO impairment, IEPA determined that CBOD and ammonia are the two pollutants that need to be controlled to improve the DO levels in the creek (Section 2 of the TMDL).

Organic material such as leaves, bacteria, algae and various sorts of organic debris can enter waterbodies and decay. This is particularly prevalent when flow velocities decrease. These materials can decay in the water, and the decomposition uses oxygen to break down the organic material. CBOD is defined as the carbonaceous portion of the material. The decomposition of nitrogen materials (nitrification) also utilizes oxygen as ammonia is converted to nitrites and then nitrates.

Sources:
Fecal coliform: IEPA identified several non-stormwater point sources which discharge fecal coliform to Buffalo Creek or Higgins Creek (Table 5-6 of the TMDL). Lands regulated under a Municipal Separate Storm Sewer System (MS4) cover 75% of the overall watershed, and were the largest source of fecal coliform for each TMDL (Section 7 of the TMDL). Runoff from urban lands can contain fecal coliform as a result of wildlife and pet wastes washing off during precipitation, as well as illicit connections of septic systems to the MS4 system. Figure 5-14 of the TMDL shows the MS4 entities and the watersheds in which they are located. IEPA noted that no concentrated animal feeding operations (CAFOs) are present in the watershed.

Several potential non-point sources were identified by IEPA. Agricultural lands can contribute bacteria through runoff of soils and other materials. This can be exacerbated by tile drains, which allow faster transmission of pollutant-laden runoff to waterbodies. Animal operations can contribute fecal coliform to the waterbody, via runoff from pastures located near streams.

IEPA noted that aging sewer systems could be contributing fecal coliform to the Higgins Creek and Buffalo Creek watersheds (Section 8.5.2 of the TMDL). Since almost all of the watersheds are served by sanitary sewer collection systems, failing septics are considered unlikely; however, leaks from aging infrastructure are possible.

Chlorides: The source of chlorides in Higgins Creek and Buffalo Creek is run-off due to de-icing activities (Section 7 of the TMDL). Much of the watershed for Higgins Creek and Buffalo Creek are highly urbanized, and large amounts of salt are used to de-ice roads, bridges, and parking lots. IEPA noted that exceedences of the chloride criteria occurred during the months of October to March (Appendix F of the TMDL).

CBOD and Ammonia:
Buffalo Creek was listed as impaired by IEPA due to low DO levels in the creek. Sources identified by IEPA in the TMDL as contributing to the DO impairment include stormwater runoff from the surrounding watershed, and nonpoint source runoff from forests and other non-regulated land uses (Section 8.4.2 of the TMDL).

Buffalo Creek Lake is a man-made impoundment of Buffalo Creek, and is directly upstream of the impaired portion of Buffalo Creek. IEPA noted that the lake is impaired due to low DO as well, and believe that the flow from the lake contributes to the DO impairment in the creek. IEPA believes that the high levels of ammonia and CBOD material in the creek indicate that ammonia and CBOD materials are entering the creek, and when the flow slows down in the reservoir, the ammonia and CBOD substances break down by either conversion of ammonia or the decomposition process.

Total Phosphorus: The sources of phosphorus in the Des Plaines watershed include:

MS4 discharge: Runoff from urbanized land can contain significant amounts of phosphorus. Fertilizers used on lawns and other landscaping can contain phosphorus, which are washed off during precipitation events. Pet waste and waste from other animals (i.e., geese) can also contribute phosphorus via stormwater runoff. Drainage from impervious surfaces can increase the flow rate in the MS4 system and increase streambank erosion. These soils are usually phosphorus-rich, and can contribute to the phosphorus enrichment when they enter the slower waters of a lake.

Agricultural land use practices: A few of the lakes have significant amounts of agricultural lands in the watershed (Section 5.3 of the TMDL). Runoff from agricultural lands may contain significant amounts of phosphorus from fertilizer use or from phosphorus-rich soils washed in to the lakes.

Wildlife/Natural Sources: Deer, geese, ducks, and other animals may contribute phosphorus to the lakes. Several of the lakes are surrounded by forest and parkland, and may receive phosphorus in the form of organic debris such as leaves and other plant material.

Priority Ranking: The Des Plaines River watershed was given a medium priority ranking by IEPA.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this first element.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy. (40 C.F.R. §130.7(c)(1)). EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) - a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target.

Comment:
Designated Use/Standards: Section 4 of the TMDL states that the waterbodies in the Des Plaines River watershed are not meeting the General Use designation. Under the General Use classification, waters are further designated as impaired for Aquatic Life Use, Aesthetic Quality

Use, and Primary Contact Recreational Use. Table 1 above shows the various waterbody segments and the associated impaired uses.

The applicable General Use water quality standards (WQS) for these waterbodies are established in Illinois Administrative Rules Title 35, Environmental Protection; Subtitle C, Water Pollution; Chapter I, Pollution Control Board; Part 302, Water Quality Standards, Subpart B. Table 2 below lists the all the parameters and the applicable citation under the Illinois Code.

Table 2 Numeric Water Quality Standards for the Des Plaines River Watershed

Parameter	units	General Use Water Quality Standard
Chloride	mg/L	500
Dissolved Oxygen	mg/L	March – July 5.0 instantaneous minimum 6.0 as daily mean averaged over 7 days August – February 3.5 instantaneous minimum 4.0 as daily mean averaged over 7 days 5.5 as daily mean averaged over 30 days
Fecal Coliform	cfu/100 mL	200(1), 400(2) May through October
Total Phosphorus	mg/L	0.05(3)

(1) Geometric mean based on a minimum of five samples taken over not more than a 30-day period.
(2) Standard shall not be exceeded by more than 10 percent of the samples collected during any 30-day period.
(3) Standard applies in particular to inland lakes and reservoirs (greater than 20 acres) and in any stream at the point where it enters any such lake or reservoir.

Target: The water quality targets for these TMDLs are the water quality criteria in Table 2 above. The TP criterion does not apply to several of the lakes in the Des Plaines watershed as they are below the minimum lake size (<20 acres). Sampling data showed that these lakes are impaired due to low DO. To address the low DO, IEPA determined that controlling the TP loads into the lakes will result in attaining the DO standard, and therefore calculated TP TMDLs for these lakes (Albert Lake, Half Day Pit, and Pond-A-Rudy).

To address the DO impairment in Buffalo Creek, IEPA determined that CBOD and ammonia were the surrogate pollutants that needed to be reduced in Buffalo Creek. Specific target concentrations were not determined; rather, IEPA used a computer model to determine the maximum loading of CBOD and ammonia that would attain the DO criterion (See Section 3 of this Decision Document).

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this second element.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a waterbody for the applicable pollutant. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 C.F.R. §130.2(f)).

The pollutant loadings may be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)). If the TMDL is expressed in terms other than a daily load, e.g., an annual load, the submittal should explain why it is appropriate to express the TMDL in the unit

of measurement chosen. The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model.

The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

TMDLs must take into account *critical conditions* for steam flow, loading, and water quality parameters as part of the analysis of loading capacity. (40 C.F.R. §130.7(c)(1)). TMDLs should define applicable *critical conditions* and describe their approach to estimating both point and nonpoint source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

Comment:
Loading capacity: The loading capacities were calculated for each waterbody, and are found in Section 7 of the TMDL. Tables 3-11 below are a summary of the loading capacities for each of the pollutants for each impaired waterbody in the watershed.

Method for cause and effect relationship:
Fecal coliform (rivers), chlorides: The loading capacities for fecal coliform and chlorides for the impaired river segments in the Des Plaines River watershed were determined by using the load duration curve method (LDC) (Tables 3-8 below; Sections 6.2 and 6.4 of the TMDL). Pollutant concentrations were measured at water quality monitoring stations in the watershed (Appendix B of the TMDL). An explanation is provided below.

1. Flow data - First, continuous flow data are required, and are provided by U.S. Geological Survey (USGS) gages 05528500 located on Buffalo Creek just downstream of the impaired segment, and 05529500 located on McDonald Creek, approximately 5 miles north of Higgins Creek (Figure 2-11 of the TMDL). IEPA used an area-weighted calculation to calculate flows between the McDonald Creek gage and Higgins Creek, as discussed in Section 7.1.2 of the TMDL. The data reflect a range of natural occurrences from extremely high flows to extremely low flows over 55 years.
2. Water Quality data - This dataset is the monitored pollutant data for fecal coliform and chlorides (Section 7 and Appendix B of the TMDL).
3. Load Duration Curves - The plots are derived from the flow data and water quality data described above. Existing monitored water pollutant loads, represented by the points on the plot, are compared to target loads, the water quality standard line (200 cfu/100 mL). If the existing loads are below (less than) the target line, no reduction needs to occur. Conversely, if the existing loads are above (greater than) the target load, a reduction is necessary to reach the target (Appendix F of the TMDL).
4. Analysis - The final step is to link the geographic locations of load reductions needed to the flow conditions under which the exceedences occur. Specific flow regimes contributing to pollutant loads, represented by the graph, are identified to determine under what flow conditions the pollutant exceedences are occurring. The LDCs in the

TMDL show that the exceedences occur under varied flow conditions. By knowing the flow conditions under which exceedences are occurring, IEPA can focus implementation activities on those sources most likely to contribute loads.

The plots show under what flow conditions the water quality exceedences occur. Those exceedences at the right side of the graph occur during low flow conditions; exceedences on the left side of the graphs occur during higher flow events, such as storm runoff. IEPA provided analysis for each LDC, to determine under which flow conditions exceedences (or the most severe exceedences) occurred (Section 7 of the TMDL).

Review of the LDCs for fecal coliform for the two segments of Higgins Creek (IL_GOA-01 and IL_GOA-02) show that exceedences occur generally under all flow conditions, and thus likely from a variety of sources. For Buffalo Creek (IL_GST), exceedences occur generally under all flow conditions, and thus likely from a variety of sources as well.

Review of the LDCs for chlorides for the two segments of Higgins Creek (IL_GOA-01 and IL_GOA-02) show that exceedences occur generally under all flow conditions, while for Buffalo Creek (IL_GST), exceedences occur generally under higher flows conditions. IEPA conducted additional analysis to determine the seasonal changes in chloride loads. Appendix F of the TMDL contains LDCs for October through March. These LDCs show the exceedences occur much more often in the winter higher flow conditions, further evidence of the impact of de-icing activities.

Using the load duration curve approach allows IEPA to determine which implementation practices are most effective for reducing pollutant loads based on flow magnitude. For example, if loads are significant during storm events, implementation efforts can target those best management practices (BMPs) that will most effectively reduce runoff. This allows for a more efficient implementation effort. The load duration curve is a cost-effective TMDL approach, to address the reductions necessary to meet WQS for these pollutants.

Weaknesses of the TMDL analysis are that non-point source (NPS) load allocations were not assigned to specific sources within the watershed, and the identified sources of the pollutants were assumed based on the data collected in the watershed, rather than determined by detailed monitoring and sampling efforts. Moreover, specific source reductions were not quantified. However, EPA believes the strengths of the State's proposed TMDL approach outweigh the weaknesses and that this methodology is appropriate based upon the information available. In the event that the pollutant levels do not meet WQSs in response to implementation efforts described in the TMDL submittal, the TMDL implementation strategy may be amended as new information on the watershed is developed.

Fecal coliform (Sylvan Lake): The loading capacity for fecal coliform for Sylvan Lake is in Table 9 below. Sylvan Lake was the only lake in the watershed found to be impaired by pathogens. Since the LDC process does not work for lakes, IEPA used the Simple Method and a mass balance process to develop fecal coliform loads for Sylvan Lake (Section 6.2 of the TMDL). The Simple Method estimates loads from runoff in urban areas (Stormwater.net download 6/28/2013). The method utilizes drainage areas, impervious cover, precipitation rates, and runoff rates based upon land use categories. The Simple Method was used to determine the runoff load contributions to the lake. The mass balance was used to determine the loading in the

lake under current conditions. The Simple Method was then adjusted to determine the loading that would achieve the WQS (Section 7.1.4 of the TMDL). Appendix F of the TMDL contains details on the runoff rates and land use areas for Sylvan Lake.

Total phosphorus/DO (Lakes): The loading capacities for total phosphorus for the lakes in the Des Plaines River watershed are in Table 10 below. The loading capacities were determined by IEPA by use of the Lake Load Response Model (LLRM) (Section 6.1 of the TMDL).

The LLRM combines an export coefficient (runoff) model with empirical in-lake response models. Export coefficients for each of the land uses in the watershed for each lake were used to determine phosphorus loading. The loading estimates were adjusted based upon soil type, proximity to the lake, and major Best Management Practices (BMPs) in the watershed. The factors were adjusted to reflect actual sampling data in each watershed. The model also allows direct inputs for atmospheric deposition, septic systems, point sources, waterfowl, and internal loading. Once the watershed loadings were determined, the loads were then processed through several empirical models, and the average TP concentration determined. The models were calibrated to existing lake water quality data where possible. Once calibrated, the loading into the lake was adjusted until the in-lake target of 0.5 mg/L TP standard was met (Sections 6.1 and 7.3 and Appendix H of the TMDL).

For Big Bend Lake (IL_RGL) and Half Day Pit (IL_UGB), the model was revised to account for occasional inflow from the Des Plaines River. Under normal conditions, these lakes flow into the Des Plaines River. However, under high flows, flow can be reversed, and phosphorus-rich water from the Des Plaines River can flow into the two lakes. To account for the flow, IEPA revised the LLRM model to assume 50 % of each of the lakes contained Des Plaines River water during the top 5% of river flows (Sections 7.3.4 and 7.3.10 of the TMDL).

DO (Buffalo Creek): To address the DO impairment in Buffalo Creek, IEPA used the QUAL-2K model to determine the pollutant loadings (Section 6.3 of the TMDL). QUAL-2K determines the effects of various oxygen-demanding substances (phosphorus, CBOD, nitrates, algae, etc.) and determines resulting DO concentration. QUAL-2K is a one-dimensional, steady-state model that accounts for both point and nonpoint source loading. QUAL-2K allows non-uniform reach segmentation, various forms of oxygen-demanding substances, and accounts for anoxia and sediment-water interface reactions.

The QUAL-2K model was developed by IEPA to determine the impacts of CBOD and ammonia on DO levels in the creek. The creek and related tributaries were divided into segments, and the physical characteristics of each segment estimated. Weather data, flow data, and water quality data were used in the model, as well as point source effluent data. The IEPA water quality standard for DO of 5 mg/L was used as the model target (Section 7.2.2 and Appendix G of the TMDL). The 5.0 mg/L target was chosen to meet or exceed the instantaneous DO minimum WQS of 5.0 mg/L (March to July) and 3.5 mg/L (August to February). Review of the model results indicates that the weekly and monthly average WQS for DO would be expected to be met when the instantaneous minimum is met (Figure 5-6, Figure 5-7, and Figure G-2 of the TMDL). The resulting CBOD and ammonia loads are in Table 11 below.

Higgins Creek (IL_GOA-02) is also listed as impaired by IEPA (Section 7.2.5 of the TMDL). QUAL-2K was also used to determine the impacts of CBOD and ammonia reductions on the DO

levels in the creek. IEPA determined that reductions in CBOD, ammonia, or phosphorus had little effect on DO levels in the creek. IEPA stated that the model results suggest sediment oxygen demand (SOD) is the major contributor to low DO levels in the creek. SOD is the oxygen demand caused by organic and chemical substances at the sediment-water interface at the bottom of the creek. IEPA believes that the SOD demand as well as a small dam in the segment and related low reaeration of the creek are the source of the low DO levels in Higgins Creek. Based upon the presence of these non-pollutants, IEPA did not develop a TMDL for Higgins Creek (Section 7.2.5 of the TMDL).

Critical condition:
For fecal coliform, a specific flow critical condition was difficult to identify. The load duration curves indicate exceedences are occurring under all flow regimes, and thus differing conditions may contribute to impairment. For water quality, the critical condition was identified as the primary contact recreational season (May through October). The LDC process used by IEPA allows the State to target implementation activities to those flow regimes showing the greatest loading.

For chlorides, the critical condition is winter, when the predominant source is salt used for deicing activities. The implementation activities discussed in the TMDL focus on controlling this source.

For TP, CBOD, and ammonia, the critical condition was identified as the summer low flow conditions. During the summer months, instream flows are lower, water temperatures are higher, and retention time in the lakes is greatest. Under these conditions, the three pollutants are available for uptake by algae and macrophytes, which utilize oxygen when they die and decompose.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this third element.

4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

Comment:
Fecal coliform and chlorides: The LAs for the impaired waterbodies in the Des Plaines River watershed are found in Tables 3-11 below. The LAs are based upon the flow in the river (Section 7.1 of the TMDL). IEPA did not separate out a natural background component.

TP: The LAs for the impaired waterbodies in the Des Plaines River watershed are found in Table 10 below. IEPA did not develop LAs for various land uses. IEPA did determine a natural background concentration for the lakes. This was accomplished by setting the land uses in the LLRM model to forest/wetland, and increasing the attenuation rate by 10%. IEPA noted that for Bresen Lake, Big Bend Lake, and Half Day Pit, the natural background concentration exceeded

the WQS, suggesting that the lakes may not be able to attain the WQS. The natural background concentration for Salem Reed Lake is also very close to the WQS.

IEPA also determined an upper bound for TP concentrations by adjusting the LLRM model to convert forest and agricultural lands to low density urban land and reducing attenuation by an additional 10% (Section 7.3 of the TMDL). While no load was determined for the future scenario, the calculation showed the "worst case" scenario that might be expected if development is not better managed.

CBOD and ammonia: The LAs for the impaired waterbodies in the Des Plaines River watershed are found in Table 11 below. IEPA did not separate out a natural background component.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this fourth element.

5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 C.F.R. §130.2(h), 40 C.F.R. §130.2(i)). In some cases, WLAs may cover more than one discharger, e.g., if the source is contained within a general permit.

The individual WLAs may take the form of uniform percentage reductions or individual mass based limitations for dischargers where it can be shown that this solution meets WQSs and does not result in localized impairments. These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA.

Comment:
Fecal coliform: For the fecal coliform TMDLs for Higgins Creek and Buffalo Creek, IEPA identified 4 non-stormwater facilities permitted to discharge under the National Pollutant Discharge Elimination System (NPDES) that discharge into or upstream of the creeks. IEPA also identified several MS4 communities that discharge to the impaired segments (Tables 12-17 below; Section 7.1 of the TMDL).

To calculate the WLAs, IEPA used the fecal coliform standard (200 cfu/100 mL) times the design maximum flow for the high flow range, and the design average flow for the moist, mid-range, dry and low flow regimes (Section 7.1 of the TMDL). For the MS4 allocations, the

allocations are based upon the fecal coliform standard (200 cfu/100 mL) and the percentage of land area covered by the MS4 permit.

For the Sylvan Lake fecal coliform TMDL, IEPA identified two MS4 communities in the watershed. The WLAs were calculated based upon the fecal coliform standard (200 cfu/100 mL) and the percentage of land area covered by the MS4 permits (Section 7.1.4 of the TMDL, Table 9 below). IEPA did not identify any CAFOs in the watershed (WLA = 0).

Chlorides: For the chloride TMDLs for Higgins Creek and Buffalo Creek, IEPA determined that the non-stormwater dischargers in the watershed do not discharge chloride in their effluent, and therefore the WLA = 0 for these facilities (Section 7.1.2.4 of the TMDL). As discussed in Section 3 above in this decision document, the exceedences of the chloride standard occurs during the winter months due to de-icing activities. The WLA for the MS4 communities is based upon the water quality standard (500 mg/L) and the percentage of land area covered by the MS4 permit (Table 15-17 below).

The Illinois Tollway Authority is currently pursuing an expansion of the Elgin-O'Hare Expressway. Part of this expansion could occur in the Higgins Creek Watershed (Elgin O'Hare West Bypass Study Tier Two EIS, October, 2012). The WLAs approved as part of this TMDL Decision Document may change based upon the status of the expansion. IEPA is not required to reopen the TMDL as long as the revised individual WLAs do not exceed the sum of the WLA (Considerations for Revising and Withdrawing TMDLs (draft), EPA, May 2012).

CBOD and ammonia: For the CBOD and ammonia TMDLs for Buffalo Creek, IEPA identified two non-stormwater facilities permitted to discharge under the NPDES program that discharge into or upstream of the creek. IEPA also identified several MS4 communities that discharge to the impaired segments (Table 18 below; Section 7.2.2.2 of the TMDL).

To calculate the WLAs, IEPA used the maximum daily permit limit times the design maximum flow for the two facilities. No WLA for ammonia was calculated for the Alden Long Grove Rehab facility (Section 7.2.2.2 of the TMDL). For the MS4 allocations, the allocations are based upon the overall CBOD and ammonia reductions needed to achieve the DO standard (39% for CBOD, 30% for ammonia) applied to the land area for each MS4 permit.

TP: The WLAs for TP are found in Table 19 below. For the TP TMDLs for the lakes in the watershed, IEPA identified only one lake (Buffalo Creek Lake, IL_SGC) where non-stormwater-permitted sources are present. To determine the WLA for the two facilities, IEPA used the permitted effluent limit and average discharge flow in the LLRM model (Section 7.3 of the TMDL). For the MS4 allocations, the allocations are based upon the overall phosphorus reductions needed to achieve the phosphorus standard applied to the land area for each MS4 permit.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this fifth element.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

Comment:
Fecal coliform and chlorides: For fecal coliform and chlorides, IEPA used an explicit MOS of 10% (Table 3-11 below, Section 7.1.6 of the TMDL) for all waters except Higgins Creek (IL_GOA-01). The margin of safety is appropriate because the use of the LDC provides an accurate account of existing stream conditions (calculated by multiplying daily flows by existing pollutant levels), and an accurate account of the stream's loading capacity (calculated by multiplying daily flows by the appropriate water quality target). In other words, there is a good fit between observed (existing) data and predicted data using the LDC approach, thus providing a relatively accurate determination of the TMDL reductions needed. IEPA accounts for any uncertainty in this method by incorporating the MOS.

IEPA also included additional MOS in the TMDL because no rate of decay was used in calculations or in load duration curves for the fecal coliform. Because bacteria have a limited capability of surviving outside their hosts, a rate of decay would normally be used. Thus, it was determined by IEPA that it is more conservative to use the water quality standard of 200 cfu/100ml fecal coliform, and not to apply a rate of decay which could result in a discharge limit greater than the water quality standard.

As stated in *EPA's Protocol for Developing Pathogen TMDLs* (EPA 841-R-00-002), many different factors affect the survival of pathogens, including the physical condition of the water. These factors include, but are not limited to sunlight, temperature, salinity, and nutrient deficiencies. These factors vary depending on the environmental condition/circumstances of the water, and therefore it would be difficult to assert that the rate of decay caused by any given combination of these environmental variables was sufficient enough to meet the WQS of 200 cfu/100 ml and 400 cfu/100ml. Thus, it is more conservative to apply the State's water quality standard as the margin of safety, because this standard must be met at all times under all environmental conditions.

For Higgins Creek, IEPA did not determine an explicit MOS; the MOS is the implicit MOS as discussed above. The flow in Higgins Creek is almost entirely effluent from the Kirie WWTP. Flow records indicate that over 90% of the stream flow is effluent, and over 99% under dry to low flows. Since the facility is required to disinfect and monitor the discharge, there is less uncertainty associated with the fecal coliform loading to this segment.

Phosphorus: IEPA uses an explicit 10% MOS for phosphorus for the lakes in the Des Plaines River watershed (Table 10 below; Section 7.3.17 of the TMDL). IEPA believes the MOS is sufficient based upon the relatively small watersheds surrounding the lakes, thus limiting the

uncertainty in sources, and the LLRM model process, which took the average of 5 separate model formulas to determine the appropriate loading capacity for each lake. This process served to reduce uncertainty as well.

CBOD and ammonia: IEPA used an explicit 10% MOS for CBOD and ammonia for Buffalo Creek (Table 11 below; Section 7.2.8 of the TMDL). A simple calibration of the QUAL2K model was performed, comparing the modeled data to the actual sampling data, and the model was then adjusted to meet the actual data.

EPA finds that the TMDL document submitted by IEPA contains an appropriate MOS satisfying all requirements concerning this sixth element.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)).

Comment:
IEPA properly accounted for seasonality for the fecal coliform and chloride TMDLs by use of the LDC method, which inherently accounts for seasonal variation by using daily flows over a multi-year period (Section 6 of the TMDL). IEPA properly accounted for seasonality in the phosphorus TMDLs by use of monthly average precipitation records over a multi-year period in the LLRM model (Sections 2.6 and 6.1 of the TMDL). The LLRM model used the precipitation data together with the export coefficients to determine the runoff from various land uses. This would include seasonal variations in precipitation. For the DO model, the QUAL-2K model uses temperature and precipitation records to determine DO levels in Buffalo Creek. The model effort focused on the summer DO levels to account for season variations. EPA agrees that this properly accounts for seasonal variations.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this seventh element.

8. Reasonable Assurances

When a TMDL is developed for waters impaired by point sources only, the issuance of a National Pollutant Discharge Elimination System (NPDES) permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 C.F.R. 122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for EPA to determine that the TMDL, including the

load and wasteload allocations, has been established at a level necessary to implement water quality standards.

EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

Comment:
Point Sources (fecal coliform, phosphorus, CBOD, ammonia): Reasonable assurance that the WLAs will be implemented is provided by 40 CFR 122.44(d)(1)(vii)(B),which requires that NPDES permit effluent limits are consistent with assumptions and requirements of all WLAs in an approved TMDL. IEPA implements its storm water and NPDES permit programs and is responsible for incorporating WLAs into permits. Current NPDES permits will remain in effect until the permits are reissued, provided that IEPA receives the NPDES permit renewal application prior to the expiration date of the existing NPDES permit. Current and future facilities subject to the NPDES MS4 permits would be required to properly select, install, and maintain BMPs required under the permit to reduce pollutant loads from these sources (Section 8 of the TMDL).

Reasonable assurance that WLA will be incorporated into MS4 permits is provided by the current General NPDES MS4 Permit ILR40. Part III- Special Conditions (C) of ILR40 requires the permitted entity to review their storm water management plan and determine whether the discharges within their jurisdiction are meeting the TMDL allocation or approved watershed management plan. If they are not meeting the TMDL allocations, they must modify their storm water management program to implement the TMDL or watershed management plan within eighteen months of notification by IEPA of the TMDL or watershed management approval. The special conditions of the general permit also require the permitted entity to describe and implement a monitoring program to determine if storm water controls are meeting the WLA (General NPDES Permit No. ILR40).

Nonpoint Sources: Nonpoint source loads of pollutants are relatively low in the impaired waterbodies, as much of the land area around the creeks are regulated under MS4 permits. There are few agricultural activities in the Buffalo Creek or Higgins Creek watershed.

In Lake County, the Lake County Stormwater Management Commission (LCSMC) has developed a detailed watershed management plan for the Indian Creek watershed. This plan addresses most of the lake TMDLs, and contains information on the impairment sources in the watershed, storm water BMP inventory programs, funding sources, proposed regulatory actions, and Lake County hydrologic modeling results. This plan has been developed to address not only water quality issues, but water quantity issues in the county. A plan is under development for the Buffalo Creek Watershed.
(http://www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/Pages/WatershedManagementPlans.aspx). The county also holds annual training for de-icing contractors, who upon completion of the training and testing will have their names added to a "preferred provider" list maintained by the county.

Lake County also has regulatory controls for stormwater. The Lake County Watershed Development Ordinance (WDO) provides regulatory controls for county and approved municipalities. The WDO establishes minimum countywide standards for stormwater management, including floodplains, detention, soil erosion/sediment control, water quality treatment, and wetlands. (http://www.lakecountyil.gov/Stormwater/FloodplainStormwaterRegulations/WDOandTRM/Pages/default.aspx)

In Cook County, the county is in the process of developing a Stormwater Ordinance to regulate and control stormwater. The land use surrounding the impaired waters in Cook County is almost exclusively urban, and thus regulated by MS4 permits. In Cook County, the Metropolitan Water Reclamation District (MWRD) is responsible for stormwater control. The MWRD developed the "Detailed Watershed Plan for the Lower Des Plaines River Watershed: Volume 1" which includes Higgins Creek. Although this plan focuses primarily on water quantity rather than water quality, the State believes the Best Management Practices (BMPs) to reduce water quantity will also improve water quality for both fecal coliform and DO substances (Section 8.5 of the TMDL).

To address the chlorides reductions in Higgins Creek, the State and the DuPage River Salt Creek Workgroup (DRSCW) are working with the Illinois Tollway to address impacts from the proposed Elgin-O'Hare West Bypass Project (DRSCW Comments, 2013). This project involves the construction of additional road lanes and interchanges in the Higgins Creek watershed. As part of this project, the Illinois Tollway Authority and the DRSCW are working to reduce chloride use not only on the new tollway itself, but also in surrounding communities (Elgin O'Hare West Bypass Study Tier Two EIS, October, 2012). If an agreement is reached, chloride use could be significantly reduced in several watersheds in the Chicago Area.

EPA finds that this criterion has been adequately addressed.

9. Monitoring Plan to Track TMDL Effectiveness

EPA's 1991 document, *Guidance for Water Quality-Based Decisions: The TMDL Process* (EPA 440/4-91-001), recommends a monitoring plan to track the effectiveness of a TMDL, particularly when a TMDL involves both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur. Such a TMDL should provide assurances that nonpoint source controls will achieve expected load reductions and, such TMDL should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring and leading to attainment of water quality standards.

Comment:
The TMDL submittal contains a discussion on future monitoring (Section 8.9 of the TMDL). Lake County maintains a Lakes Management Unit that monitors lakes and streams in the watershed. Several lakes in Lake County have designated beaches, which are monitored on a bimonthly basis. Section 8.10 of the TMDL discusses a proposed timeline for integrating various stakeholder activities in the watershed.

EPA finds that this criterion has been adequately addressed.

10. Implementation

EPA policy encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source LAs established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. EPA is not required to and does not approve TMDL implementation plans.

Comment:
A summary of potential implementation activities is in Section 8 of the TMDL. The implementation activities are discussed in Section 8 of this Decision Document.

EPA reviews, but does not approve, implementation plans. EPA finds that this criterion has been adequately addressed.

11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)).

Provision of inadequate public participation may be a basis for disapproving a TMDL. If EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

Comment:
On May 19, 2009, IEPA held a public meeting to present the Stage 1 preliminary TMDL findings in Des Plaines, Illinois. A second public meeting was held in Des Plaines, Illinois, on August 11, 2010, to discuss the wasteload allocations with the stakeholders. The public comment period for the draft TMDL opened on August 28, 2012, and closed September 27, 2012. A public meeting was held on August 28, 2012, in Des Plaines, Illinois. The public notice for the meeting was made available to the public. Interested individuals and organizations also received copies of the public notice. A copy of the TMDL was made available to the public for comment upon request, as well as at the Des Plaines City Hall, Buffalo Grove City Hall, and the Vernon Hills City Hall. The draft TMDL was also available on IEPA's web page at http://www.epa.state.il.us/water/tmdl. The public meeting started at 2:00 p.m. on August 28, 2012. There were approximately 20 attendees at the meeting and the meeting record remaining open until midnight, September 27, 2012. There were no public comments.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this eleventh element.

12. Submittal Letter

A submittal letter should be included with the TMDL submittal, and should specify whether the TMDL is being submitted for a *technical review* or *final review and approval*. Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the waterbody, and the pollutant(s) of concern.

Comment:
On May 30, 2013, EPA received the Des Plaines River Higgins Creek watershed TMDL, and a submittal letter. In the submittal letter, IEPA stated "Please find enclosed Illinois EPA's submittal of the Des Plaines River Higgins Creek Watershed TMDL report for USEPA final approval". The submittal letter included the names and locations of the waterbodies and the pollutants of concern.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this twelfth element.

Conclusion
After a full and complete review, EPA finds that the TMDLs for the Des Plaines River Higgins Creek watershed satisfy all of the elements of approvable TMDLs. This approval is for **24** TMDLs, in 18 waterbody segments.

EPA's approval of this TMDL does not extend to those waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove TMDLs for those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under the CWA Section 303(d) for those waters.

Table 3 TMDL Summary for fecal coliform for Buffalo Creek (IL_GST) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	1.98E+12	7.93E+11	5.53E+10	1.23E+11	2.06E+10
Reduction	77%	85%	12%	85%	80%
WLA – MS4	2.85E+11	7.74E+10	3.09E+10	0	0
WLA - WWTP	3.56E+08	1.44E+08	1.44E+08	1.44E+08	1.44E+08
LA	9.74E+10	2.65E+10	1.06E+10	1.52E+10	3.35E+09
Reserve Capacity	2.25E+10	6.12E+09	2.45E+09	9.05E+08	2.06E+08
MOS	4.50E+10	1.22E+10	4.89E+09	1.81E+09	4.11E+08
TMDL	**4.50E+11**	**1.22E+11**	**4.89E+10**	**1.81E+10**	**4.11E+09**

Table 4 TMDL Summary for chloride for Buffalo Creek (IL_GST)(lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	190,807	124,227	21,546	11,215	796
Reduction	0	46%	0	11%	0
WLA – MS4	166,286	45,186	18,075	0	0
WLA - WWTP	0	0	0	0	0
LA	56,857	15,450	6,180	8,974	2,037
MOS	24,794	6,737	2,695	997	226
TMDL	**247,936**	**67,374**	**26,950**	**9,971**	**2,264**

Table 5 TMDL Summary for fecal coliform for Higgins Creek (IL_GOA-01) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	9.49E+11	3.89E+11	1.24E+12	1.09E+11	3.05E+11
Reduction	0	0	50%	0	0
WLA – MS4	9.09E+10	2.10E+10	8.93E+09	0	0
WLA - WWTP	8.34E+11	6.06E+11	6.06E+11	6.06E+11	6.06E+11
LA	3.50E+10	8.10E+09	3.44E+09	5.67E+09	2.06E+09
MOS	implicit	implicit	implicit	implicit	implicit
TMDL	**9.60E+11**	**6.35E+11**	**6.19E+11**	**6.12E+11**	**6.08E+11**

Table 6 TMDL Summary for chloride for Higgins Creek (IL_GOA-01) (lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	441,567	591,224	338,885	254,302	409,771
Reduction	0	57%	33%	13%	47%
WLA – MS4	575,438	159,007	140,547	0	0
WLA - WWTP	0	0	0	0	0
LA	258,530	71,438	63,144	199,750	196,515
MOS	92,663	25,605	22,632	22,194	21,835
TMDL	**926,631**	**256,050**	**226,323**	**221,945**	**218,350**

Table 7 TMDL Summary for fecal coliform for Higgins Creek (IL_GOA-02) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	1.90E+12	2.00E+11	1.19E+12	4.60E+10	5.59E+10
Reduction	94%	75%	97%	31%	95%
WLA – MS4	7.41E+10	3.02E+10	2.26E+10	0	0
WLA - WWTP	0	0	0	0	0
LA	2.85E+10	1.16E+10	8.70E+09	2.71E+10	2.48E+10
MOS	1.21E+10	4.92E+09	3.68E+09	3.19E+09	2.92E+09
Reserve Capacity	6.03E+09	2.46E+09	1.84E+09	1.59E+09	1.46E+09
TMDL	**1.21E+11**	**4.92E+10**	**3.68E+10**	**3.19E+10**	**2.92E+10**

Table 8 TMDL Summary for chloride for Higgins Creek (IL_GOA-02) (lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	112,793	107,977	27,665	76,327	39,380
Reduction	41%	75%	26%	77%	59%
WLA – MS4	41,208	16,903	12,676	0	0
WLA - WWTP	0	0	0	0	0
LA	18,514	7,594	5,695	15,768	14,443
MOS	6,636	2,722	2,041	1,752	1,605
TMDL	**66,358**	**27,220**	**20,413**	**17,520**	**16,048**

Table 9 TMDL summary for Sylvan Lake (IL_RGZF) (MM org/day)

	Fecal Coliform Load
Current Load	2,960,887
Reduction	80%
Hawthorn Woods MS4	100,670
Long Grove MS4	592
Load Allocation	402,088
Reserve Capacity	29,609
MOS	59,218
TMDL	**592,177**

Table 10 TMDL Summary for TP TMDLs for Lakes (lbs/day)

Lake	Current Load	% reduction	WLA	MOS	LA	**TMDL**
Albert Lake	13.07	89	1.32	0.15	0.01	**1.48**
Beck Lake	0.45	10	0.12	0.04	0.25	**0.40**
Big Bear Lake	3.19	33	1.85	0.21	0.07	**2.13**
Big Bend Lake	6.51	74	1.40*	0.17	0.10	**1.66**
Bresen Lake	0.84	59	0.20	0.03	0.11	**0.35**
Buffalo Creek Lake	25.96	65	5.89	0.91	2.26	**9.06**
Countryside Lake	4.17	51	0.44	0.20	1.38	**2.03**
Diamond Lake	1.93	9	0.66	0.18	0.92	**1.75**
Forest Lake	1.52	63	0.34	0.06	0.17	**0.57**
Half Day Pit	11.73	80	0.55**	0.23	1.56	**2.34**
Lake Charles	2.36	13	1.75	.021	0.09	**2.05**
Little Bear Lake	2.23	7	1.81	.021	0.06	**2.08**
Pond-A-Rudy	0.42	67	0.07	0.01	0.05	**0.14**
Salem Reed Lake	0.70	69	0.19	0.02	0.001	**0.22**
Sylvan Lake	0.80	35	0.17	0.05	0.29	**0.51**

* includes 1.376 lb/day from the Des Plaines River

** includes 0.340 lbs/day from the Des Plaines River

Table 11 TMDL Summary for CBOD and NH3 for Buffalo Creek (IL_GST)(lb/day)

	CBOD	NH3
Current Load	158.96	8.92
Reduction	39%	30%
LA	8.59	0.24
MS4	65.04	4.18
WLA	13.7	1.2
MOS	9.70	0.62
TMDL	**97.03**	**6.24**

Table 12 WLAs for fecal coliform for Buffalo Creek (IL_GST) (MM org/day)

	NPDES permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Alden Long Grove Rehab	IL0051934	281	114	114	114	114
Camp Reinberg STP	IL0048542	75	30	30	30	30
Arlington Heights MS4	ILR400282	60,637	16,447	6,574	0	0
Barrington MS4	ILR400285	17,910	4,858	1,941	0	0
Buffalo Grove MS4	ILR400303	34,551	9,372	3,746	0	0
Deer Park MS4	ILR400359	13,551	3,675	1,469	0	0
Inverness MS4	ILR400359	25,321	6,868	2,745	0	0
Kildeer MS4	ILR400215	13,813	3,747	1,498	0	0
Lake Zurich MS4	ILR400370	25,834	7,007	2,801	0	0
Long Grove MS4	ILR400219	46,658	12,656	5,059	0	0
Palatine MS4	ILR400416	48,280	13,096	5,235	0	0

Table 13 WLAs for fecal coliform for Higgins Creek (IL_GOA-01) (MM org/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Des Plaines MHP	IL0054160	1,340	522	522	522	522
MWRDGC Kirie WRP	IL0047741	832,841	605,702	605	702	605
Arlington Hts MS4	ILR400282	8,172	1,890	803	0	0
Chicago MS4	ILR400173	442	102	43	0	0
Des Plaines MS4	ILR400325	15,160	3,507	1,489	0	0
Elk Grove MS4	ILR400334	32,567	7,534	3,199	0	0
Mt Prospect MS4	ILR400393	9,143	2,115	898	0	0
Rolling Meadows MS4	ILR400435	174	40	17	0	0

Table 14 WLAs for fecal coliform for Higgins Creek (IL_GOA-02) (MM org/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	12,530	5,107	3,822	0	0
Des Plaines MS4	ILR400325	1,835	748	560	0	0
Elk Grove MS4	ILR400334	45,540	18,564	13,892	0	0
Mt Prospect MS4	ILR400393	13,989	5,702	4,267	0	0
Rolling Meadows MS4	ILR400435	272	111	83	0	0

Table 15 WLAs for chloride for Buffalo Creek (IL_GST) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Heights MS4	ILR400282	35,187	9,562	3,825	0	0
Barrington MS4	ILR400285	10,393	2,824	1,130	0	0
Buffalo Grove MS4	ILR400303	20,050	5,448	2,179	0	0
Deer Park MS4	ILR400359	7,864	2,137	855	0	0
Inverness MS4	ILR400359	14,693	3,993	1,597	0	0
Kildeer MS4	ILR400215	8,015	2,178	871	0	0
Lake Zurich MS4	ILR400370	14,991	4,074	1,629	0	0
Long Grove MS4	ILR400219	27,075	7,357	2,943	0	0
Palatine MS4	ILR400416	28,017	7,613	3,045	0	0

Table 16 WLAs for chloride for Higgins Creek (IL_GOA-01) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	71,402	19,731	17,440	0	0
Chicago MS4	ILR400173	3,866	1,069	944	0	0
Des Plaines MS4	ILR400325	132,461	36,602	32,353	0	0
Elk Grove MS4	ILR400334	284,461	78,633	69,504	0	0
Illinois Tollway MS4	ILR400494	1,727	477	421	0	0
Mt Prospect MS4	ILR400393	79,894	22,077	19,513	0	0
Rolling Meadows MS4	ILR400435	1,502	420	372	0	0

Table 17 WLAs for chloride for Higgins Creek (IL_GOA-02) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	6,950	2,850	2,138	0	0
Des Plaines MS4	ILR400325	1,018	418	313	0	0
Elk Grove MS4	ILR400334	25,207	10,340	7,755	0	0
Illinois Tollway MS4	ILR400494	124	51	38	0	0
Mt Prospect MS4	ILR400393	7,760	3,182	2,387	0	0
Rolling Meadows MS4	ILR400435	150	61.8	45.8	0	0

Table 18 WLAs for CBOD and NH3 for Buffalo Creek (IL_GST)(lb/day)

	NPDES Permit #	CBOD	NH3
Alden Long Grove Rehab	IL0051934	12.0	0
Camp Reinberg	IL0048542	1.7	1.2
Arlington Heights MS4	ILR400282	3.18	0.25
Barrington MS4	ILR400285	0.05	0.004
Buffalo Grove MS4	ILR400303	9.05	0.70
Deer Park MS4	ILR400359	6.67	0.51
Inverness MS4	ILR400359	0.004	0.0003
Kildeer MS4	ILR400215	9.74	0.75
Lake Zurich MS4	ILR400370	5.40	0.42
Long Grove MS4	ILR400219	14.72	1.14
Palatine MS4	ILR400416	7.70	0.59

Table 19 WLAs for TP for Lakes (lbs/day)

Lake	MS4/Facility	NPDES ID #	% Area of Watershed	**WLA (lb/day)**
Albert Lake	Lake Zurich	ILR400370	47	**0.620**
	Long Grove	ILR400219	17	**0.226**
	Kildeer	ILR400215	36	**0.475**
Beck Lake	Glenview	ILR400343	32	**0.117**
Big Bear Lake	Libertyville	ILR400374	14	**0.260**
	Mundelein	ILR400395	54	**1.030**
	Vernon Hills	ILR400252	29	**0.559**
Big Bend Lake	Glenview	ILR400343	8	**0.009**
	Des Plaines	ILR400325	13	**0.015**
Bresen Lake	Hawthorn Woods	ILR400209	64	**0.199**
Buffalo Creek Lake	Alden Long Grove Rehab	IL0051934	Non-MS4	**0.448**
	Camp Reinberg STP	IL0048542	Non-MS4	**0.117**
	Arlington Heights	ILR400282	5	**0.357**
	Barrington	ILR400285	0.1	**0.003**
	Buffalo Grove	ILR400303	1	**0.075**
	Deer Park	ILR400359	10	**0.745**
	Inverness	ILR400359	<0.1	**0.0005**
	Kildeer	ILR400215	14	**1.090**
	Lake Zurich	ILR400370	8	**0.602**
	Long Grove	ILR400219	21	**1.600**
	Palatine	ILR400416	11	**0.864**
Countryside Lake	Hawthorn Woods	ILR400209	14	**0.261**
	Long Grove	ILR400219	<0.1	**0.0005**
	Mundelein	ILR400395	18	**0.183**
Diamond Lake	Mundelein	ILR400395	35	**0.556**
	Long Grove	ILR400219	7	**0.108**
Forest Lake	Hawthorn Woods	ILR400209	37	**0.189**
	Lake Zurich	ILR400370	29	**0.150**
Half Day Pit	Lincolnshire	ILR400375	12	**0.205**
Lake Charles	Libertyville	ILR400374	16	**0.300**
	Mundelein	ILR400395	63	**1.171**
	Vernon Hills	ILR400252	15	**0.282**
Little Bear Lake	Libertyville	ILR400374	12	**0.231**
	Mundelein	ILR400395	49	**0.915**
	Vernon Hills	ILR400252	35	**0.661**
Pond-A-Rudy	Hawthorn Woods	ILR400209	58	**0.072**
Salem Reed Lake	Long Grove	ILR400219	99	**0.193**
Sylvan Lake	Hawthorn Woods	ILR400209	17	**0.172**
	Long Grove	ILR400219	0.1	**0.0004**

Part D. Summary of Year 18 Stormwater Activities

(Present a summary of the storm water activities you plan to undertake during the next reporting cycle, including an implementation schedule in the sections following the table.)

The table shown below summarizes the BMPs committed to for Year 18. Specific BMPs and measurable goals for Year 18 program development activities are presented in the sections following the table.

Note: X indicates BMPs committed to for Year 18.

Year 18 MS4	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
X	A.2 Speaking Engagement
X	A.3 Public Service Announcement
X	A.4 Community Event
	A.5 Classroom Education Material
X	A.6 Other Public Education
B. Public Participation/Involvement	
	B.1 Public Panel
X	B.2 Educational Volunteer
X	B.3 Stakeholder Meeting
	B.4 Public Hearing
	B.5 Volunteer Monitoring
X	B.6 Program Coordination
X	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
X	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
X	C.3 Detection/Elimination Prioritization Plan
X	C.4 Illicit Discharge Tracing Procedures
X	C.5 Illicit Source Removal Procedures
X	C.6 Program Evaluation and Assessment
X	C.7 Visual Dry Weather Screening
X	C.8 Pollutant Field Testing
	C.9 Public Notification
X	C.10 Other Illicit Discharge Controls

Year 18 MS4	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long-Term O&M Procedures
X	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
X	F.2 Inspection and Maintenance Program
X	F.3 Municipal Operations Storm Water Control
X	F.4 Municipal Operations Waste Disposal
X	F.5 Flood Management/Assess Guidelines
X	F.6 Other Municipal Operations Controls

1. Public Education and Outreach

The Village is committing to conduct Public Education and Outreach as part of its permit. Public Education and Outreach requires implementation of a program to distribute educational material to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants to stormwater runoff. BMPs will be implemented under A.1, A.2, A.3, A.4, and A.6 as described below.

BMP No. A.1

Brief Description of BMP:

The Village distributes a variety of paper materials from a number of sources informing the public about stormwater or water quality and why they are important.

Measurable Goal(s), including frequencies:

As in past years, the Village will distribute educational materials at the Public Works Open House. The materials chosen will be targeted toward residents, businesses, and other potential pollutant sources to create better awareness and knowledge of the issue.

Milestones: **Year 18:** The Village will continue to distribute the educational materials at the Public Works Open House.

BMP No. A.2

Brief Description of BMP:

The Village regularly participates in or provides presentations to local civic clubs, watershed groups or other interested parties on topics related to NPDES, stormwater quality, or other similar subjects. Speaking engagements provide the opportunity to inform concerned citizens or interested parties about stormwater quality, environmental impacts, and other NPDES-related issues and activities including ways to help.

Measurable Goal(s), including frequencies:

The Village will provide a speaking engagement to a local group regarding stormwater, water quality, or related issue.

Milestones: **Year 18:** The Village will provide a presentation or speaking engagement to the Lake County Stormwater Management Commission MAC or other interested party.

BMP No. A.3

Brief Description of BMP:

The Village publishes information about stormwater or water quality in the Village newsletter.

Measurable Goal(s), including frequencies:

The articles chosen will be selected to increase the residents' knowledge and awareness regarding stormwater and water quality.

Milestones: **Year 18:** Publish information articles in the Village newsletter at least once a year.

BMP No. A.4

Brief Description of BMP:

The Village will also continue its presence at and support Village-sponsored public engagements and events. These activities provide opportunities to engage the public on stormwater and/or environmental-related issues and why they are important to all residents and businesses.

Measurable Goal(s), including frequencies:

The Mayor and Village have committed to the National Wildlife Federation's Mayors' Monarch Pledge. The goal of this program is help save the monarch butterfly through the action of local units of government and other interested parties. This goal of this program is similar to many aspects of the NPDES program through protecting the environment, increasing or improving open space with naturalized planting, and general environmental awareness and stewardship. This program allows the Village the opportunity engage the community through this and other similar events.

Milestones: **Year 18:** Maintain the existing program and seek additional partnerships or events as funding allows.

BMP No. A.6

Brief Description of BMP:

The Village will utilize other means such as the Village website as a conduit for reaching additional residents and will continue the Public Works Open House.

Measurable Goal(s), including frequencies:

The Village will provide specific information to the targeted residents on stormwater and water quality issues.

Milestones: **Year 18:** The Village will update and modify the information provided as needed to stay current and informative.

2. Public Participation/Involvement

The Village will perform activities and services related to the Public Participation/Involvement minimum control measure. BMPs will be implemented under BMP numbers B.2, B.3, B.6 and B.7 as described below.

BMP No. B.2

Brief Description of BMP:

Village staff regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. These include many local planning and watershed groups such as DRWW, the MAC of the Lake County Stormwater Management Commission, the Lower Des Plaines Watershed Planning Council, and the BCCWP.

Measurable Goal(s), including frequencies:

Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents.

Milestones: **Year 18:** The Village will participate in at least one volunteering activity each year.

BMP No. B.3

Brief Description of BMP:

The Village will work to conduct stakeholder meetings as needed to connect directly with impacted residents and to distribute information.

Measurable Goal(s), including frequencies:

Stakeholder meetings offer direct input on issues impacting residents and provide an opportunity to gather feedback as well as disseminate stormwater-related information.

Milestones: **Year 18:** The Village will contiue to attend stakeholder meetings.

BMP No. B.6

Brief Description of BMP:

The Village will host an annual clean-up event around a stream or a detention basin. The Village will track the number of residents participating in the event and the amount of waste collected.

Measurable Goal(s), including frequencies:

The Village will host a community clean-up event around a stream or a detention basin. The Village will track the number of residents participating in the event and the amount of waste collected.

Milestones: **Year 18:** The Village will continue to host events.

BMP No. B.7

Brief Description of BMP:

The Village will annually inform residents of the existence of a telephone number for reporting stormwater related issues. The Village will document the number of resident reports received annually.

Measurable Goal(s), including frequencies:
The Village will document the number of resident reports received.

Milestones: **Year 18:** The Village will continue with the program.

3. Illicit Discharge Detection and Elimination

The Village commits to performing some activities related to the Illicit Discharge Detection and Elimination minimum control. BMPs will be implemented under BMP numbers C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, and C.10 as described below.

BMP No. C.1

Brief Description of BMP:
The Village has a storm sewer mapping system of the receiving streams and outfalls.

Measurable Goal(s), including frequencies:
The Village will review the map and update as needed.

Milestones: **Year 18:** The Village will continue to update the map as necessary.

BMP No. C.2

Brief Description of BMP:
The Village has an ordinance for Illicit Discharge and Detection Ordinance.

Measurable Goal(s), including frequencies:
The Village will continue to enforce the existing ordinance that prevents non-stormwater discharges to reduce or eliminate pollutants from entering the MS4.

Milestones: **Year 18:** The Village will continue to enforce the existing ordinance.

BMP No. C.3

Brief Description of BMP:
The Village utilizes various tools to identify and report potential illicit discharges. The Village also investigates reports of illicit discharges.

Measurable Goal(s), including frequencies:
The Village will continue to identify and investigate potential illicit discharges to reduce or eliminate the impact on local stormwater systems and receiving streams.

Milestones: **Year 18:** The Village will continue to identify and investigate potential illicit discharges.

BMP No. C.4/C.5

Brief Description of BMP:

The Village will develop procedures to trace and remove detected illicit discharges. The Village will annually trace and remove all illicit discharges identified by resident reporting, visual dry weather screening, and public works maintenance activities.

Measurable Goal(s), including frequencies:

The Village will track, investigate, and eliminate illicit discharges as reported, observed, or identified.

Milestones: **Year 18:** The Village will trace and eliminate illicit discharges as needed.

BMP No. C.6

Brief Description of BMP:

The Village will evaluate the illicit discharge and detection program for effectiveness and possible improvements.

Measurable Goal(s), including frequencies:

The Village will perform regular evaluations of the program that can provide valuable input and opportunity for improvement.

Milestones: **Year 18:** The Village will evaluate the program at least once a year.

BMP No. C.7

Brief Description of BMP:

The Village will perform an annual screening of all outfalls to identify any illicit discharges. The Village will perform an annual screening of 20% of storm sewer structures (manholes, catch basins, and inlets), with a priority placed on storm sewer structures located in industrial areas.

Measurable Goal(s), including frequencies:

The Village will work to utilize inspection forms while performing the dry weather screening inspections.

Milestones: **Year 18:** The Village will evaluate its dry weather inspection form and procedures.

BMP No. C.8

Brief Description of BMP:

The Village regularly samples, test and documents the results of influent and effluent flow to various lakes and streams throughout the community.

Measurable Goal(s), including frequencies:

The Village analyzes the stormwater quality to determine acceptable levels of water quality of its lakes and streams.

Milestones: **Year 18:** The Village will continue the testing.

BMP No. C.10

Brief Description of BMP:

The Village performs annual monitoring of the receiving waters as required by the ILR40 permit conditions.

A segment of Buffalo Creek (GST) is in an approved TMDL water quality plan (Des Plaines River/Higgins Creek Watershed TMDL Report, dated May 2013).

A segment of the Des Plaines River (G-36) is identified on the IEPAs 303d list as impaired for primary recreational contact (fecal coliform), aquatic life (total phosphorus), and fish consumption (mercury and PCBs). No TMDL has been identified for the segment of the Des Plaines River in the Village.

A segment of Indian Creek (GU-02) is identified on the IEPAs 303d list as impaired for aquatic life (DO). No TMDL has been identified for this segment of Indian Creek in the Village.

The Village will monitor the progress of watershed work groups and the establishment of any applicable TMDLs or other Watershed Management Plans. The Village will continue the monitoring and evaluation program.

Measurable Goal(s), including frequencies:

The goal of this activity is to monitor receiving streams for potential changes due to the discharge of stormwater and ensure compliance with applicable TMDLs and Watershed Management Plans to reduce waste load allocations.

Milestones: **Year 18:** The Village will continue the monitoring and assessment program.

4. Construction Site Runoff Control

The Village will perform activities and services related to the Construction Site Runoff Control minimum control measure. BMPs will be implemented under BMP numbers D.1, D.2, D.4, D.5, and D.6 as described below.

BMP No. D.1

Brief Description of BMP:

The Village and County have ordinances in place to allow for review, inspection, and enforcement of construction site runoff controls.

Measurable Goal(s), including frequencies:

The Village will continue to review, inspect, and enforce the ordinance regulations to prevent or reduce the discharge of sediment or other pollutants from construction sites.

Milestones: **Year 18:** The Village will enforce the regulatory procedures.

BMP No. D.2

Brief Description of BMP:

The Village and County have ordinances in place to allow for review, inspection, and enforcement of construction site runoff control BMPs.

Measurable Goal(s), including frequencies:

The Village will continue to review, inspect, and enforce the ordinance regulations to prevent or reduce the discharge of sediment or other pollutants from construction sites as it relates to BMPs.

Milestones: **Year 18:** The Village will enforce the regulatory procedures.

BMP No. D.4

Brief Description of BMP:

The Village has procedures for proposed development plans to be reviewed for compliance.

Measurable Goal(s), including frequencies:

The Village will continue to require all developments to be reviewed for compliance with NPDES regulations and other Village ordinance standards.

Milestones: **Year 18:** The Village will enforce the review procedures.

BMP No. D.5

Brief Description of BMP:

The Village has procedures in place for receiving, logging, and addressing publicly-reported issues.

Measurable Goal(s), including frequencies:

The Village will continue to respond to publicly-reported issues in a timely manner and investigate as needed to address them.

Milestones: **Year 18:** The Village will respond accordingly.

BMP No. D.6

Brief Description of BMP:

The Village and County regulatory programs allow for inspection and enforcement procedures for construction site runoff control.

Measurable Goal(s), including frequencies:

The Village will continue to inspect all new developments for compliance with the Village and County ordinances.

Milestones: **Year 18:** The Village will enforce the ordinance.

5. Post-Construction Runoff Control

The Village will perform activities and services related to the Post-Construction Site Runoff Control minimum control measure. BMPs will be implemented under BMP number E.2, E.3, E.4, E.5, and E.6 as described below.

BMP No. E.2

Brief Description of BMP:

The Village and County have ordinances in place that allow for the review, inspection, and enforcement of post-construction runoff control measures.

Measurable Goal(s), including frequencies:

The Village will continue to enforce the ordinances for compliance with post-construction runoff controls to prevent or reduce the discharge of contaminants from construction sites.

Milestones: **Year 18:** The Village will enforce the ordinances.

BMP No. E.3

Brief Description of BMP:

The Village and County have procedures in place for assisting and evaluating the long-term maintenance of stormwater BMPs.

Measurable Goal(s), including frequencies:

The Village will continue long-term maintenance programs to assist developers and residents.

Milestones: **Year 18:** The Village will continue the long-term maintenance program as indicated in ordinance.

BMP No. E.4

Brief Description of BMP:

The Village and County have procedures in place for the pre-construction review of BMP designs. These procedures include pre-application meetings for large scale developments.

Measurable Goal(s), including frequencies:

The Village will continue the review procedures and modify or evaluate as needed to maintain compliance.

Milestones: **Year 18:** The Village will continue the BMP review procedures.

BMP No. E.5

Brief Description of BMP:

The Village has procedures in place to perform site inspections during construction by qualified personnel.

Measurable Goal(s), including frequencies:

The Village will continue with the site inspection procedures to verify compliance of BMPs in reducing and/or preventing the discharge of contaminants to local waterways and storm sewers.

Milestones: **Year 18:** The Village will continue with the site inspection procedures.

BMP No. E.6

Brief Description of BMP:

The Village has procedures in place to perform site inspections post-construction by qualified personnel.

Measurable Goal(s), including frequencies:

The Village will continue with the site inspection procedures to verify compliance of BMPs in reducing and/or preventing the discharge of contaminants to local waterways and storm sewers.

Milestones: **Year 18:** The Village will continue with the site inspection procedures.

6. Pollution Prevention/Good Housekeeping

This minimum control measure involves the development and implementation of an operation and maintenance program to reduce the discharge of pollutants from municipal operations. This program must include a training program for municipal employees. BMPs will be implemented under BMP numbers F.1, F.2, F.3, F.4, F.5, and F.6 as described below.

BMP No. F.1

Brief Description of BMP:

The Village will conduct annual formal stormwater pollution prevention training for Village employees on topics such as dry weather observation of outfalls using the outfall reconnaissance inventory, illicit discharge tracing and source removal procedures, maintenance of green infrastructure (dry wells), and implementing the SPCC Plan for the Public Works Facility. The Village will document the date, topic, and attendees for employee stormwater pollution prevention training.

Measurable Goal(s), including frequencies:

The Village will continue with the training program aimed at educating Village staff on ways to reduce or prevent stormwater pollution from Village activities.

Milestones: **Year 18:** The Village will continue with the training program.

BMP No. F.2

Brief Description of BMP:

The Village will annually clean the Village storm sewers and storm sewer structures. The Village will annually document the weight of debris removed from the Village storm sewer system.

Measurable Goal(s), including frequencies:

The Village will continue the inspection and maintenance program of stormwater facilities to reduce the amount of debris and pollutants that enter the stormwater system.

Milestones: **Year 18:** The Village will continue the maintenance program.

BMP No. F.3

Brief Description of BMP:

The Village has procedures in place to reduce or prevent the discharge of contaminants to the stormwater system from municipal operations.

Measurable Goal(s), including frequencies:

The Village will continue to be proactive in evaluating municipal activities that could potentially introduce pollutants to the stormwater system and develop methods to reduce or prevent them.

Milestones: **Year 18:** The Village will continue with the municipal control measures and evaluate additional methods as needed.

BMP No. F.4

Brief Description of BMP:

The Village has procedures that require appropriate disposal of all wastes generated during municipal operations.

Measurable Goal(s), including frequencies:

The Village will continue with the disposal program and requirements to reduce or eliminate the release of pollutants from municipal operations.

Milestones: **Year 18:** The Village will continue with the municipal operations disposal program.

BMP No. F.5

Brief Description of BMP:

The Village, County, and State have strict development regulations related to floodplain management and the evaluation of potential development in these areas.

Measurable Goal(s), including frequencies:

The Village will continue to enforce the requirements for potential development in special flood hazard areas.

Milestones: **Year 18:** The Village will continue to enforce the flood management requirements.

BMP No. F.6

Brief Description of BMP:

The Village regularly evaluates their municipal activities for additional ways to reduce or eliminate pollutants from entering the stormwater system including salt reduction, additional de-icing alternatives, and other actions.

Measurable Goal(s), including frequencies:

The Village will continue to evaluate and develop methods or changes to existing practices that can reduce or eliminate pollutants from entering the stormwater system from municipal activities.

Milestones: **Year 18:** The Village will continue the evaluation and monitoring program.

Part E. Notice of Qualifying Local Program

The Village of Buffalo Grove enforces both the Lake County Watershed Development Ordinance and the MWRDGC Watershed Management Ordinance, as well as Village Ordinances. The Village has the authority to enforce the County Ordinances within Village limits, including the Construction Site and Post-Construction Stormwater Runoff Control requirements. As the Village takes on this responsibility, it will assure that construction sites are meeting the ILR10 permit requirements as well as the Counties' Ordinance requirements. The Village will also evaluate its policy toward long-term maintenance of BMPs. The Village also partners with the Lake County Stormwater Management Commission on a variety of activities related to their program. A summary of the Lake County Stormwater Management Commission's activities is attached.

1. Public Education and Outreach:

The Village developed a comprehensive program during the previous 10-year NOI permit period that provides Public Education and Outreach resources to its residents through printed materials and the Village website. The Village will continue this program and the associated activities.

These programs relate to BMP numbers A.1, A.2, A.3, A.4, and A.6.

2. Public Participation/Involvement:

The Village has developed a comprehensive program to address the Public Participation/Involvement requirement developed during the initial 10 years of the NPDES Phase II permit.

These programs relate to BMP numbers B.2, B.3, B.6, and B.7.

3. Illicit Discharge Detection and Elimination:

The Village enforces a comprehensive program to address the Illicit Discharge Detection and Elimination requirements of the NPDES Phase II program. The applicable program details are outlined in the previous sections of this report.

These programs relate to BMP numbers C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, and C.10.

4. Construction Site Runoff Control:

The Village enforces the County Ordinance within the Village limits, including the Construction Site and Post-Construction Stormwater Runoff Control requirements.

These programs relate to BMP numbers D.1, D.2, D.4, D.5, and D.6.

5. Post-Construction Runoff Control:

The Village enforces the County Ordinance within the Village limits, including the Construction

Site and Post-Construction Stormwater Runoff Control requirements.

These programs relate to BMP numbers E.2, E.3, E.4, E.5, and E.6.

6. Pollution Prevention/Good Housekeeping:

The goal of this BMP is to identify current practices that contribute to stormwater pollution and implement programs and procedures for municipal activities that curtail the discharge of pollutants to storm sewer systems. The applicable program details are outlined in the previous sections of this report.

These programs relate to BMP numbers F.1, F.2, F.3, F.4, F.5, and F.6.

Part E. Notice of Qualifying Local Program

The Lake County Stormwater Management Commission (SMC) serves as a Qualifying Local Program (QLP) for MS4s in Lake County. In accordance with IEPA's General NPDES Permit No. ILR40, as a QLP, SMC performs activities related to each of the six minimum control measures. This part of the Annual Report, which summarizes the stormwater management activities performed by SMC as a QLP, consists of the following five sections:

- **Part E1** identifies changes to Best Management Practices (BMPs) that occurred during Year 17 and includes information about how these changes affected the QLP's stormwater management program.
- **Part E2** describes the stormwater management activities that the QLP performed during Year 17.
- **Part E3** summarizes the information and data collected by the QLP during Year 17.
- **Part E4** describes the stormwater management activities that the QLP plans to undertake during Year 18.
- **Part E5** lists the construction projects conducted by the QLP during Year 17.

Part E1. QLP Changes to Best Management Practices, Year 17

Note: "X" indicates BMPs that were implemented as planned
✓ indicates BMPs that were changed during Year 17

Year 17 QLP	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
	A.2 Speaking Engagement
X	A.3 Public Service Announcement
X	A.4 Community Event
X	A.5 Classroom Education Material
X	A.6 Other Public Education
B. Public Participation/Involvement	
X	B.1 Public Panel
	B.2 Educational Volunteer
X	B.3 Stakeholder Meeting
	B.4 Public Hearing
	B.5 Volunteer Monitoring
X	B.6 Program Coordination
	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
	C.3 Detection/Elimination Prioritization Plan
	C.4 Illicit Discharge Tracing Procedures
	C.5 Illicit Source Removal Procedures
	C.6 Program Evaluation and Assessment
	C.7 Visual Dry Weather Screening
	C.8 Pollutant Field Testing
	C.9 Public Notification
X	C.10 Other Illicit Discharge Controls

Year 17 QLP	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
X	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long Term O&M Procedures
X	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
X	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
	F.2 Inspection and Maintenance Program
	F.3 Municipal Operations Storm Water Control
	F.4 Municipal Operations Waste Disposal
X	F.5 Flood Management/Assess Guidelines
X	F.6 Other Municipal Operations Controls

Part E2. QLP Status of Compliance with Permit Conditions, Year 17

IEPA issued its General NPDES Permit No. ILR40 effective March 1, 2016 (the first day of Year 14). SMC has reviewed the new permit, compared it to the previous permit, summarized the changes, and evaluated what the changes appear to mean for Lake County MS4s. Based on these findings, SMC revised its SMPP template and provided it to communities in August 2016; the final draft was provided in November 2016.

The Lake County Stormwater Management Commission (SMC) serves as a Qualifying Local Program (QLP) for MS4s in Lake County. In accordance with IEPA's NDPES General Permit No. ILR40, as a QLP, SMC performs activities related to each of the six minimum control measures. The stormwater management activities that the QLP performed during Year 17 are described below.

A. Public Education and Outreach

A.1 Distributed Paper Material

Measurable Goal(s):

- Distribute informational materials from "take away" rack at SMC. Upon request, distribute materials directly to municipalities for local distribution.

Year 17 QLP activities:

- SMC distributes a variety of informational materials related to stormwater management through its "take away" rack and website.
- Upon request, informational materials are distributed directly to Lake County MS4s in PDF format for use on community websites, in community newsletters, and in community "take away" racks.
- Provided NPDES related information via Facebook.

A.3 Public Service Announcement

Measurable Goal(s):

- Include public service announcement highlighting community accomplishments related to IEPA's NPDES Stormwater Program in "Watershed E-News";
- Post watershed identification signage with LCDOT;
- Upon request or download "The Big Picture: Water Quality, Regulations & NPDES" to Lake County MS4s.

Year 17 QLP activities:

- SMC includes announcements highlighting community accomplishments related to IEPA's NPDES Stormwater Program on its website, in its newsletter, and through other media outlets (URL hyperlink).
- Watershed identification signage is located throughout the county.
- SMC continues to make available "The Big Picture: Water Quality, Regulations & NPDES" presentation to Lake County MS4s, (URL hyperlink).

A.4 Community Event

Measurable Goal(s):

- Sponsor or co-sponsor workshop on a topic related to IEPA's NPDES Stormwater Program.

Year 17 QLP activities:

SMC sponsored or co-sponsored many workshops and events on stormwater-related topics, including:

- SMC sponsored (2) Designated Erosion Control Inspector (DECI) Workshop held on 4/11/2019 and 2/26/2020.
- SMC co-sponsored a river cleanup for Chicago River Day on 5/11/2019 throughout the watershed.
- SMC co-sponsored Parking Lots & Sidewalks De-Icing Workshop held in Libertyville, IL on 9/30/2019.
- SMC co-sponsored Roadway De-Icing Workshop held in Libertyville, IL on October 1 and 2, 2019.
- SMC co-sponsored a De-Icing Summit held in Libertyville, IL on 4/17/2019.
- SMC co-sponsored an Earth Day Event at a Lake County Public Facility on 4/23/2019 with 52 attendees.

A.5 Classroom Education

Measurable Goal(s):

- Develop and compile information for stormwater educational kit for distribution upon request.
- Provide materials and training on storm sewer inlet stenciling kits to teachers upon request.

Year 17 QLP activities:

Stormwater educational materials were compiled for use at several public education events, including:

- SMC held a General Presentation about SMC Public Stormwater Program at UW Parkside on 2/22/2020.
- SMC sponsored a Cool Learning Experience for Lake County high school students on 7/26/2019.
- SMC published in Wetland Science & Practice on Lake County, IL wetlands- Crane, J.E., G.H. Westman, and M.E. Prusila. 2019. Using Landscape-Level Wetland Assessment to Aid in Local Management of Wetlands for Lake County, Illinois. Wetland Science & Practice, January 2019, pp. 33-43.

A.6 Other Public Education

Measurable Goal(s):

- Maintain and update the portion of the SMC website dedicated to IEPA's NPDES Stormwater Program with resource materials such as model ordinances, case studies, brochures, and web links.
- Make "The Big Picture: Water Quality, Regulations & NPDES" presentation available to Lake County MS4s.

Year 17 QLP activities:

- As new information and resource materials become available, they are posted to the SMC website and/or distributed directly to Lake County MS4s, (URL hyperlink).
- SMC continues to make available "The Big Picture: Water Quality, Regulations & NPDES" presentation to Lake County MS4s, (URL hyperlink).
- SMC continues to update and maintain an ArcGIS geospatial web tool for Lake County MS4 programs that indicates TMDL statuses, 303(b), 305(d), HUC 12 watershed information and other information within an MS4 defined boundary, (URL hyperlink).
- SMC maintains an ArcGIS geospatial web tool for Lake County watersheds where inventoried, allowing the public to see an Inventory of Ravine, Stream and Detention Basin Information, (URL hyperlink).
- SMC maintains an ArcGIS geospatial web tool for Lake County Des Plaines River Watershed Water Quality Improvement Project recommendations, allowing the public to see, (URL hyperlink).

- SMC maintains reference documents for stormwater best practices, BMPs and green infrastructure practices on its website, (URL hyperlink).
- SMC continues to make available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos. The online videos are available in English and Spanish; English version, (URL hyperlink); Spanish version (URL hyperlink).
- SMC continue to maintain website outreach. In YR17 SMC had the following visitors:
    - Stormwater Management Commission | Lake County, IL- 8,386 visitors
    - Watersheds | Lake County, IL- 1,813 visitors
    - Watershed Development Ordinance | Lake County, IL- 1,542 visitors
    - Stormwater Best Practices | Lake County, IL- 169 visitors
    - National Pollution Discharge Elimination System (NPDES) Phase II | Lake County, IL- 78 visitors

B. Public Participation/Involvement

B.1 Public Panel

Measurable Goal(s):

- Provide notice of public meetings on SMC website. Track number of meetings conducted.

Year 17 QLP activities:

- Notice of all public meetings continues to be provided on the SMC website and though direct mailings and e-mailings to distribution lists.
- SMC tracked the number of Stormwater Management Committee Board (SMC) meetings, Technical Advisory Committee (TAC) meetings, Municipal Advisory Committee (MAC), and Watershed Management Board (WMB) meetings conducted during Year 17.
- Per records, there were (9) SMC meetings, (11) TAC meetings, (2) MAC meetings, and (1) WMB meeting conducted.
- According to records (8) CIRS community inquiries were received and processed by SMC staff.
- SMC held (3) Increased Rainfall Public Information Meetings based on "J. R. Angel, and M. Markus, 2019. Frequency Distributions of Heavy Precipitation in Illinois: Updated Bulletin 70, Illinois State Water Survey": 7/16/2019 (Highland Park), 7/24/2019 (Barrington), and 8/8/2019 (Round Lake).
- SMC held a Floodproofing and Rainfall Public Information Meeting on 9/17/2019 (Gurnee).

B.3 Stakeholder Meeting

Measurable Goal(s):

- Provide notice of stakeholder meetings on SMC website.
- Track number of watershed planning committee meetings conducted.
- Establish watershed planning committees for each new watershed planning effort.

Year 17 QLP activities:

- Notice of all stakeholder meetings continues to be provided on the SMC website and through direct mailings and e-mailings to stakeholder lists.
- SMC tracked the number of stakeholder meetings conducted for the various watershed planning committees during the reporting period. The list below summarizes the watershed planning committee meetings that were conducted during Year 17:
    - Des Plaines River Watershed Workgroup (11) meetings (excluding executive board meetings)
    - North Branch Chicago River Watershed Workgroup (7) meetings (excluding executive board meetings)
    - Des Plaines River Planning Committee (1) meeting on 10/23/2019.

- SMC continues to establish and/or assist watershed planning committees for each new watershed planning effort.

B.6 Program Coordination

Measurable Goal(s):

- Track number of MAC meetings conducted during Year 17.
- Prepare annual report on Qualifying Local Program activities at end of Year 17.

Year 17 QLP activities:

- SMC tracked the number of Municipal Advisory Committee (MAC) meetings: According to records, there were (2) MAC meetings conducted during this reporting period. 4/4/19, and 12/11/19.
- The stormwater management activities that SMC performed as a QLP are described in the Annual Facility Inspection Report (i.e., Annual Report) template provided to Lake County MS4s.
- The stormwater management activities that SMC plans to perform as a QLP during Year 18 are described in Part E4 of the Annual Report template.
- SMC conducted a survey in November 2019 of Lake County's 67 Municipality and Township MS4 program permit metrics and QLP topics. The survey received (35) responses.

C. Illicit Discharge Detection and Elimination

C.2 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.
- Lake County continues to provide the Lake County Illicit Discharge Detection and Elimination (IDDE) Manual on the SMC website, (URL hyperlink).

C.10 Other Illicit Discharge Controls

Measurable Goal(s):

- Sponsor or co-sponsor and track the number of attendees at an Illicit Discharge Detection and Elimination workshop or other training workshop related to IEPA's NPDES Stormwater Program.

Year 17 QLP activities:

- SMC sponsored or co-sponsored many workshops and events on stormwater-related topics. Such workshops and events are described above.
- SMC continues to make available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos. The online videos are available in English and Spanish; English version, (URL hyperlink); Spanish version (URL hyperlink).

D. Construction Site Runoff Control

D.1 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.
- Administer the Designated Erosion Control Inspector (DECI) program outlined by the WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.
- SMC continues to administer the Designated Erosion Control Inspector (DECI) program as outlined by the WDO, (URL hyperlink).

- Total DECIs who have passed the exam (to date): 825.
- DECIs who have passed the exam between 03/01/2019 – 02/29/2020: 48.
- Total listed DECIs (to date): 282 (DECI completed certification process).
- DECIs have a recertification process every (3) years. Current cycle 2020-2023.

D.2 Erosion and Sediment Control BMPs

Measurable Goal(s):

- Continue to enforce the countywide WDO.
- Complete TRM update and work toward final approval and publication of the document.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.
- SMC continues to provide technical guidance and reference materials to support the administration and enforcement of the countywide WDO.
- SMC staff distributed 100 precipitation weather notifications. The rainfall reports indicate county rain events with observed precipitation for guidance on construction site runoff SE/SC inspections.

D.3 Other Waste Control Program

Measurable Goal(s):

- Enforce WDO provisions regarding the control of waste and debris at construction sites.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

D.4 Site Plan Review Procedures

Measurable Goal(s):

- Track number of enforcement officers who have passed the exam.
- Track number of communities that undergo a performance review.
- Complete ordinance administration and enforcement chapter of TRM.

Year 17 QLP activities:

- SMC continues to track the number of enforcement officers (EOs) who have passed the EO exam and have become EOs. Per records, as of the end of Year 17, there are 91 EOs certified in Lake County.
- The list of EOs representing Certified Communities is continually updated and is maintained on the SMC website, (URL hyperlink).
- In accordance with the amended countywide WDO, the certification process is every 5 years, (URL hyperlink). The community re-certification process, which includes a performance review of all 53 certified and non-certified communities for permitted development compliance.
- The SMC website includes guidance information to supplement the TRM related to WDO interpretation as well as ordinance administration and enforcement.

D.5 Public Information Handling Procedures

Measurable Goal(s):

- Track number of complaints received and processed related to soil erosion and sediment control (SE/SC).

Year 17 QLP activities:

- SMC continues to track the number of complaints received and processed related to soil erosion and sediment control as a component of inspections.

D.6 Site Inspection/Enforcement Procedures

Measurable Goal(s):

- Track number of site inspections conducted by SMC.

Year 17 QLP activities:

- SMC continues to track the number of site inspections conducted by SMC staff.
- According to records, 1074 site inspections were conducted by SMC staff.

E. Post-Construction Runoff Control

E.2 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

E.3 Long Term O&M Procedures

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

E.4 Pre-Construction Review of BMP Designs

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

E.5 Site Inspections During Construction

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

E.6 Post-Construction Inspections

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 17 QLP activities:

- SMC continues to enforce the countywide WDO.

E.7 Other Post-Construction Runoff Controls

Measurable Goal(s):

- Conduct annual Watershed Management Board (WMB) meeting.
- Contribute funding to flood reduction and water quality improvement projects, including stormwater retrofits, through the WMB.

Year 17 QLP activities:

- The annual WMB meeting was held on Dec. 4, 2019.
- At the annual WMB meeting 6 Projects were selected to receive $162,276 of funding through the SMC grant program. These projects including planning and in the ground project efforts that support flood reduction, water quality improvement, and stormwater retrofit projects.
    - 12 WMB project grants awarded.
    - 1 Watershed Management Assistance (WMAG) project grant awarded.
- SMC staff attended the EWRI, ASCE Illinois Section “2019 Illinois MS4 Implementation Seminar” on 3/7/2019.

- SMC staff achieved certification with thin the National Green Infrastructure Certification Program (NGICP) on 3/20/2019.
- SMC staff attended the DuPage County Green Infrastructure "Green Infrastructure Seminar for MS4 Communities" on 12/4/2019.

F. Pollution Prevention/Good Housekeeping

F.1 Employee Training Program

Measurable Goal(s):

- Provide list of available resources to MS4s.
- Sponsor or co-sponsor employee training workshops or events.
- Make available the Excal Visual Municipal Storm Water Pollution Prevention Storm Watch Everyday Best Management Practices training video and testing.
- Make available the Excal Visual "IDDE - A Grate Concern" training video and testing.

Year 17 QLP activities:

- SMC continues to provide information on training opportunities and training resources to Lake County MS4s.
- SMC sponsored or co-sponsored a number of workshops and events on stormwater-related topics. Such workshops and events are described above.
- SMC continues to make available the Excal Visual Storm Watch Municipal Stormwater Pollution Prevention software to Lake County MS4s. According to records, (2) MS4 Programs borrowed the Excal Visual software.
- SMC continues to make available the Excal Visual "IDDE - A Grate Concern" software to Lake County MS4s. According to records, (2) MS4 Programs borrowed the Excal Visual software.

F.5 Flood Management/Assess Guidelines

Measurable Goal(s):

- Track number of projects that are reviewed for multi-objective opportunities.

Year 17 QLP activities:

- SMC continues to evaluate all SMC-sponsored projects for multi-objective opportunities, such as flood control and water quality.

F.6 Other Municipal Operations Controls

Winter Roadway Deicing

Measurable Goal(s):

- Advise MS4 communities of watershed groups addressing issues associated with the use of chlorides (i.e. road salt).

Year 17 QLP activities:

- SMC co-sponsored 3 de-icing workshops:
  - Deicing Workshop for Parking Lots and Sidewalks 09/30/2019.
  - Deicing Workshop for Roads (2 days) 10/01/2019 and 10/02/2019.
    - In total 144 attendees participated in these three workshops.
    - Since 2009 the deicing workshops have had a cumulative attendance of roughly 1,514 attendees.
- A de-icing certification process to promote trained vendors is offered
  - Preferred Providers that successfully completed a Lake County Deicing Training Workshop and passed the Course Exam can be referenced on a Preferred Provider List (URL hyperlink).
  - Certification is through a third-party vendor, Fortin Consulting, Inc.

  - In 2019, 117 preferred providers have been identified based on certification.
- A Deicing Summit (target audience is winter maintenance decision makers): In total 52 attendees participated in the Summit.
- SMC continues to make available chloride reduction documents
  - Too Much Salt in Our Winter Maintenance Recipe - Tips for Managing Snow and Ice at Home, (URL hyperlink).
  - Lake County Winter Parking Lot and Sidewalk Maintenance Manual, (URL hyperlink).
  - Less Salt Equals Less Money, Clean Water, Safe Conditions - Tips for Effective Road Salting, (URL hyperlink).

Part E3. QLP Information and Data Collection Results, Year 17

The QLP did not collect any monitoring data on behalf of Lake County's MS4s during Year 17. However, SMC has reviewed information presented by the Illinois EPA (IEPA) in the 2016 Illinois Integrated Water Quality Report and 303(d) List and has developed the brief "State of Lake County's Waters" report provided below.

State of Lake County's Waters
February 2020

This brief report is based on information contained in the Illinois EPA's 2016 Illinois Integrated Water Quality Report (IIWQR) and Section 303(d) List, dated July 2016. Its purpose is to provide basic information to Lake County's MS4 communities on the condition of surface waters within Lake County. More detailed information about the condition of surface waters in Lake County can be found in the Illinois EPA's 2016 Illinois Integrated Water Quality Report and Section 303(d) List.

The Illinois EPA's 2016 IIWQR and Section 303(d) List assesses the condition of surface water within streams, inland lakes, and Lake Michigan waters. The IEPA assessment of surface water conditions is based on a degree of support (attainment) of a designated use within a stream segment, inland lake or within Lake Michigan. Determination designation is through an analysis of various types of information: including biological, physicochemical, physical habitat, and toxicity data. Illinois waters are designated for various uses including aquatic life, wildlife, agricultural use, primary contact (e.g., swimming, water skiing), secondary contact (e.g., boating, fishing), industrial use, public and food-processing water supply, and aesthetic quality. When sufficient data is available the IEPA assesses each applicable designation as Fully Supporting (Good resource quality), Not Supporting (Fair or Poor resource quality), Not Assessed or Insufficient Information. Uses determined to be Not Supporting are called "impaired," and waters that have at least one-use assessment as Not Supporting are also called impaired as designated within the 303(d) list.

Streams

An analysis of data accompanying the Illinois EPA's 2016 IIWQR and Section 303(d) List shows that 179.68 stream miles in Lake County have been assessed by the Illinois EPA for attainment of at least one designated use per the IIWQR Appendix B-2. Specific Assessment Information for Streams, 2016.

An analysis of data accompanying the Illinois EPA's 2016 Illinois Integrated Water Quality Report and Section 303(d) List shows that 157.84 stream miles (of the 179.68 stream miles that have been assessed) in Lake County are considered impaired by the Illinois EPA. These stream segments have been mapped and are shown in Figure E3.1.

An analysis of the 2014 impaired streams to the 2016 impaired streams, indicates 8 stream miles previously listed in the 2014 303(d) list have new data indicating aquatic life is now "Fully Supported" and applicable water quality standards have been attained; these waters are no longer included in the 2016 303(d) list. The IIWQR mentions there is no specified reason for the recovery.

Table E3.1 2014 303(d) streams removed from 2016 303(d) list

Assessment ID	Name	Miles		Assessment ID	Name	Miles
IL_G-08	Des Plaines River	0.98		IL_QE-01	Dead Dog Creek	4.02
IL_GV-01	Bull Creek	2.33		IL_DTZS-01	Flint Creek	9.66
IL_RGZB	Hastings Lake	0.34		IL_RTJ	Long Lake	2.85
IL_DT-35	Fox River	5.03		IL_RHK	Eleanor Lake	0.36

IL_HCCB-05	West Fork North Branch	5.73		IL_GWA	North Mill Creek	6.62
IL_GST	Buffalo Creek	8.77		IL_RGZE	Slough Lake	0.42
IL_RGZA	Crooked Lake	1.00				

An analysis of the 2014 impaired streams to the 2016 impaired streams indicates 27 stream miles previously not listed in the 2014 303(d) list are now considered impaired in the 2016 303(d) list as new data indicates impairments.

Table E3.2 Stream Segments added to 2016 303(d) list not previously listed in 2014						
Assessment ID	Name	Miles		Assessment ID	Name	Miles
IL_HCCB-05	West Fork North Branch Chicago River	0.002		IL_QC-03	Waukegan River	1.47
IL_DTRA-W-C1	Fiddle Creek	0.003		IL_GU-02	Indian Creek	11.32
IL_GW-02	Mill Creek	12.96		IL_QA-C4	Pettibone Creek	1.24

Lakes

An analysis of data accompanying the Illinois EPA's 2016 IIWQR and Section 303(d) List shows that 170 inland lakes in Lake County have been assessed by the Illinois EPA for attainment of at least one designated use per the IIWQR Appendix B-3. Specific Assessment Information for Lakes, 2016.

An analysis of data accompanying the Illinois EPA's 2016 IIWQR and Section 303(d) List shows that 140 inland lakes, of the 170 assessed, in Lake County are considered impaired by the Illinois EPA. These lakes have been mapped and are shown in Figure E3.1.

An analysis of the 2014 impaired lakes to the 2016 impaired lakes indicates 5 lakes previously not listed in the 2014 303(d) list are now considered impaired in the 2016 303(d) list as new data indicates impairments.

Table E3.3 Inland Lakes added to 2016 303(d) list not previously listed in 2014						
Assessment ID	Name	Acres		Assessment ID	Name	Acres
IL_RGZD	Miltmore	83.1		IL_VGW	Rollins Savanna #1	8
IL_RGK	Grays	80		IL_VGX	Rollins Savanna #2	53
IL_SGZ	Briarcrest Pond	4				

Lake Michigan

Lake Michigan is monitored by the Illinois EPA through the Lake Michigan Monitoring Program. Bordering Cook and Lake Counties, the State of Illinois has jurisdiction over approximately 1,526 square miles of open water, 13 harbors, and 64 shoreline miles of Lake Michigan.

Located within Illinois is 196 square miles of open water of Lake Michigan, or about thirteen percent of the total open water located within Illinois. These waters were assessed for the 2016 IIWQR and Section 303(d) List, and all 196 assessed square miles were rated as Fully Supporting for the following uses: aquatic life use, primary contact use, secondary contact use, and public and food processing water supply use. However, fish consumption uses in all 196 assessed square miles of open water was rated as Not Supporting due to contamination from polychlorinated biphenyls (PCBs) and mercury. Additionally, aesthetic quality use in all 196 assessed square miles of open water was rated as Not Supporting due to exceedances of the Lake Michigan open water standard for total phosphorus. It should be noted that such

exceedances do not necessarily indicate that there are offensive conditions in Lake Michigan due to excessive algal or aquatic plant growth.

Along Illinois' Lake Michigan coastline, four of the 13 harbors are currently assessed in the 2016 IIWQR and Section 303(d) List, for several different designated uses. The Illinois EPA uses data collected from the Lake Michigan Monitoring Program harbor component to assess water quality for the following designated uses:

- Aesthetic Quality, a 0.18 sq. mi area was assessed, with 0.12 sq. mi fully supporting and 0.06 sq. mi Not Supporting (poor).
- Aquatic Life, a 3.88 sq. mi area was assessed, with 3.82 sq. mi fully supporting and 0.06 sq. mi Not Supporting (poor).
- Fish Consumption, a 2.62 sq. mi area was assessed, with 2.62 sq. mi Not Supporting (poor).
- Primary and Secondary Contact were not assessed.

Table C-10 of the IIWQR, lists potential causes of impairment in the harbors of Lake Michigan that can include Pesticides, Organic Pollutants, Metal Pollutants as well as polychlorinated biphenyls (PCBs), mercury, bottom deposits, lead, zinc, cadmium, arsenic, phosphorus, copper, and chromium.

Along Illinois' Lake Michigan coastline, a portion of all 64 shoreline miles of Lake Michigan located in Illinois were assessed for the Illinois EPA's 2016 IIWQR and Section 303(d) List for several different designated uses. Contamination sources for Not Supporting is due to polychlorinated biphenyls (PCBs) and mercury and bacterial contamination from Escherichia coli (E. coli) bacteria.

- Aesthetic Quality and Aquatic Life were not assessed.
- Fish Consumption, 64 mi area was assessed, with 64 mi Not Supporting (poor).
- Primary Contact, 64 mi area was assessed, with 5.5 mi fully supporting and 58.5 mi Not Supporting (poor).
- Secondary Contact, 5.5 mi area was assessed, with 5.5 mi fully supporting.

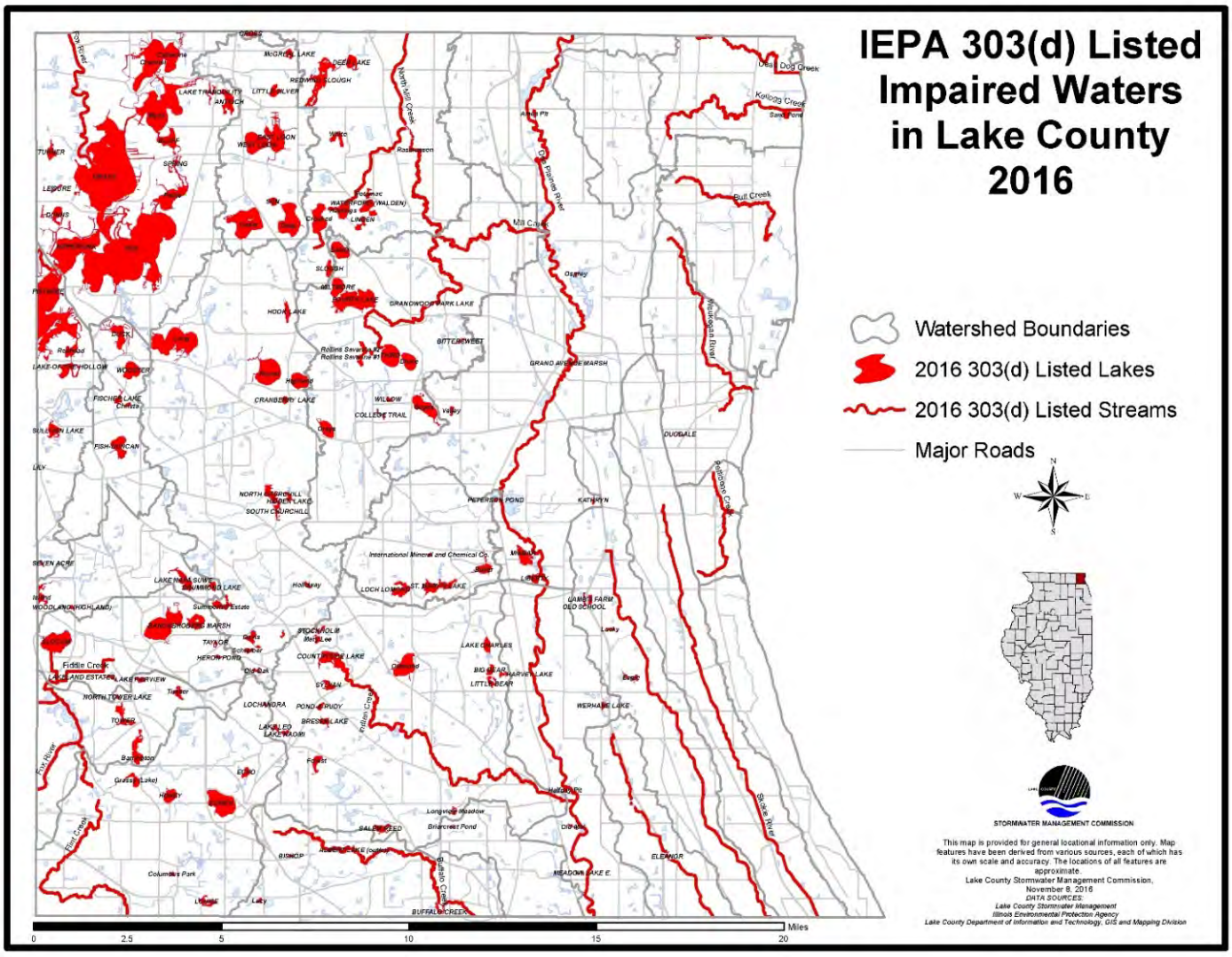
IEPA 303(d) Listed Impaired Waters in Lake County 2016
Watershed Boundaries
2016 303(d) Listed Lakes
2016 303(d) Listed Streams
Major Roads
N
W
E
S
STORMWATER MANAGEMENT COMMISSION
This map is provided for general locational information only. Map features have been derived from various sources, each of which has its own scale and accuracy. The locations of all features are approximate.
Lake County Stormwater Management Commission, November 8, 2016
DATA SOURCES:
Lake County Stormwater Management
Illinois Environmental Protection Agency
Lake County Department of Information and Technology, GIS and Mapping Division
0
2.5
5
10
15
20
Miles

Figure E3.1

Monitoring

The Des Plaines River Watershed Workgroup (DRWW) monitors water quality in the Des Plaines River and tributaries to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses. During the current YR17 reporting period, DRWW's monitoring program includes: Water/Sediment sampling and analysis at 73 Monitoring Locations for 2019; Bioassessment monitoring at 31 monitoring locations; Continuous water quality monitoring with data sondes and Chlorophyll a sampling and analysis at 14 Monitoring Locations; and Flow Monitoring data collection at 22 sites. An annual water chemistry monitoring report was submitted to Illinois EPA on behalf of DRWW members in March 2020, which covers the NPDES II monitoring requirements for MS4 communities that are DRWW members. The Des Plaines River Watershed Monitoring Strategy was also updated and submitted to Illinois EPA in March 2020. Current DRWW member list is located at (URL: http://www.drww.org/members).

The North Branch Watershed Workgroup (NBWW) monitors water quality in the North Branch Chicago River and tributaries to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses. Monitoring data will allow for a greater understanding of the water quality impairments, identify priority restoration activities, and track water quality improvements. The Workgroup is committed to an approach for attaining water quality standards that focuses on stakeholder involvement, monitoring, and locally led decision-making based on sound science. Comprehensive baseline monitoring has been completed at all 25 sites for water column chemistry and sampled 14 sites for fish, habitat, macroinvertebrate, and sediment chemistry. Data sondes were deployed at 7 sites in the Middle and West Forks for collection of dissolved oxygen (D.O), pH, temperature, and specific conductance. The NBWW will continue to support the North Branch Watershed Planning Committee and the North Branch Watershed Consortium through regular discussion at general meetings. Current NBWW member list is located at (URL: www.nbwwil.org).

The LCHD Lakes Management Unit has been collecting water quality data on Lake County lakes since the late 1960s. Since 2000, 176 different lakes each year have been studied and data collected on temperature, dissolved oxygen, phosphorus, nitrogen, solids, pH, alkalinity, chloride, conductivity, water clarity, the plant community and shoreline characteristics. Lake summary reports can be found, (URL hyperlink). This data is used as part of ongoing watershed planning efforts throughout the county, which result in specific programmatic and site-specific recommendations throughout the county. SMC is currently developing an application to assist communities in identifying potential site-specific recommendations within their jurisdictional boundaries.

Part E4. QLP Summary of Year 18 Stormwater Activities

The table below indicates the stormwater management activities that the QLP plans to undertake during Year 18. Additional information about the BMPs and measurable goals that the QLP will implement during Year 18 is provided in the section following the table.

Note: "X" indicates BMPs that will be implemented during Year 18

Year 18 QLP	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
X	A.2 Speaking Engagement
X	A.3 Public Service Announcement
X	A.4 Community Event
X	A.5 Classroom Education Material
X	A.6 Other Public Education
B. Public Participation/Involvement	
X	B.1 Public Panel
	B.2 Educational Volunteer
X	B.3 Stakeholder Meeting
	B.4 Public Hearing
	B.5 Volunteer Monitoring
X	B.6 Program Coordination
	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
	C.3 Detection/Elimination Prioritization Plan
	C.4 Illicit Discharge Tracing Procedures
	C.5 Illicit Source Removal Procedures
	C.6 Program Evaluation and Assessment
	C.7 Visual Dry Weather Screening
	C.8 Pollutant Field Testing
	C.9 Public Notification
X	C.10 Other Illicit Discharge Controls

Year 18 QLP	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
X	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long Term O&M Procedures
X	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
X	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
	F.2 Inspection and Maintenance Program
	F.3 Municipal Operations Storm Water Control
	F.4 Municipal Operations Waste Disposal
X	F.5 Flood Management/Assess Guidelines
X	F.6 Other Municipal Operations Controls

The Lake County Stormwater Management Commission (SMC) is a Qualifying Local Program for MS4s in Lake County. SMC has been providing services under four of the six minimum control categories since it began implementing a comprehensive, countywide stormwater program in 1991. The revised SMPP template clarifies and emphasizes the significant efforts by SMC related to each of the six minimum control measures. These QLP commitments provide Lake County with a baseline Countywide stormwater management program that can be built upon by each of the individual MS4s.

During Year 18, SMC remains committed to performing a variety of stormwater management activities across the County, these commitments are now specifically outlined in the SMPP template. SMC program is continually evolving, to better assist Lake County MS4s in meeting the requirements of the 2016-2021 MS4 Permit.

A. Public Education and Outreach

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Public Education and Outreach minimum control measure, as described below.

A.1 Distributed Paper Material

SMC compiles, develops, and distributes throughout Lake County a variety of materials related to stormwater management.

Measurable Goal(s):

- Develop and Distribute informational materials from "take away" rack at SMC.
- Upon request, distribute informational materials directly to Lake County MS4s for local distribution.

A.2 Speaking Engagement

SMC provides educational presentations related to IEPA's NPDES Stormwater Program on a regular basis at Municipal Advisory Committee (MAC) meetings. Upon request, SMC will provide educational presentations related to IEPA's NPDES Stormwater Program to Lake County MS4s.

Measurable Goal(s):

- Provide educational presentations related to IEPA's NPDES Stormwater Program at MAC meetings.
- Upon request, provide educational presentations related to IEPA's NPDES Stormwater Program to Lake County MS4s.

A.3 Public Service Announcement

SMC performs extensive Social Media Outreach & Announcement Activities. Public service announcement related to IEPA's NPDES Stormwater Program or Stormwater BMPs are included in SMC's watershed E-News. SMC also utilizes social media and coordinates with the Lake County Department of Transportation (LCDOT) to post watershed identification signage in watersheds where watershed planning activities have occurred or are occurring.

Measurable Goal(s):

- Include public service announcements related to IEPA's NPDES Stormwater Program or stormwater BMPs in watershed E-News at least once each year.
- Post watershed identification signage in cooperation and collaboration with LCDOT.
- Provide information via social media (Facebook and Twitter).

A.4 Outreach Events

SMC sponsors and co-sponsors educational and technical training workshops on a variety of stormwater management-related topics. Each year, SMC will sponsor or co-sponsor at least one

workshop on a topic related to IEPA's NPDES Stormwater Program, such as soil erosion and sediment control, illicit discharge detection and elimination, or stormwater best management practices (BMPs) that can be used to protect and improve water quality.

Measurable Goal(s):

- Sponsor or co-sponsor workshop on stormwater-related topics.
- Track workshops and events.

A.5 Classroom Education Material

Upon request, SMC will contribute to the development and compilation of material for inclusion in a stormwater education kit that can be distributed to local students and teachers and/or other local stakeholders. Additionally, upon request, SMC will provide information, materials, and training to local students and teachers and/or other local stakeholders interested in conducting storm drain stenciling.

Measurable Goal(s):

- Upon request, develop and compile materials for inclusion in a stormwater education kit.
- Upon request, provide information, materials, and training to local students and teachers and/or stakeholders interested in conducting storm drain stenciling.

A.6 Other Public Education

SMC maintains a website that contains a variety of materials and resources related to stormwater management. The website provides information about IEPA's NPDES Stormwater Program, provide information about stormwater best management practices (BMPs), allow for download of stormwater management-related publications and documents, provide notices of upcoming meetings and ongoing projects, includes watershed plans and watershed workgroup information, and provide links to a number of other stormwater management-related resources

Measurable Goal(s):

- Maintain and update the portion of the SMC website dedicated to IEPA's NPDES Stormwater Program with resources such as model ordinances, case studies, brochures, and links including information related to climate change.
- Make "The Big Picture: Water Quality, Regulations & NPDES" presentation available to Lake County MS4s.
- Make available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos. The online videos are available in English and Spanish; English version, (URL hyperlink); Spanish version (URL hyperlink).

B. Public Participation/Involvement

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Public Participation/Involvement minimum control measure, as described below.

B.1 Public Panel

SMC provides procedural guidance and implements its Citizen Inquiry Response System (CIRS) for receiving and taking action on information provided by the public regarding post-construction stormwater runoff control. SMC coordinates and conducts public meetings as well as committee meetings that are open to the public.

Measurable Goal(s):

- Implement and provide guidance on existing CIRS procedures.
- Provide notice of public meetings on SMC website.
- Track number of meetings conducted.

B.3 Stakeholder Meeting

SMC is actively involved in watershed planning throughout Lake County. SMC believes that the watershed planning process cannot happen and will not be successful without the input, interest, and commitment of the watershed stakeholders. Watershed stakeholders may include municipalities, townships, drainage districts, homeowner associations, lakes management associations, developers, landowners, and local, county, state, and federal agencies.

Measurable Goal(s):

- Provide notice of stakeholder meetings on SMC website.
- Track number of watershed committee meetings conducted.
- Establish watershed planning committees for each new watershed planning effort.

B.6 Program Involvement

Consistent with Lake County's comprehensive, countywide approach to stormwater management, SMC serves as a Qualifying Local Program (QLP) for all Lake County MS4s. In this role, in 2002, SMC proactively formed the Municipal Advisory Committee (MAC) to provide a forum for representatives of local MS4s, which include municipalities, townships, and drainage districts, to discuss, among other topics, the implementation of IEPA's NPDES Stormwater Program. SMC will continue to facilitate MAC meetings and will continue to provide general support to Lake County MS4s as they continue to develop and implement their stormwater management programs. SMC will prepare an annual report on its stormwater management activities and will provide guidance to Lake County MS4s in preparing their own annual reports.

Measurable Goal(s):

- Track number of MAC meetings conducted.
- Prepare annual report template for use by Lake County MS4s including a description of the Qualifying Local Program stormwater management activities.
- Prepare/maintain SMPP template for use by Lake County MS4s in creating their own SMPP.

C. Illicit Discharge Detection and Elimination

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Illicit Discharge Detection and Elimination minimum control measure, as described below. Note, however, that the primary responsibility for the implementation of the Illicit Discharge Detection and Elimination minimum control measure lies with the MS4.

Measurable Goal(s):

- Continue to make available information regarding prioritization of outfalls for illicit discharge screening activities.
- Continue to make available compiled GIS data related to the County's existing stormwater infrastructure (e.g. storm sewer atlases, stream inventories and detention basin inventories).

C.2 Regulatory Control Program

SMC provides local MS4s with model and example illicit discharge ordinances that prohibit all non-stormwater discharges, including illegal dumping, to the storm sewer system. Additionally, the WDO includes provisions that prohibit illicit discharges to the storm sewer system during construction (i.e., prior to final site stabilization) on development sites.

Measurable Goal(s):

- Provide model and example illicit discharge ordinances to Lake County MS4s.
- Continue to administer and enforce the WDO.

C.10 Other Illicit Discharge Controls

SMC regularly sponsors and co-sponsors educational and technical training workshops on a variety of stormwater management-related topics.

Measurable Goal(s):

- Sponsor or co-sponsor and track the number of attendees at an Illicit Discharge Detection and Elimination workshop or other training workshop related to IEPA's NPDES Stormwater Program.
- Distribute informational materials about the hazards of illicit discharges and illegal dumping from "take away" rack at SMC and SMC website.

D. Construction Site Runoff Control

Lake County has adopted a countywide Watershed Development Ordinance (WDO) that establishes the minimum stormwater management requirements for development in Lake County, including requirements for construction site runoff control.

D.1 Regulatory Control Program

The WDO is the regulatory mechanism that requires the use of soil erosion and sediment controls on development sites throughout Lake County. SMC has also created a Designated Erosion Control Inspector (DECI) program, a program designed to closely mirror the inspection requirements of IEPA's General NPDES Permit No. ILR10.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Continue to administer the Designated Erosion Control Inspector (DECI) program outlined by the WDO.

D.2 Erosion and Sediment Control BMPs

§600 of the WDO specifies the soil erosion and sediment control measures that must be used in conjunction with any land disturbing activities conducted on a development site. SMC maintains technical guidance resources and documents to accompany the WDO.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Continue to maintain technical guidance documents.

D.3 Other Waste Control Program

The WDO includes several provisions that address illicit discharges generated by construction sites. The applicant is required to prohibit the dumping, depositing, dropping, throwing, discarding, or leaving of litter and construction material and all other illicit discharges from entering the stormwater management system.

Measurable Goal(s):

- Continue to administer and enforce the provisions of the WDO related to the control of waste and debris during construction on development sites.

D.4 Site Plan Review Procedures

A community's designated enforcement officer is responsible for reviewing and permitting development plans and for administering and enforcing the provision of the WDO. Within certified communities the responsibility lies with the MS4; within non-certified communities the designated enforcement officer is SMC's chief engineer. SMC administers this enforcement officer program, providing training on an as-needed basis to all enforcement officers to assist them in passing the exam, and maintains an up-to-date list identifying each community's designated enforcement officer. In addition to administering the enforcement officer program, SMC periodically reviews each community's WDO administration and enforcement records,

using the results of such review to evaluate the performance of certified communities and designated enforcement officers.

Measurable Goal(s):

- Administer the Enforcement Officer (EO) program outlined by the WDO.
- Maintain an up-to-date list identifying each community's designated enforcement officer.
- Periodically review each community's WDO administration and enforcement records. Re-Certification Procedure.
- Continue to maintain technical guidance documents.

D.5 Public Information Handling Procedures

SMC provides a number of opportunities for the receipt and consideration of information submitted by the public.

Measurable Goal(s):

- Document and track the number of soil erosion and sediment control-related complaints received and processed by SMC.

D.6 Site Inspection/Enforcement Procedures

Article 11 of the WDO contains both recommended and minimum requirements for the inspection of development sites. Within certified communities, the community's designated enforcement officer is responsible for conducting these inspections; within certified communities, SMC's chief engineer is responsible for conducting these inspections. Article 12 of the WDO specifies the legal actions that may be taken and the penalties that may be imposed if the provisions of the WDO are violated.

Measurable Goal(s):

- Document and track the number of site inspections conducted by SMC.

E. Post-Construction Runoff Control

As described above, Lake County has adopted a countywide Watershed Development Ordinance (WDO) that establishes the minimum stormwater management requirements for development in Lake County, including requirements for post-construction runoff control.

E.2 Regulatory Control Program

Proposed stormwater management strategies must address the runoff volume reduction requirements described in §503 of the WDO and must include appropriate stormwater BMPs to address the other applicable post-construction runoff control requirements of the WDO.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.3 Long Term O&M Procedures

§401 of the WDO requires that maintenance plans be developed for all stormwater management systems and, §500 further details deed or plat restriction requirements for all stormwater management systems.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.4 Pre-Construction Review of BMP Designs

As described above, a community's designated enforcement officer is responsible for reviewing and permitting development plans and for administering and enforcing the provisions of the WDO. This includes a review of the stormwater BMPs that will be used to meet the post-construction runoff control requirements of the WDO and adherence to the Runoff Volume Reduction standards of §503.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.5 Site Inspections During Construction

As described above in MCM D.6 Article 11 of the WDO contains both recommended and minimum requirements for the inspection of development sites.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.6 Post-Construction Inspections

SMC has collaborated on a number of watershed-based plans throughout the County. These watershed plans included a stream and detention basin inventories. The plans also include a list of site-specific best management practices within various communities based on an assessment of these inventories and other data. SMC is currently developing an application to assist communities in identifying potential project sites, recommended in adopted watershed plans, within their jurisdictional boundaries.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Develop an application, for use by MS4s, to identify adopted watershed plan recommendations within their communities.
- Watershed Planning Status Map, (URL hyperlink).
- Lake County Watershed Based Plans, (URL hyperlink).

E.7 Other Post-Construction Runoff Controls

Through the Watershed Management Board (WMB), SMC provides partial funding for flood damage reduction and surface water quality improvement projects. The WMB, which includes representatives from the Lake Michigan, North Branch of the Chicago River, Fox River, and Des Plaines River watersheds, meets annually to review potential projects and to make recommendations on stormwater BMP project funding. Members of the WMB include chief municipal elected officials, township supervisors, drainage district chairmen, and county board members from each district found within each of Lake County's four major watersheds. The goal of the WMB program is to maximize opportunities for local units of government and other groups to have input and influence on the solutions used to address local stormwater management problems. Previous WMB-funded projects have reduced flooding, improved surface water quality, and enhanced existing stormwater management facilities throughout Lake County.

Measurable Goal(s):

- Conduct annual WMB meeting.
- Contribute funding to flood damage reduction and water quality improvement projects through the WMB.
- Contribute green infrastructure support as a certified professional in the National Green Infrastructure Certification Program (NGICP).

F. Pollution Prevention/Good Housekeeping

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Pollution Prevention/Good Housekeeping minimum control measure, as described below. Note, however, that the primary responsibility for the implementation of the Pollution Prevention/Good Housekeeping minimum control measure lies with the MS4.

F.1 Employee Training Program

SMC will assist Lake County MS4s with the development and implementation of their employee training programs by maintaining a list of known employee training resources and opportunities, making available a software-based employee training program, and providing technical assistance to local MS4s. In addition, each year, SMC will sponsor or co-sponsor training workshops.

Measurable Goal(s):

- Maintain a list of known employee training resources and opportunities.
- Make available the Excal Visual Storm Watch: Municipal Storm Water Pollution Prevention software-based employee training program.
- Make available the Excal Visual IDDE: A Grate Concern software-based employee training program.
- Sponsor or co-sponsor a training workshop related to pollution prevention/good housekeeping or other training workshop related to IEPA's NPDES Stormwater Program.

F.5 Flood Management/Assess Guidelines

In working toward meeting its primary goals of flood damage reduction and surface water quality improvement, SMC follows a set of stormwater management policies that were created to define its roles and responsibilities for stormwater management in Lake County. One of these policies is to integrate multi-objective opportunities (e.g., flood damage reduction, surface water quality improvement, environmental enhancement) into SMC-sponsored projects. In accordance with this policy, SMC will evaluate all SMC-sponsored projects for multi-objective opportunities.

Measurable Goal(s):

- Track number of SMC-sponsored projects that are reviewed for multi-objective opportunity.

F.6 Other Municipal Operations Controls

SMC develops and distributes chloride reduction documents and materials. Each year, SMC will sponsor or co-sponsor at least one workshop on a topic related to winter de-icing. Lake County also publishes a "Lake County Winter Maintenance Preferred Providers" list. Providers included on this list have successfully completed a Lake County Deicing Training Workshop and passes the associated course exam.

Measurable Goal(s):

- Advise MS4 communities of watershed groups addressing issues associated with the use of chlorides (i.e. road salt).
- Sponsor or co-sponsor at least one workshop on a topic related to winter de-icing.
- Make available chloride reduction documents on take-away racks and the website.

Part E5. QLP Construction Projects Conducted During Year 17

Project Name	Project Size (acres)	Construction Start Date	Construction End Date

Part F. Construction Projects Conducted During Year 17

(Provide a list of construction projects your entity has paid for during the reporting period.)

Project Name	Project Size (acres)	Construction Start Date	Construction End Date

There were no projects over 1 acre funded by the Village during permit Year 17.