

**AGENDA  
CASCADE CHARTER TOWNSHIP  
REGULAR BOARD MEETING**

Wednesday, November 3, 2021

7:00 P.M.

Wisner Center

2870 Jacksmith Drive SE, Grand Rapids 49546

*Public may access the meeting via video conference software Zoom*

<https://us02web.zoom.us/j/84427270344>

**Meeting ID:** 844 2727 0344

**By Phone:** 1 312 626 6799

**Expected Meeting Procedures**

1. During public comments you may speak on any item not noted on the agenda for a public hearing.
2. Please limit comments to 3 minutes per person and the Board may or may not choose to respond.
3. Please limit your comments to a specific issue.
4. Please turn OFF cellular phones.

**Article 1. Call to Order, Roll Call**

**Article 2. Pledge of Allegiance to the Flag**

**Article 3. Approval of Agenda**

**Article 4. Presentations**  
None

**Article 5. Public Comments - Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**

**Article 6. Approval of Consent Agenda**

- a. Receive and File Minutes
  1. Township Board – 10/27/21
- b. Receive and File Reports
  - 1.
- c. Receive and File Education Requests
  - 1.
- d. Receive and File Communication
  1. Michigan Department of Licensing and Regulatory Affairs – First Wok new SDM License
  2. Michigan Township Association – Annual Renewal

**Article 7. Financial Actions**  
a. None

**Article 8. Unfinished Business**  
None

**Article 9. New Business**

**114-2021 Consider Financial Commitment to The Right Place for Economic Development Services**

**115-2021 Consider Setting Public Hearing for Storm Water Ordinance Adoption**

**116-2021 Consider Appointments to the Laraway Lake and Thornapple River Drive SAD Ad-Hoc Committees**  
*(Information Added 11.2.21)*

**Article 10. Public Comments – Any comments...whether it is on the agenda or not. (limit comments to 3 minutes)**

**Article 11. Manager Comments**

**Article 12. Board Member Comments**

**Article 13. Adjournment**

**MINUTES OF THE  
CASCADE CHARTER TOWNSHIP  
REGULAR BOARD MEETING**

Wednesday, October 27, 2021

Wisner Center

2870 Jacksmith Dr SE

Grand Rapids, MI 49546

AND

Virtual Zoom Meeting

7:00 P.M.

HYBRID FORMAT

- Article 1.** Supervisor Lesperance called the meeting to order.  
Present: Supervisor Lesperance, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, Shipley and Noordhoek  
Absent: None  
Also Present: Township Manager Swayze, Manager of Assessment Services Center, DDA/Economic Development Director Korhorn, Deputy Clerk Brott, Chief Magers, Assessor Andy Johnson of the City of Kentwood, Senior Planner Danielle Bouchard of McKenna, and those listed on the Supplement.
- Article 2.** Supervisor Lesperance led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**  
Motion by Trustee Shipley, seconded by Clerk Slater to approve the agenda. Motion carried unanimously.
- Article 4.** **Presentations**  
**a.** Township Strategic Plan Update – McKenna (Danielle Bouchard)  
Ms. Bouchard, Senior Planner at McKenna, updated the Board on the Strategic Plan and answered questions.
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**  
None
- Article 6.** **Approval of Consent Agenda**  
**a.** Receive and File Minutes  
**1.** Township Board – 10/13/21  
**2.** Personnel/Finance Committee – 09/08/21  
**3.** Public Safety Advisory Committee – 9/15/21; 9/21/21  
**b.** Receive and File Reports  
**1.** Cascade Inspection Services Report – September 2021  
**c.** Receive and File Education Requests  
**1.** None  
**d.** Receive and File Communication  
**1.** Kent County Drain Commissioner Notice – Hidden Hills Drain  
**2.** Lowell Charter Township – Planning Commission Letter

Township Board Minutes

October 27, 2021

**3. Memo from Trustee McDonald**

Considerable Discussion. Trustee Noordhoek asked that Trustee McDonald's Memo be removed, as it seemed like campaign material. Trustee Shipley suggested that Trustee McDonald should add this year's Board accomplishments to the Memo. Motion by Trustee Koessel seconded by Trustee McDonald to approve the Consent Agenda with the removal of Trustee McDonald's Memo. Motion carried unanimously.

**Article 7. Financial Actions**  
a. None

**Article 8. Unfinished Business**  
None

**Article 9. New Business**

**108-2021 Consider a Proposal for Consulting Services – Brownfield Redevelopment Authority**

DDA/Economic Development Director Korhorn gave a presentation and answered questions.

Motion by Trustee Shipley, seconded by Trustee Koessel to approve. Motion carried unanimously.

**109-2021 Consider an Agreement for Professional Assessor Services**

Manager Swayze and Manager of Assessment Services Genter presented and answered questions. Manager of Assessment Services Genter thanked the Board for their support.

Motion by Trustee Koessel, seconded by Trustee Shipley to approve. Motion carried unanimously.

**110-2021 Consider an RFP for a Township Parks, Recreation & Open Space Plan**

Manager Swayze presented and answered questions.

Motion by Trustee McDonald, seconded by Trustee Shipley to approve. Motion carried unanimously.

**111-2021 Consider a Policy for Access to Township Legal Services**

Manager Swayze presented and answered questions.

Motion by Trustee McDonald, seconded by Treasurer Peirce to approve contingent upon review by Township counsel. Motion carried unanimously.

**112-2021 Consider Appointment of Trustee McDonald to Election Commission & Resolution to Relocate Precinct No. 9 (Roll Call)**

Clerk Slater presented and answered questions.

Considerable Discussion about the Appointment of Trustee McDonald to Election Commission. Supervisor Lesperance, Trustee Noordhoek, and Trustee Shipley voiced concerns about the letter from the State of Michigan presented to the Board last meeting during Public Comment.

Motion by Trustee Koessel, seconded by Treasurer Peirce to approve the Appointment of Trustee McDonald to Election Commission.

Motion carried 4-3.

Motion by Trustee Koessel, seconded by Trustee Shipley to approve the Resolution to Relocate Precinct 9.

Motion carried unanimously by roll call vote.

**113-2021 Consider a Lease Agreement with The Gerald R. Ford International Airport Authority for Temporary Fire Station #1 Location**

Manager Swayze and Chief Magers presented and answered questions.

Motion by Trustee Shipley, seconded by Trustee McDonald to approve contingent upon the Township Attorney's review and approval of the environmental studies.

Motion carried unanimously.

**Article 10. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)**

None

**Article 11. Manager Comments**

1. Contractors are working on the pathways this week and should be finished soon.
2. The Township closes on the Wycliffe property on Friday, October 29, 2021.

**Article 12. Board Member Comments**

1. Trustee Shipley-Thanked all in attendance. Clarified that he was not part of the violation mentioned in the letter presented by a resident during Public Comment at the last Board Meeting.
2. Trustee Noordhoek-Planning Commissioner Craig Meurlin submitted comments to him to be uploaded online.
3. Supervisor Lesperance-Re PFAS, residents have been asking questions. Community meetings will be scheduled soon.

**Article 13. Adjournment**

Motion by Trustee Shipley, seconded by Trustee Noordhoek to adjourn. Motion carried unanimously.

Meeting adjourned at 8:19 pm.

Krissi Brott  
Deputy Clerk

Approved by:

\_\_\_\_\_  
Grace Lesperance, Supervisor

\_\_\_\_\_  
Susan B. Slater, Clerk

Township Board Minutes  
October 27, 2021



STATE OF MICHIGAN

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS  
LANSING

GRETCHEN WHITMER  
GOVERNOR

ORLENE HAWKS  
DIRECTOR

Thursday, October 21, 2021

Hwa Yu – Applicant  
c/o FIRST WOK CASCADE, INC.  
[firstwok44@gmail.com](mailto:firstwok44@gmail.com)

**RID #** RQ- 2110-16332                      **Reference/Transaction:** NEW SDM LICENSE ISSUED UNDER MCL 436.1533(5)(A), NON-TRANSFERABLE, IN CONJUNCTION AT 6740 OLD 28TH ST SE, CASCADE, MI 49546 CASCADE TWP IN KENT COUNTY.

Please let this letter serve as notice the Michigan Liquor Control Commission has referred your application to our Enforcement Division for investigation of your request.

**Applicant/Licensee:** FIRST WOK CASCADE, INC.

**Business address and phone number:** 6740 OLD 28TH ST SE, CASCADE, MI 49546 CASCADE TWP IN KENT COUNTY. Business Phone (616) 575-9088.

**Home address and phone number of partner(s)/subordinates:**  
SHIH HWA YU – 1426 Kings Crossing Drive S.E, Caledonia MI, 49316  
LIEN BICH YU – 1426 Kings Crossing Dr S.E, Caledonia MI, 49316.

As part of the licensing process, an investigation is required by the Michigan Liquor Control Commission Enforcement Division. The Enforcement investigation will be conducted from the following designated District Office:

**Grand Rapids District Office (616) 447-2647**

You may contact your designated District Office regarding any appointments or questions on documentation requested by the Investigator. **Failure to provide requested information or to keep scheduled appointments will cause the application to be returned to the Lansing office for cancellation.**

Under administrative rule R 436.1105, the Commission shall consider the opinions of the local residents, local legislative body, or local law enforcement agency with regard to the proposed business when determining whether an applicant may be issued a license or permit.

Under administrative rule R 436.1003, the licensee shall comply with all state and local building, plumbing, zoning, sanitation, and health laws, rules, and ordinances as determined by the state and local law enforcements officials who have jurisdiction over the licensee. The licensee must obtain all other required state and local licenses, permits, and approvals before using this license for the sale of alcoholic liquor. Approval of this license by the Michigan Liquor Control Commission does not waive any of these requirements.

MICHIGAN LIQUOR CONTROL COMMISSION  
Retail Licensing Division  
(866) 813-0011

cc: CASCADE TWP [sslater@cascadetwp.com](mailto:sslater@cascadetwp.com)

MICHIGAN LIQUOR CONTROL COMMISSION  
PAT GAGLIARDI, CHAIR  
525 W. Allegan St. • P.O. BOX 30005 • LANSING, MICHIGAN 48909  
[www.michigan.gov/lcc](http://www.michigan.gov/lcc) • 866-813-0011



Cascade Charter Township

Liquor License Transfer Compliance Review

Cascade Township does not issue liquor license transfers but is notified of a potential transfer by the Michigan Liquor Control Commission. The purpose of this form is to report any known non-compliance issues within any township department. Please respond via email to confirm you have or have not found non-compliance issues.

Organization: First Wok Cascade, INC.

Street Address: 6740 Old 28<sup>th</sup> Street SE, Cascade, MI 49546

TRANSFERRING FROM:

Street Address: NEW SDM LICENSE

Fire Department Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_

Building Department Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_

Clerk Department Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_

Treasurer Department Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_

Zoning Department Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_

Township Manager Approval Email: Yes Date: 10/26/21

Notes: \_\_\_\_\_



2021-22

Dear MTA Member Board,

On behalf of the MTA Board of Directors and staff, thank you for renewing your Association membership. Over the past year, we have been inspired by our townships and their leaders, and have been honored to serve you, while you serve others—and look forward to continuing to do so as we head toward a brighter future and recovery. Good things can come out of bad times, and over the past year, we have continued to expand our efforts and services on your behalf.

**MTA serves as townships' voice** at both the state and federal level, ensuring that the local perspective is at the forefront for everything from federal COVID-19 relief funding (and spending) to the impacts of legislation being debated daily in Lansing. While the pandemic has certainly been a key topic for the past year, and will likely continue to be so for some time to come, it has not been the only threat to townships. Local government faces continued attacks on local control and your authority to govern your community as you—and your residents—best see fit. MTA rallies our members to take action and battles to fend off or improve harmful legislation that seeks to preempt your ability to serve your community.

**MTA provides the information and education** your township needs. Whether it's ensuring that township leaders have been apprised of the near-constant changes and requirements to keep your staff and community safe, helping you navigate the application process for American Rescue Plan dollars, or offering insights on the myriad roles, rules and responsibilities of township government—MTA has it all. From our eblasts, publications and monthly magazine, to our lunchtime learning webinars and library of on-demand webcasts, your entire township has the resources and updates it needs. And while we are continually updating and expanding our MTA Online learning subscriptions, we have been excited to return to in-person learning this fall, including our *Professional Development Retreats* this month.

Through it all, **MTA remains your trusted guide** for advice, insights and clarity as you serve your community. Our Member Information Services team is available to answer all of your questions as we move into the post-pandemic recovery, and on all facets of township administration and governance. We develop guidance and resources to help you make decisions in the best interest of your community, and analyze, decipher and decode the latest information and updates to share how they impact you, your township and your residents.

Thank you for your service to your communities. In recognition of your continued support of MTA and township government, a current tab is enclosed that may be affixed to your MTA membership plaque. We look forward to another year continuing to serve you.

Sincerely,

A handwritten signature in blue ink that reads "Neil Sheridan".

Neil Sheridan,  
MTA Executive Director



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Dr. SE Grand Rapids, Michigan 49546

**Date:** November 3, 2021  
**To:** Supervisor Lesperance and Township Board Members  
**From:** Ben Swayze, Township Manager  
**Subject:** The Right Place Annual Contribution

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## **FACTS:**

Cascade Township has historically supported The Right Place financially to provide economic development efforts in Cascade Township and the greater Grand Rapids area. The Right Place president and CEO Randy Thelen will be present at the Township Board meeting to review the work The Right Place has done in Cascade Township and the greater Grand Rapids area over the past couple of years. The following is the mission and vision of The Right Place:

**MISSION** - *“To drive sustainable economic growth and shared prosperity for all in the Greater Grand Rapids Region”*

**VISION** – *“The Greater Grand Rapids Region will be the most resilient, productive, and equitable regional economy in the nation”*

In FY 2021 the Township will have completed its 5-year, \$37,500 (\$7,500 per year) commitment to The Right Place for economic development services. The Township has received a request from The Right Place to make a commitment of \$45,000 over the next 5 years (\$9,000 per year).

Attached for your review is:

- Letter of request and commitment form from The Right Place Inc.
- Various information pieces for The Right Place

## **ANALYSIS & CONCLUSIONS:**

The Township and Kent County continue to receive outstanding economic development support from The Right Place Inc. According to their most recent annual report to the community, The Right Place has participated in economic development activities in 2020 alone that have led to the creation or retention of 953 jobs, the addition or retention of \$43 million dollars in new payroll and \$111.3 million in new investment. The Right Place has assisted the Township in several development projects since our last commitment, including

- **L3Harris** – Upcoming 2021 expansion expecting 50 new jobs and \$2.58 million in expansion investment
- **Allegiant Air** – 2019 expansion project resulting in 66 new jobs and \$42 million in capital investment
- **ADAC** – 2018 relocation and expansion project resulting in 50 new jobs, 50 retained jobs and \$20 million in capital investment

- **Medbio** – 2018 expansion project resulting in 43 new jobs and \$3.5 million in capital investment.

Other Right Place projects have had an effect on economic development activities in Cascade Township as well. The Right Place played a key role in attracting the new Switch SuperNAP data center and Amazon facility to Gaines Township just a short distance from Cascade Township, which has precipitated new commercial and residential development in the Township.

**FINANCIAL CONSIDERATIONS:**

The request from the Right Place is for \$9,000 per year over the next 5 years. If approved, this amount will be included in the proposed budget for FY2022, which would be the first year of the commitment. The Township's previous commitment to The Right Place was \$7,500 per year over the past 5 years.

**RECOMMENDED ACTION:**

Consider the financial commitment of \$9,000 per year over the next 5 years (FY22 – FY26) to The Right Place for economic development services.



October 25, 2021

Ben Swayze  
Cascade Township  
5920 Tahoe drive SE  
Grand Rapids, MI 49546

BOARD OF DIRECTORS

CHAIR  
Sean P. Welsh  
PNC Bank

VICE-CHAIR  
Tina Freese Decker  
Spectrum Health

TREASURER  
Bill Pink, Ph.D.  
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BDO USA, LLP

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Kent County

Luke Cherveney  
PwC

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Gentex Corporation

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TCF Bank

Patrick Greene  
Cascade Die Cast Group Inc.

John Irwin  
The Huntington National Bank

Jim Keane  
Steekase, Inc.

John Kennedy  
Autocam Medical

Hyung Kim, MD, MBA  
Mercy Health Saint Mary's

Blake W. Krueger  
Wolverine Worldwide

Dear Ben,

Our team is maintaining focus on initiatives that prioritize People, Place, and Prosperity within our region. Our three-year strategic plan set aggressive job, payroll and investment goals. Now halfway through our Plan, we are ahead of pace on each of our top-level metrics despite the challenges presented by the global pandemic.

- **PEOPLE:** Engaging with employers directly to address their talent and workforce challenges, attracting new talent to the region through Hello West Michigan, and cultivating diverse talent development initiatives.
- **PLACE:** Working with municipal partners on the Kent County Sustainable Business Park to drive economic growth while creating a cleaner tomorrow for our community.
- **PROSPERITY:** Collaborating with communities on the American Rescue Plan and Infrastructure Plan, maximizing a once in a generational opportunity to invest in new transformational initiatives throughout the region.

Our work cannot be done without our investors and your support is appreciated. Thank you for being a valued investor in The Right Place.

**The Right Place respectfully asks that you invest in our efforts to grow the west Michigan economy and consider an increase of your investment from \$37,500 over 5 years (\$7,500 annually) to \$45,000 over 5 years (\$9,000 annually).**

This assistance is not possible without your support, and we truly appreciate your consideration of this request.

I'm more than happy to come speak to you in person and/or present to your board.

Sincerely,

Randy Thelen  
President & CEO

Brad Comment  
Senior Vice President, Investor Relations

Philomena Mantella  
Grand Valley State University

Michael P. McGee  
Miller, Canfield, Paddock & Stone, P.L.C.

Hank Meijer  
Meijer, Inc.

Andi Owen  
Herman Miller, Inc.

Richard J. Peppas, Ed.D.  
Davenport University

Matt Paul  
DTE Gas

William R. Payne  
Amway/BP Ventures

John C. Porterfield  
Comerica Bank

Julie Rietberg  
Greater Regional Alliance of Realtors

Garrick J. Rochow  
Consumers Energy Company

Tony Sarsam  
SpartanNash

Darrel Schmalzel  
City of Walker

Richard Sorota  
Perigo

Renee C. Tabben  
Merrill Lynch/ Bank of America

Jim Teets  
ADAC Automotive

Randy Thelen  
The Right Place, Inc.

David Van Andel  
Van Andel Institute

Mike Van Gessel  
Rockford Construction

Mark Washington  
City of Grand Rapids

Thomas G. Welch Jr.  
Fifth Third Bank - West Michigan

Bob Wolford  
Miller Johnson

# ABOUT THE RIGHT PLACE



GREATER GRAND RAPIDS  
MICHIGAN

# IN BUSINESS, FOR BUSINESS



## THE RIGHT PLACE IS YOUR SINGLE SOURCE FOR BUSINESS SUCCESS IN WEST MICHIGAN.

The Right Place Inc. is West Michigan's leading economic development organization. We offer comprehensive business assistance services to growing companies.

Our organization serves both current and prospective companies, connecting them to the resources they need to succeed in West Michigan. The result? Billions in new capital investment, and thousands of new and retained jobs since our start in 1985.

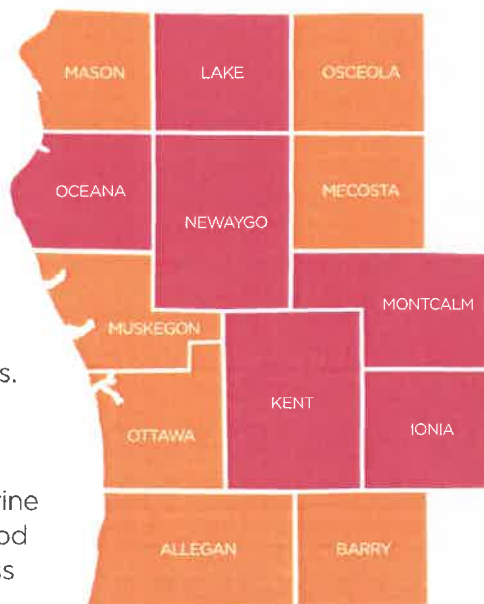
### WELCOME TO WEST MICHIGAN

Located between Chicago and Detroit, West Michigan is a growing region of more than 1.5 million people. At its core is the city of Grand Rapids, the state's second-largest city.

More than 130 international companies are located in West Michigan, as well as four of Forbes Largest Private Companies.

West Michigan is home to the global headquarters of companies like Amway, Steelcase, Herman Miller, Haworth, Wolverine Worldwide, Gentex, BISSELL, Gordon Food Service, and more. We want your business to be next.

Contact us today at [info@rightplace.org](mailto:info@rightplace.org) or **616.771.0325**.



 **The Right Place, Inc. Partner Counties**



# PERRIGO

**"Perrigo established its roots in West Michigan more than 130 years ago. Since then, we've become an industry leader and created thousands of jobs in the region. We are excited to continue our growth surrounded by organizations that share our passion for self-care in the heart of a thriving city. We are thankful for all of those involved in making this project a reality, especially Governor Whitmer, The Right Place and their partners at the MEDC."**

**Murray Kessler | President & CEO | Perrigo**



# SERVICES & RESOURCES

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## ASSISTANCE FOR CURRENT & PROSPECTIVE WEST MICHIGAN COMPANIES

### **BUSINESS SUPPORT RESOURCES**

With a plethora of regional, state, and federal business growth resources available, it's difficult understanding who to contact and when. We link you to the right resources at the right time, letting you focus on your business.

### **STATE & LOCAL INCENTIVES**

There is a risk/reward equation for every business growth decision. We work side-by-side with you, coordinating state and local resources to support your growth, and lowering your business risk to create new jobs and capital investment in West Michigan.

### **CONFIDENTIAL SITE LOCATION SEARCHES**

Whether you are growing, consolidating or simply looking for a new site, having an objective resource to guide you through the process is critical to finding the right location. Our business development team will work with you and the local commercial real estate community to determine the best location for your business in West Michigan.

### **LOCAL SUPPLY CHAIN & PARTNER OPPORTUNITIES**

Using local suppliers can save your company time and money. Since 1985, we have met with thousands of businesses across the region. Let us know what you're looking for, and we'll find it in West Michigan.

### **WEST MICHIGAN BUSINESS RESEARCH**

Leverage our business research services to start the next chapter of your business journey in West Michigan. You know your business. We know West Michigan's business community. Combine the two, and you have information to make better, more informed decisions about the future of your company.

### **INTERNATIONAL BUSINESS DEVELOPMENT**

Throughout our history, we have built international business relationships with companies throughout the world. As a result, West Michigan is home to international companies from over 20 countries.

### **MANUFACTURING INNOVATION & OPERATIONAL IMPROVEMENT**

To be a leader, your company must continually improve all aspects of your business from sales and estimating, to production and quality control. The Michigan Manufacturing Technology Center - West (The Center - West) provides resources that can help you become a stronger, more competitive manufacturer.

### **ACCESS TO TALENT**

Attracting talent in today's business environment can be challenging. Our partnership with Hello West Michigan makes it easy for you to connect with talent. Hello West Michigan serves as a single source for accessing, attracting, and retaining talent in West Michigan. Leverage their expertise with your talent recruitment efforts for a winning strategy.

# MICHIGAN MANUFACTURING TECHNOLOGY CENTER - WEST

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The Michigan Manufacturing Technology Center - West (The Center - West) delivers objective, high-quality manufacturing consulting and technical support programs to small and mid-sized manufacturers in the 13-county West Michigan area.



MANUFACTURE SMARTER

## MANUFACTURING TECHNICAL ASSISTANCE

Our practical, comprehensive, and affordable consulting and training services assist our clients with developing their employees and their businesses. Whether navigating ever-increasing regulatory issues, or learning to anticipate future opportunities for growth, The Center supports manufacturing growth and competitiveness in the safest, most economical and highly profitable way. From the executive suite to the plant floor, we can assist with:

### ***Operational Excellence***

- Growth and Innovation
- Assessment Tools
- Continuous Improvement (Lean)
- Quality and Safety Management
- Environmental

### ***Talent Development***

### ***Industry 4.0***

### ***Food Processing***

We believe in Michigan manufacturing. It's what drives us. To make manufacturers better, to show them how to grow, adapt, and add jobs. Our team delivers by lowering costs, reducing waste, and more.

We assist by coaching and leading. We share best practices, find efficiencies and connect manufacturers with partners. By coaching. By leading. And by doing the little things that add up to greatness.

### **WE LOOK FORWARD TO MEETING YOU**

As a nonprofit, objective manufacturing support program, your business success is our primary goal. Call **616.301.6247** or visit **[thecenterwest.org](http://thecenterwest.org)** to discover how we can work together and tackle your biggest business challenges.



# DEWYS MANUFACTURING

**“As a manufacturer in West Michigan, the linkage between our company, The Michigan Manufacturing Technology Center - West, and The Right Place is critical. In our business we are always looking at how do we do a better job tomorrow than what we did today. It’s been helpful internally to have those tools through the Michigan Manufacturing Technology Center - West.”**

**Jon DeWys | CEO | DeWys Manufacturing**



# HELLO WEST MICHIGAN

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## HelloWestMichigan

### RETAINING & ATTRACTING TALENT

Hello West Michigan promotes the region as a place where business thrives and people want to live and work. They address the talent shortage and the common challenges associated with the relocation process. They focus on attracting, educating, and connecting candidates through their various resources and programs.

#### **MEMBERSHIP & BENEFITS**

Members of Hello West Michigan are invested in their community, working together to be part of the solution to our region's talent shortage. In addition to supporting this strategic mission, membership with Hello West Michigan quickly pays for itself through enhancement of your talent acquisition efforts and synergizes the efforts of the entire Hello West Michigan community.

#### **Attraction**

- Benefit from increased regional awareness provided through our out-bound marketing campaigns
- Actively reach boomerangs (former West Michiganders) already interested in relocation

#### **Education**

- Comprehensive website that is the only hub of regional information covering both lifestyle and career
- Unlimited featured job postings on hellowestmichigan.com
- Company profile on hellowestmichigan.com to showcase your employment brand
- Custom relocation packs and community printables

#### **Connections**

- Resume sharing for significant others and boomerangs, plus access to our candidate database
- Education and training programs, plus networking with talent acquisition professionals across the region
- Member discounts with education members
- First access to candidate networking events like ReThink West Michigan and West Michigan Intern Connect
- Tuition discounts with Davenport University and Cornerstone Professional and Graduate Studies for all employees of Hello West Michigan member companies.

To learn more about Hello West Michigan, please contact Rachel Bartels at **616.771.0354** or **[bartelsr@hellowestmichigan.com](mailto:bartelsr@hellowestmichigan.com)**.

# REGIONAL COLLABORATION

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## **MANUFACTURERS COUNCIL**

We convened the Manufacturers Council in 1989 as a way to organize manufacturers' individual interests into a common purpose of improving the local manufacturing economy. Today, members of the council have a collective vision ... to strengthen the West Michigan region as an international center for business innovation and manufacturing excellence. For more information on the Manufacturers Council, visit: [\*\*rightplace.org/manufacturerscouncil\*\*](http://rightplace.org/manufacturerscouncil).

## **SUPPLY CHAIN MANAGEMENT COUNCIL**

The Supply Chain Management Council is dedicated to supporting the competitiveness of West Michigan manufacturers by implementing best practices in integrated supply chain management. Members of the Supply Chain Management Council have a collective vision to be the Integrated Supply Chain Management hub enhancing the West Michigan economy. For more information on the Supply Chain Management Council, visit: [\*\*rightplace.org/supplychaincouncil\*\*](http://rightplace.org/supplychaincouncil).

## **MIDEVICE - MEDICAL DEVICE CONSORTIUM**

MiDevice is the only Michigan-based organization dedicated to medical device design, development, manufacturing and distribution. The consortium works to speed the growth and development of medical devices by emphasizing and encouraging collaboration among members to meet overall product life cycle and supply chain needs. The goal is to build collaboration around core competencies, and grow the medical device industry in the region. For more information on MiDevice, visit: [\*\*midevice.org\*\*](http://midevice.org).

## **TECHNOLOGY COUNCIL OF WEST MICHIGAN**

Managed and facilitated by The Right Place, the Technology Council of West Michigan finds new ways to make West Michigan top-of-mind for prospective customers and engage more clients across the country. Using market research and targeted messaging throughout the U.S., the group is raising the awareness of the incredible tech resources located in West Michigan. For more information on the Tech Council, visit: [\*\*rightplace.org/techcouncil\*\*](http://rightplace.org/techcouncil).







ACCREDITED  
ECONOMIC  
DEVELOPMENT  
ORGANIZATION  
*International Economic Development Council*

## THE RIGHT PLACE, INC.

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125 Ottawa Avenue NW, Suite 450  
Grand Rapids, MI 49503

• 616.771.0325

f 616.771.0555

e [info@rightplace.org](mailto:info@rightplace.org)

w [rightplace.org](http://rightplace.org)



[fb.com/TheRightPlaceGrandRapids](https://fb.com/TheRightPlaceGrandRapids)



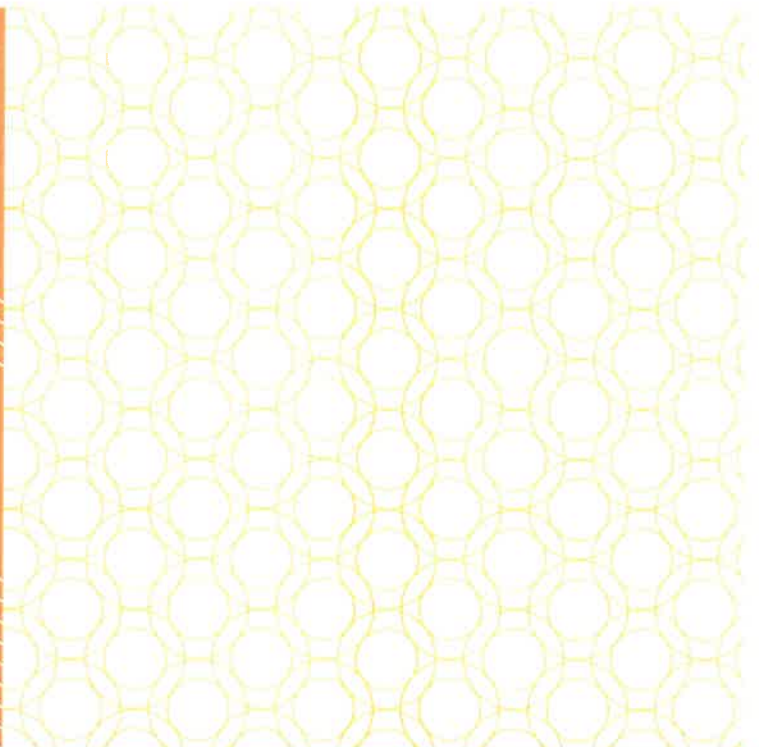
[@TheRightPlaceGR](https://twitter.com/TheRightPlaceGR)



[linkedin.com/company/the-right-place](https://linkedin.com/company/the-right-place)



[@WestMichiganLife](https://instagram.com/WestMichiganLife)



**THE  
RIGHT PLACE**

Advancing the West Michigan Economy

**2020 — 2022**  
STRATEGIC PLAN

# About the Plan

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Since its founding in 1985, The Right Place has developed and implemented strategic plans to guide the organization and drive long-term economic growth in the Greater Grand Rapids Region. These strategies have continuously adapted to reflect regional, national, and global economic trends. In recent years, these economic shifts have accelerated in both pace and intensity, placing the region in a period of transition.

This transition is felt in our regional economy, with nearly every business model and supply chain facing disruption. It is also appearing on a global scale, with international trade and commerce relationships being reshaped and causing the disruption of export markets and supply networks.

These economic shifts are impacting the hundreds of business and community leaders we interviewed for the development of the 2020-2022 Strategic Plan.

This new plan is designed to guide The Right Place and the regional economy during this period of transition. These ambitious strategies will position the organization as a key business resource and economic development leader within the Greater Grand Rapids Region. We will continue to build upon our foundational economic development strengths, while also pursuing new ventures to create a more equitable, productive, and resilient regional economy.





## MISSION

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To drive sustainable economic growth and shared prosperity for all in the Greater Grand Rapids Region.

## VISION

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The Greater Grand Rapids Region will be the most resilient, productive, and equitable regional economy in the nation.

## GUIDING PRINCIPLES

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- Excellence** Provide the highest level of service and success to the communities, people, and businesses of the Greater Grand Rapids Region
- Integrity** Uphold the highest values and ethical standards
- Collaboration** Deliver open, clear, and cooperative leadership, with a priority on the long-term prosperity of the region
- Inclusivity** Enhance the economic vitality of all areas and populations in the Greater Grand Rapids Region
- Forward thinking** Position the organization and the region for future success by striving to anticipate future trends and conditions



# Strategy Statements

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Over the next three years, The Right Place will catalyze new economic growth in the Greater Grand Rapids Region by transitioning the organization to reflect global, national, and local economic shifts impacting the region. The following strategy statements summarize the strategies and actions the organization will undertake to realize this objective.



## **BUSINESS RETENTION, EXPANSION, AND ATTRACTION**

Strengthen our position as the leading resource for growing companies in the Greater Grand Rapids Region.

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## **ECONOMIC INCLUSION**

Increase our focus on inclusive growth initiatives to provide economic opportunities for all in the Greater Grand Rapids Region.

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## **STRATEGIC FOUNDATIONS**

Ensure long-term economic growth by supporting the region's foundational economic assets, such as infrastructure and quality of life.

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## **THOUGHT LEADERSHIP**

Provide comprehensive strategies for economic prosperity in the region by engaging business and community leaders.

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## REGIONALISM

Drive economic growth throughout the Greater Grand Rapids Region with strategic partnerships and collaboration.

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## TALENT GROWTH & ATTRACTION

Engage in regional talent development, retention, and attraction efforts to address the Greater Grand Rapids Region's most challenging economic growth issue.

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## BUSINESS INTELLIGENCE

Educate and inform the region on strategic emerging and long-term business trends impacting the Greater Grand Rapids Region's economy.

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# Strategic Growth Areas

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## **ADVANCED MANUFACTURING**

The Greater Grand Rapids Region is one of the world's premier advanced manufacturing centers. This sector accounts for 20 percent of all jobs in the region and over 2,600 establishments. The Right Place is aggressively working to strengthen, diversify, and grow advanced manufacturers in the region through its core business retention, expansion, and attraction efforts. In addition, The Right Place and The Michigan Manufacturing Technology Center-West are collaborating to assist regional businesses to adopt and leverage new technologies.

## **INFORMATION TECHNOLOGY**

Information technology is one of the fastest growing sectors in the region, specifically in the fields of custom computer programming services, computer systems design services, data processing and hosting, and software publishers. Through its business development activities, industry council support, and talent development and attraction initiatives, The Right Place is expanding the information technology sector and connecting companies to other industry opportunities in the region.

## **HEALTH SCIENCES**

The health sciences sector is a cornerstone of long-term economic vitality in the Greater Grand Rapids Region. The region is an emerging destination for new world-class facilities, education and R&D programs, and health sciences talent. The Right Place supports the advancement of health sciences in Greater Grand Rapids Region by building institutional partnerships as well as attracting and developing health sciences talent, entrepreneurs, and businesses.

## **FOOD PROCESSING & AGRIBUSINESS**

Drawing on the Greater Grand Rapids Region's deep roots in both agriculture and manufacturing, the food processing and agribusiness growth area is one of the most significant employment sectors in the region and has been experiencing growth in recent years. The availability of fresh water and access to a highly productive food supply chain make the Greater Grand Rapids Region a competitive destination for food processors and agribusinesses. The Right Place further strengthens this industry by assisting the region's food processors and agribusinesses to adopt new equipment and technologies and pursue new market opportunities.



# Success Measures

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The Right Place is a metric-driven organization with a proven track record of generating new jobs, payroll, and capital investment in the region. The organization is committed to meeting the following targets of success over the next three years.



**3,400**  
New/Retained Jobs



**\$184 MILLION**  
New/Retained Payroll



**\$26.35/HOUR**  
Average Wages



**2,900**  
Job Seeker/Talent Assists



**\$500 MILLION**  
New Capital Investment



**ACCREDITED  
ECONOMIC  
DEVELOPMENT  
ORGANIZATION**  
*International Economic Development Council*

**The Right Place, Inc**

125 Ottawa Avenue NW, Suite 450  
Grand Rapids, MI 49503

**P** 616.771.0325

**F** 616.771.0555

**E** [info@rightplace.org](mailto:info@rightplace.org)

[www.rightplace.org](http://www.rightplace.org)

**f** [facebook.com/TheRightPlaceGrandRapids](https://facebook.com/TheRightPlaceGrandRapids)

**t** [twitter.com/TheRightPlaceGR](https://twitter.com/TheRightPlaceGR)

**in** [linkedin.com/company/the-right-place](https://linkedin.com/company/the-right-place)

**i** [instagram.com/westmichiganlife](https://instagram.com/westmichiganlife)



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Dr. SE Grand Rapids, Michigan 49546

**Date:** November 3, 2021  
**To:** Supervisor Lesperance and Township Board Members  
**From:** Ben Swayze, Township Manager  
**Subject:** Stormwater Ordinance – Introduction and Setting of Public Hearing

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## **FACTS:**

Cascade Township owns and operates a small municipal separate storm sewer system (MS4) that serves Township owned facilities and parks. An MS4 is a conveyance or system of conveyances that is:

- Owned by a state, city, township, village or other public entity that discharges to waters of the US
- Designed or used to collect or convey stormwater (e.g. storm drains, ditches, pipes)
- Not a combined sewer
- Not part of a sewage treatment plant or publicly owned treatment works

To prevent harmful pollutants from being washed or dumped into MS4's, certain municipalities, such as Cascade Township, are required to obtain National Pollutant Discharge Elimination System (NPDES) permits and develop stormwater management plans (SWMPs) The SWMP describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the sewer system.

Cascade Township partners with LGROW (Lower Grand River Organization of Watersheds) in order to administer the Township MS4 NPDES permit along with 23 other Kent and Ottawa County organizations. Each community in the group had the opportunity to use the model ordinance and manual with some modifications to suit their specific goals, provided minimum State requirements are met. The proposed ordinance and manual were reviewed and tentatively approved by the Township Board in 2016 and subsequently submitted to the State for review and approval. We have been waiting since then for the State to approve the MS4 permit. That permit was recently approved June 30, 2021. Part of the conditions of the Township MS4 permit is approval of the new stormwater ordinance.

Attached for your review is:

- Stormwater 101 Presentation (presented to the Township Board 8.11.21)
- Approved Cascade Township MS4 NPDES Permit
- Memo from Township Engineer outlining proposed ordinance changes
- Current Cascade Stormwater Ordinance
- Proposed Cascade Stormwater Ordinance

## **ANALYSIS & CONCLUSIONS:**

The memo from the Township Engineer should be read in detail to understand what the approval of the new Stormwater Ordinance would entail. Both Fishbeck engineer Mike Berrevoets and LGROW Program Coordinator Cara Decker will be in attendance to review the new ordinance and process for development.

If the Township Board wishes to move forward with the adoption of the new Stormwater Ordinance, a public hearing will need to be held prior to adoption. Township Staff is recommending the public hearing be set for the regular Township Board meeting on December 15, 2021 at 7pm at the Wisner Center.

**FINANCIAL CONSIDERATIONS:**

The adoption of the new Stormwater Ordinance itself comes with minimal costs, including staff time, printing and publishing. The new requirements of the ordinance may increase costs to the Township in regards to regulatory activities and costs for future development projects, however it is difficult at this time to quantify those additional costs.

**RECOMMENDED ACTION:**

Set the Public Hearing for the consideration of the new Cascade Township Stormwater Ordinance for Wednesday December 15, 2021 at 7pm at the Wisner Center.

# Stormwater 101 for Elected Officials

Wendy Ogilvie  
GRAND VALLEY METRO COUNCIL



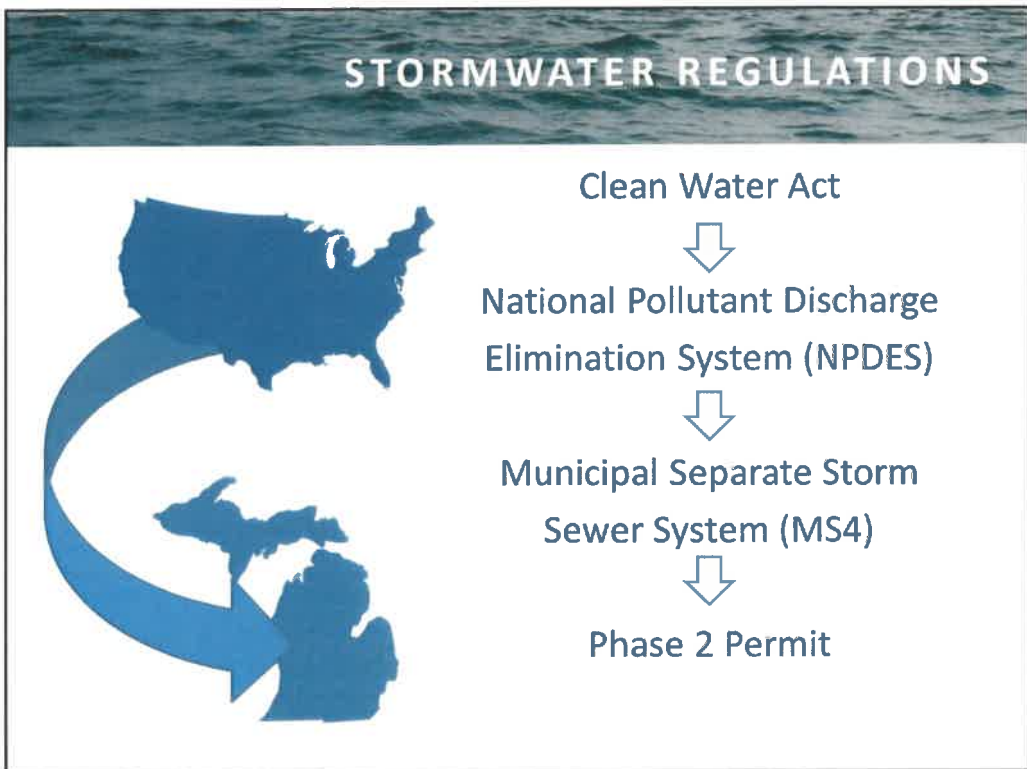
*What  
goes  
down  
here...*

*Dump no waste!  
Storm drains lead directly to  
rivers, lakes, and streams*



[www.LGROW.org/stormwater](http://www.LGROW.org/stormwater)

*...ends  
up  
here*



# MS4


## 6

### MINIMUM CONTROL MEASURES

<p><b>1</b> <b>PUBLIC EDUCATION AND OUTREACH</b> Perform outreach to educate citizens about the impacts that polluted stormwater runoff discharges can have on water quality.</p>	<p><b>4</b> <b>CONSTRUCTION SITE RUNOFF CONTROL</b> Develop, implement, and enforce an erosion and sediment control program for construction activities that disturb 1 or more acres of land.</p>
<p><b>2</b> <b>PUBLIC PARTICIPATION/ INVOLVEMENT</b> Provide opportunities for citizens to participate in program development and implementation.</p>	<p><b>5</b> <b>POST CONSTRUCTION RUNOFF CONTROL</b> Develop, implement, and enforce a program to address discharges from post-construction stormwater runoff from new development and redevelopment areas.</p>
<p><b>3</b> <b>ILLICIT DISCHARGE DETECTION AND ELIMINATION</b> Develop and implement a plan to detect and eliminate illicit discharges to the storm sewer system.</p>	<p><b>6</b> <b>POLLUTION PREVENTION/ GOOD HOUSEKEEPING</b> Develop and implement a program to prevent or reduce pollutant runoff from municipal operations.</p>

This information was taken from EPA Fact Sheet 2.0 - An Overview of the Small MS4 Stormwater Program

## UPCOMING PERMIT REQUIREMENTS

**WATER QUALITY**

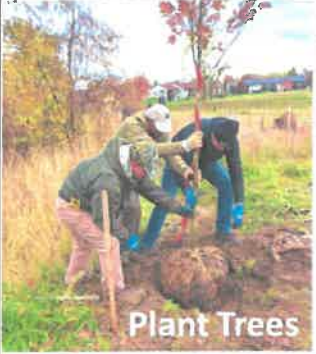
- Total Suspended Solids (TSS)
- Treat the first inch of rain (first flush)
- Reduce TSS 80% or below 80 mg/L

**CHANNEL PROTECTION**


- Large volumes of stormwater over extended periods can lead to channel erosion
- Retain new or additional runoff onsite from the 2-year, 24 hour event
- Infiltrate ALL of that water into the ground

**Upon permit issuance, a new stormwater ordinance is required to be adopted. A draft ordinance has already been created for your community.**

## USING GREEN INFRASTRUCTURE





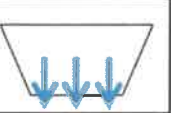



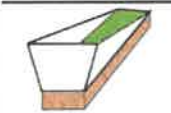
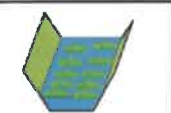
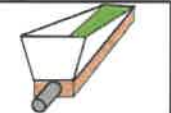
**Plant Trees**




**Bioswale**

**Green Infrastructure**


- Infiltrating stormwater by the use of systems such as:

		
Green Roof	Bioretention Basin	Infiltration Basin
		
Permeable Pavement	Infiltration Trench/Tree Box	Swale Side Slope
		
Swale Main Channel	Wet Swale	Swale With Underdrain

## USING GREEN INFRASTRUCTURE



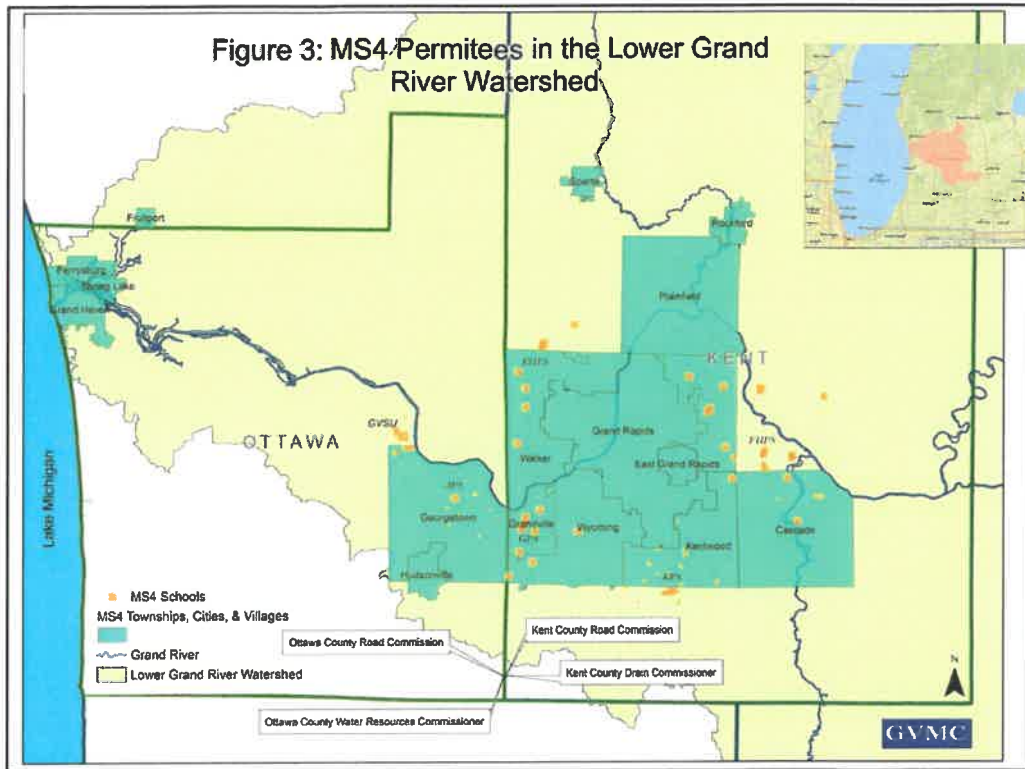
**Permeable Pavers**



**Curb Cut**

**Benefits of using Green Stormwater Infrastructure:**

- Reduces flooding and protects property
- Reduces municipal infrastructure costs
- Provides a cost-effective alternative to traditional development (less land clearing, reduced infrastructure, etc.)
- Increases appearance and aesthetics of a community



# Resources

**Cara Decker**

Stormwater Program Coordinator

deckerc@gvmc.org

Ph: 616-776-7702

**Wendy Ogilvie**

Director of Environmental Programs

wendy.ogilvie@gvmc.org

Ph: 616-776-7605

[www.lgrow.org/ms4](http://www.lgrow.org/ms4)



LOWER GRAND RIVER  
ORGANIZATION of WATERSHEDS



PERMIT NO. MI0060107



**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*, as amended; the "Federal Act"); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2019-06,

**Cascade Charter Township**  
5920 Tahoe Drive SE  
Grand Rapids, MI 49546

is authorized to discharge from the Municipal Separate Storm Sewer System (MS4)

designated as **Cascade Twp MS4-Kent**

to surface waters of the state of Michigan in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

**This permit takes effect on July 1, 2021.** This permit is based on a complete application submitted on February 27, 2008, as amended through March 19, 2021.

The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede Certificate of Coverage No. MIG610116, issued on December 17, 2003, which is hereby revoked upon the effective date of this permit.

This permit and the authorization to discharge shall expire at midnight, **October 1, 2023**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information, forms, and fees as are required by the Department of Environment, Great Lakes, and Energy (Department) by **April 4, 2023**.

**Issued:** June 30, 2021.

Original signed by Christine Alexander  
Christine Alexander, Manager  
Permits Section  
Water Resources Division

## PERMIT FEE REQUIREMENTS

In accordance with Section 324.3118 of the NREPA, the permittee shall make payment of an annual storm water fee to the Department for each January 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiWaters system. The MiWaters website is located at <https://miwaters.deq.state.mi.us>. Payment shall be submitted or postmarked by March 15 for notices mailed by February 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after February 1.

**Annual Permit Fee Classification:** Municipal Storm Water – Population Range of fewer than 1,000 people

## CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Grand Rapids District Office of the Water Resources Division. The Grand Rapids District Office is located at State Office Building, Fifth Floor, 350 Ottawa Ave NW, Unit 10, Grand Rapids, MI 49503-2341, Telephone: 616-356-0500, Fax: 616-356-0202.

## CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environment, Great Lakes, and Energy, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

**PART I****Section A. Limitations and Monitoring Requirements****1. Authorized Discharges**

- a. **Authorized Outfalls and Points of Discharge**  
This permit authorizes the discharge of storm water from the permittee's MS4 to the surface waters of the state via the outfalls and points of discharge identified in the permittee's application and as modified in accordance with this permit. Such discharges shall be controlled and monitored by the permittee in accordance with this permit.
- b. **Nested MS4 Discharges**  
This permit authorizes the discharge of storm water to surface waters of the state from a nested MS4 owned or operated by public bodies that include, but are not limited to, public school districts; public universities; airports; or county, state, or federal agencies. The permittee may request to modify permit coverage to add or remove a nested MS4 by submitting a request to the Department for approval. Modifications to the permit coverage may result in a permit modification, after opportunity for public comment.
- c. **Discharges Authorized Under Other National Pollutant Discharge Elimination System (NPDES) Permits**  
This permit does not prohibit the use of an MS4 for other discharges authorized under other NPDES permits, or equivalent Department approval under the NREPA or the Federal Act.
- d. **Water Quality Requirements**  
Discharges from the permittee's MS4 shall not cause or contribute to an exceedance of water quality standards in the receiving waters. This includes, but is not limited to, the requirement set forth in R 323.1050 of the Water Quality Standards stating that the receiving waters shall not have any of the following unnatural physical properties as a result of the discharge, in quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.

**2. Outfall or Point of Discharge Identified, Constructed, or Installed After Permit Issuance**

- a. **Outfall or Point of Discharge Within the Permittee's Regulated Area**  
Authorization from the Department is required to discharge storm water to a surface water of the state from an outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit and located within the permittee's regulated area as identified in the application. For each outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit, the permittee shall request authorization to discharge storm water by providing the following to the Department in a written request:
  - 1) whether the discharge is from an outfall or point of discharge;
  - 2) the outfall or point of discharge identification number assigned by the permittee;
  - 3) the surface water of the state receiving the discharge from the outfall or point of discharge;
  - 4) a certification statement that the outfall or point of discharge is within the permittee's regulated area as identified in the application;
  - 5) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) includes best management practices (BMPs) to comply with the minimum requirements of the permit for the outfall or point of discharge; and

## PART I

### Section A. Limitations and Monitoring Requirements

- 6) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) is being implemented in the area served by the outfall or point of discharge, including having available an up-to-date storm sewer system map required in Part I.A.3.d.1) of this permit.
- b. **Outfall or Point of Discharge Outside the Permittee's Regulated Area**  
Authorization from the Department is required to discharge storm water to a surface water of the state from an outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit and located outside the permittee's regulated area as identified in the application (e.g., area served by an expanded MS4 or area previously served by a combined sewer system that is now separated). For each outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit, the permittee shall request authorization to discharge storm water by providing the following to the Department in a written request:
- 1) whether the discharge is from an outfall or point of discharge;
  - 2) the outfall or point of discharge identification number assigned by the permittee;
  - 3) the surface water of the state receiving the discharge from the outfall or point of discharge;
  - 4) a map identifying the expanded regulated area served by the permittee's MS4;
  - 5) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) includes BMPs to comply with the minimum requirements of the permit for the outfall or point of discharge and expanded regulated area; and
  - 6) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) is being implemented in the expanded regulated area served by the outfall or point of discharge, including having available an up-to-date storm sewer system map as required in Part I.A.3.d.1) of this permit.
- c. Upon review of the request to authorize the discharge from an outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit in accordance with Part I.A.2.a. or Part I.A.2.b. of this permit, the Department may determine that a permit modification is required, after opportunity for public comment. The Department will notify the permittee if a modification is required.

### 3. Storm Water Management Program (SWMP)

The permittee submitted a SWMP with its application for an NPDES permit. The SWMP is approved as submitted. The permittee shall implement the approved SWMP to comply with the minimum requirements identified in this permit. The SWMP shall cover the area served by, or otherwise contributing to discharges from, the MS4 owned or operated by the permittee identified in the application. The permittee shall implement and enforce the SWMP to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the NREPA and the Federal Act. The approved SWMP is an enforceable part of this permit and any Department approved modifications made to the SWMP shall also become enforceable parts of this permit.

- a. **Enforcement Response Procedure (ERP)**  
The permittee shall implement the ERP for violations of the permittee's ordinances or regulatory mechanisms identified in the SWMP to the maximum extent practicable. The ERP shall be implemented to compel compliance with the permittee's ordinances and/or regulatory mechanisms and to deter continuing violations.

**PART I****Section A. Limitations and Monitoring Requirements**

The permittee shall track and document all enforcement conducted pursuant to the permittee's ERP. At a minimum, the permittee shall track and document the following: the name of the person responsible for violating the permittee's ordinance or regulatory mechanism; the date and location of the violation; a description of the violation; a description of the enforcement response used; a schedule for returning to compliance; and the date the violation was resolved.

b. **Public Participation/Involvement Program (PPP)**

The permittee shall implement the PPP to encourage public participation/involvement in the implementation and periodic review of the SWMP to the maximum extent practicable. The permittee shall implement the PPP as part of the SWMP. The permittee has chosen to work collaboratively with watershed or regional partners to implement the PPP or part of the PPP, therefore each permittee working collaboratively is responsible for complying with the PPP as described in the SWMP.

The PPP requires implementation of the following minimum requirements:

- 1) The procedure for making the SWMP available for public inspection and comment, including complying with local public notice requirements, as appropriate; and
- 2) The procedure for inviting public participation and involvement in the implementation and periodic review of the SWMP.

c. **Public Education Program (PEP)**

The permittee shall implement the PEP as part of the SWMP to the maximum extent practicable. At the minimum, the PEP shall promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water runoff. The PEP shall be implemented to achieve measurable improvements in the public's understanding of storm water pollution and efforts to reduce the impacts of storm water pollution. The permittee has chosen to work collaboratively with watershed or regional partners to implement the PEP or part of the PEP, therefore each permittee working collaboratively is responsible for complying with the PEP as described in the SWMP.

The PEP requires implementation of the following minimum requirements:

- 1) BMPs to address the following PEP topics:
  - (a) Promote public responsibility and stewardship in the permittee's watershed.
  - (b) Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges can have on surface waters of the state.
  - (c) Educate the public on illicit discharges and promote public reporting on illicit discharges and improper disposal of materials into the MS4.
  - (d) Promote preferred cleaning materials and procedures for car, pavement, and power washing.
  - (e) Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
  - (f) Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
  - (g) Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.

## PART I

### Section A. Limitations and Monitoring Requirements

- (h) Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
- (i) Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.
- (j) Promote methods for managing riparian lands to protect water quality.
- (k) Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.

2) The procedure for determining the overall effectiveness of implementation and the process for modifying the PEP to address ineffective implementation. The Department may determine that a permit modification is required, after opportunity for public comment, based on modifications to the PEP. The Department will notify the permittee if a modification is required.

d. **Illicit Discharge Elimination Program (IDEP)**

The permittee shall implement and enforce the IDEP to detect and eliminate illicit discharges and connections to the permittee's MS4. The permittee shall implement the IDEP as part of the SWMP to the maximum extent practicable. The permittee has chosen to work collaboratively with watershed or regional partners to implement the IDEP or part of the IDEP, therefore each permittee working collaboratively is responsible for complying with the IDEP as described in the SWMP.

The IDEP requires implementation of the following minimum requirements:

- 1) An available, up-to-date storm sewer system map identifying the following: the storm sewer system, location of all outfalls and points of discharge the permittee owns or operates in the regulated area, and the names and location of all surface waters of the state that receive discharges from the permittee's MS4. The map shall be retained by the permittee and made available to the Department upon request. The map shall be maintained and updated as outfalls and points of discharge are identified, constructed, and installed in accordance with Part I.A.2. of this permit.
- 2) The plan to detect and eliminate non-storm water discharges to the permittee's MS4, including illegal dumping/spills. The plan includes the following:
  - a) A procedure for identifying priority areas for field observations. The permittee shall conduct field observations in accordance with the procedure identifying the priority area(s) developed as part of the IDEP.
  - b) A procedure for conducting field observations, field screening, and source investigations. The permittee shall conduct a field observation in accordance with the procedure during dry-weather at least once during the term of the permit. Field screening and source investigation shall be conducted in accordance with the schedule in the procedure.

Field observations, field screening, and source investigations shall include the following:

- (1) **Field Observation** – The permittee shall observe the outfall or point of discharge for the following during dry-weather in accordance with the procedure: presence/absence of flow, water clarity, color, odor, floatable materials, deposits/stains on the discharge structure and bank, vegetation condition, structural condition, and biology (e.g. bacterial sheens, algae, and slimes).

## PART I

### Section A. Limitations and Monitoring Requirements

(2) Field Screening – If flow is observed at an outfall or point of discharge, the permittee shall analyze the flow for the indicator parameters identified in the procedure. If the source of an illicit discharge is identified during the field observation, field screening may not be necessary.

(3) Source Investigation – If the source of the illicit discharge was not identified by the field screening, the permittee shall conduct an investigation to identify the source in accordance with the procedure. If the permittee opts to use tracer dyes, the discharge of the dyes shall be authorized in accordance with Part I.A.6. of this permit.

If the permittee is made aware of non-storm water discharges outside the priority areas, illegal dumping/spills, or complaints received, the permittee shall conduct field observations and follow-up field screening and source investigations as appropriate in accordance with the procedure, including the schedule, in the IDEP. The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state in accordance with Part II.C.7. of this permit.

c) A procedure for responding to illicit discharges and pursuing enforcement action. The permittee shall implement the procedure to respond and pursue enforcement action once the source of the illicit discharge is identified, including the corrective action required to eliminate the illicit discharge. The permittee shall also implement the procedure to respond to illegal spills/dumping. For each illicit discharge not eliminated within 90 days of its discovery, the permittee shall provide, with the next progress report due, a written certification that the illicit discharge was eliminated or a description of how the illicit discharge will be eliminated.

3) The employee training program, which includes the following:

- a) Training on techniques for identifying illicit discharges and connections, including field observations, field screening, and source investigations;
- b) Training on procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response; and
- c) A schedule and requirement for training at least once during the term of the permit for existing staff and within the first year of hire for new staff.

4) The procedure for IDEP evaluation and determining the overall effectiveness of the IDEP.

e. Construction Storm Water Runoff Control Program

The permittee shall implement the construction storm water runoff control program to address areas of construction activity that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale. The permittee shall implement the construction storm water runoff control program as part of the SWMP to the maximum extent practicable.

The construction storm water runoff control program requires implementation of the following minimum requirements:

1) The procedure to notify the Part 91 Agency, or appropriate staff (if the permittee is a Part 91 Agency), when soil or sediment is discharged to the permittee's MS4 from a construction activity.

2) The procedure to notify the Department when soil, sediment, or other pollutants are discharged to the permittee's MS4 from a construction activity.

## PART I

### Section A. Limitations and Monitoring Requirements

3) The procedure for ensuring that construction activity one (1) acre or greater in total earth disturbance with the potential to discharge to the permittee's MS4 obtains a Part 91 permit or is conducted by an approved Authorized Public Agency, as appropriate.

4) The procedure to advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (R 323.2190 of the Part 21 Rules promulgated pursuant to Part 31 of the NREPA).

f. **Post-Construction Storm Water Runoff Program**

The permittee shall implement and enforce the program to address post-construction storm water runoff from new development and redevelopment projects that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale, and that discharge into the permittee's MS4. The permittee shall implement and enforce the post-construction storm water control program as part of the SWMP, to the maximum extent practicable and in accordance with the approved ordinance or regulatory mechanism.

1) On or before January 1, 2022, the permittee shall adopt the Post-Construction Storm Water Control standard submitted on March 19, 2021 to achieve the post-construction storm water runoff performance standards set forth in a) and b) below at the project site (including projects where the permittee is the project developer). The permittee shall implement and enforce the ordinance requiring implementation of BMPs by the project developer (including the permittee if the permittee is the project developer) to achieve the post-construction storm water runoff performance standards at the project site to the maximum extent practicable.

a) **Water Quality Treatment Performance Standard**

Treat the runoff generated from 90 percent of all runoff-producing storms. BMPs shall be designed on a site-specific basis to achieve a minimum of 80 percent removal of total suspended solids (TSS) as compared with uncontrolled runoff or a discharge concentration of TSS not to exceed 80 milligrams per liter (mg/l).

b) **Channel Protection Performance Standard**

The post-construction runoff rate and volume of discharges shall not exceed the pre-development rate and volume for the project site for all storms up to the two-year, 24-hour storm. The permittee is allowed to implement and enforce the ordinance approving extended detention in accordance with the alternative approach. The alternative approach is limited to implementation only where site constraints limit reducing the discharge of stormwater runoff and after the evaluation of all other onsite BMPs, including green infrastructure options identified in the ordinance.

2) The permittee shall implement and enforce the following site-specific requirements as part of meeting the post-construction storm water runoff performance standards set forth in a) and b), above:

a) The procedure for reviewing the use of infiltration BMPs to achieve the performance standards in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions.

b) The ordinance or regulatory mechanism requiring BMPs to address the associated pollutants in potential hot spots as part of meeting the performance standards. Hot spots include areas with the potential for significant pollutant loading including, but not limited to, the following: gas stations; vehicle maintenance and repair; auto recyclers; recycling centers and scrap yards; landfills; solid waste facilities; and railroads. Hot spots also include areas with the potential for contaminating public water supply intakes.

## PART I

### Section A. Limitations and Monitoring Requirements

3) All structural and vegetative BMPs installed and implemented to meet the performance standards shall be operated and maintained in perpetuity. The permittee shall implement and enforce the ordinance or regulatory mechanism program to ensure long-term operation and maintenance of BMPs.

4) The ordinance or regulatory mechanism and procedures for site plan review and approval for projects that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale, and discharge to the permittee's MS4, including projects where the permittee is the developer. The site plan review and approval shall demonstrate compliance with the performance standards and long-term operation and maintenance requirements of this permit.

g. Pollution Prevention and Good Housekeeping Activities for Municipal Operations

The permittee shall implement the pollution prevention and good housekeeping program with the goal of preventing or reducing pollutant runoff from municipal facilities and operations that discharge storm water to surface waters of the state. The permittee shall implement the program as part of the SWMP to the maximum extent practicable.

1) Municipal Facility and Structural Storm Water Control Inventory

The permittee shall make available to the Department upon request an up-to-date map or maps of the facilities and structural storm water controls owned or operated by the permittee with a discharge to surface waters of the state in the regulated area. In accordance with the procedure for updating and revising the permittee's facility inventory and map(s), the permittee shall submit to the Department the type and location for any new facility obtained or constructed during this permit term with a discharge of storm water to surface waters of the state and the information requested in Part I.A.2. of the permit.

2) Facility-Specific Storm Water Management

The permittee shall implement the BMPs identified in the procedure to prevent or reduce pollutant runoff at each facility the permittee identified as having the medium or low potential to discharge pollutants to surface waters of the state. The permittee shall assess new facilities for the potential to discharge pollutants to surface waters of the state in accordance with the procedure to determine a priority level. High-priority facilities shall include permittee-owned or operated fleet maintenance and storage yards unless a demonstration is submitted and approved by the Department demonstrating how the permittee's fleet maintenance or storage yard has the low potential to discharge pollutants to surface waters of the state. The assessment shall be submitted in writing to the Department for approval within 30 days of ownership or operation of the new facility. The permittee shall certify in writing to the Department that a facility-specific SOP is being implemented within 90 days of ownership or operation of a new high-priority facility. Within 90 days of ownership or operation, the permittee shall certify in writing to the Department that BMPs are being implemented in accordance with the procedure developed to prevent or reduce pollutant runoff at each new medium- or low-priority facility. For new facilities, the Department may determine that a permit modification is required, after opportunity for public comment. The Department will notify the permittee if a modification is required. The permittee shall document all other changes to the facility assessment as part of the progress report and as an update to the procedure.

The facility-specific SOP shall be kept at the site described in the SOP and made available upon request by the Department. The facility-specific SOP for each high-priority facility shall include implementation of the following.

- a) Structural and non-structural storm water controls to prevent or reduce the discharge of pollutants to surface waters of the state.
- b) Up-to-date list of significant materials stored on-site that could pollute storm water with a description of the handling and storage requirements and potential to discharge for each significant material.

**PART I****Section A. Limitations and Monitoring Requirements**

- c) Good housekeeping practices including, but not limited to, maintaining a clean and orderly facility, properly storing and covering materials, and minimizing pollutant sources to prevent or reduce pollutant runoff.
  - d) Routine maintenance and inspections of storm water management and control devices to ensure materials and equipment are clean and orderly and prevent or reduce pollutant runoff. The written report of the inspection and corrective actions shall be retained in accordance with Part II.B.5. of this permit.
  - e) Comprehensive site inspections at least once every six (6) months. The comprehensive site inspection shall include an inspection of all structural storm water controls and a review of non-structural storm water controls to prevent or reduce pollutant runoff. A written report of the inspection and corrective actions shall be retained in accordance with Part II.B.5. of this permit.
- 3) **Structural Storm Water Control Operation and Maintenance Activities**
- a) The permittee shall implement the procedures for inspecting, cleaning, and maintaining permittee-owned or operated catch basins in the regulated area using the priority level assigned to each catch basin. The permittee shall document changes to the priority level for a catch basin as part of the progress report and as an update to the procedure.  
  
The permittee shall also implement the procedure for dewatering and disposal of materials extracted from the catch basins in accordance with Part 111 (Hazardous Waste), Part 115 (Solid Waste), and Part 121 (Liquid Industrial Waste) of the NREPA.
  - b) The permittee shall implement the procedure for inspecting and maintaining permittee-owned or operated structural storm water controls other than catch basins in the regulated area. The permittee shall document changes to the procedure as part of the progress report and as an update to the procedure.
  - c) The permittee shall implement the procedure requiring that new permittee-owned or operated facilities or structural storm water controls to address water quantity be designed and implemented in accordance with the post-construction storm water runoff performance standards and long-term operation and maintenance requirements in Part I.A.3.f. of this permit.
- 4) **Municipal Operations and Maintenance Activities**
- a) The permittee shall implement the procedure, including the BMPs identified, to prevent or reduce pollutant runoff from the permittee's operation and maintenance activities identified in the SWMP. The permittee shall document changes to the assessment of operation and maintenance activities for the potential to discharge pollutants to surface waters of the state as part of the progress report and as an update to the procedure.
  - b) The permittee shall implement the procedure for the street sweeping program for permittee-owned or operated streets, parking lots, or other impervious infrastructure in the regulated area using the sweeping methods and assigned priority levels identified in the procedure. The permittee shall document changes to the priority level for a street, parking lot, or other impervious infrastructure as part of the progress report and as an update to the procedure.  
  
The permittee shall also implement the procedure for dewatering and disposal of street sweeper waste material.

## PART I

### Section A. Limitations and Monitoring Requirements

5) Managing Vegetated Properties

The permittee shall implement the procedure requiring the permittee's pesticide applicator to be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land.

6) Employee Training

The permittee shall implement the employee training program to train employees involved in implementing pollution prevention and good housekeeping activities. At a minimum, existing staff shall be trained once during the permit cycle and new hire employees within the first year of their hire date.

7) Contractor Requirements and Oversight

The permittee shall implement the procedure requiring contractors hired by the permittee to perform municipal operation and maintenance activities that comply with the permittee's pollution prevention and good housekeeping program and contractor oversight to ensure compliance.

#### 4. SWMP Modifications

a. SWMP Modifications Requested by the Permittee

Modifications to the previously approved SWMP may be requested by the permittee as follows:

1) Modifications adding BMPs (but not replacing, subtracting, or affecting the level of implementation of any other BMP) to the previously approved SWMP may be made by the permittee at any time upon written notification to the Department. Notification shall include a description of the modification, which may include a description of a new BMP with a corresponding measurable goal. Upon notification to the Department, the modification is considered an enforceable part of the approved SWMP.

2) Modifications replacing an ineffective or unfeasible BMP identified in the previously approved SWMP with an alternative BMP may be requested at any time by written notification to the Department. The ineffective or unfeasible BMP identified shall not be replaced in the previously approved SWMP unless the replacement is approved by the Department. Modifications to the previously approved SWMP may result in a permit modification after opportunity for public comment. Such requests shall include the following:

- a) an analysis of why the BMP is ineffective or unfeasible (including cost-prohibitive);
- b) a measurable goal for the replacement BMP; and
- c) an analysis of why the replacement BMP is expected to achieve the intent of the BMP to be replaced.

3) Modifications subtracting an ineffective or unfeasible BMP identified in the previously approved SWMP may be requested by written notification to the Department. The identified BMP shall not be subtracted from the previously approved SWMP unless the subtraction is approved by the Department. Modifications to the previously approved SWMP may result in a permit modification after opportunity for public comment. Such requests shall include the following:

- a) an analysis of why the BMP is ineffective or unfeasible (including cost prohibitive); and
- b) a determination of why the removal of the BMP will not change the permittee's ability to comply with the permit requirements.

**PART I****Section A. Limitations and Monitoring Requirements****b. Modifications Required by the Department**

The Department may require the permittee to modify the SWMP as needed to:

- 1) address contributions from the permittee's MS4 discharge that impair receiving water quality;
- 2) include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements; and/or
- 3) include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Federal Act or the NREPA, including the requirement to reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

**5. Request for Approval to Use Water Treatment Additives**

This permit does not authorize the use of any water treatment additive without prior written approval from the Department. Such approval is authorized under separate correspondence. Water treatment additives include any materials that are added to water used at the facility, or to wastewater generated by the facility, to condition or treat the water. Permittees proposing to use water treatment additives, including a proposed increased concentration of a previously approved water treatment additive, shall submit a request for approval via the Department's MiWaters system. The MiWaters website is located at <https://miwaters.deq.state.mi.us>. Instructions for submitting such a request may be obtained at <http://www.michigan.gov/npdes> (near the bottom of that page, click on one or both of the links located under the Water Treatment Additives banner). Additional monitoring and reporting may be required as a condition of approval to use the water treatment additive.

A request for approval to use water treatment additives shall include all of the following usage and discharge information for each water treatment additive proposed to be used:

- a. The Safety Data Sheet (SDS);
- b. Ingredient information, including the name of each ingredient, CAS number for each ingredient, and fractional content by weight for each ingredient;
- c. The proposed water treatment additive discharge concentration with supporting calculations;
- d. The discharge frequency (i.e., number of hours per day and number of days per year);
- e. The outfall(s) and monitoring point(s) from which the water treatment additive is to be discharged;
- f. The type of removal treatment, if any, that the water treatment additive receives prior to discharge;
- g. The water treatment additive's function (i.e., microbicide, flocculant, etc.);
- h. The SDS shall include a 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated; and
- i. The SDS shall include the results of a toxicity test for one (1) other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of R 323.1057(2) of the Water Quality Standards. The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

**PART I****Section A. Limitations and Monitoring Requirements****6. Tracer Dye Discharges**

This permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department in accordance with Rule 1097 (R 323.1097 of the Michigan Administrative Code).

**7. Storm Water Program Manager (Facility Contact)**

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

- a. The facility contact shall be (or a duly authorized representative of this person):
  - for a corporation, a principal executive officer of at least the level of vice president; or a designated representative if the representative is responsible for the overall operation of the facility from which the discharge originates, as described in the permit application or other NPDES form,
  - for a partnership, a general partner,
  - for a sole proprietorship, the proprietor, or
  - for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.
- b. A person is a duly authorized representative only if:
  - the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
  - the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

**PART I****Section B. Program Assessment and Reporting****1. Progress Reports**

Progress reports shall be submitted on or before October 1, 2021, April 1, 2023 and on or before April 1 every two (2) years following. The Department may approve alternate dates for progress report submittal if requested and adequately justified by the permittee. Each progress report shall contain the following information for the entire period that has elapsed since the last progress report submittal (i.e., the reporting cycle):

**a. Compliance Assessment**

The permittee shall describe the status of compliance with the approved SWMP identified in Part I.A.3 of this permit. The permittee shall assess and describe the appropriateness of the BMPs identified in the SWMP. The report shall describe the progress made towards achieving the identified measurable goals for each of the BMPs, and specific evaluation criteria as follows:

1) For the PEP, provide a summary of the evaluation of the overall effectiveness of the PEP, using the evaluation methods described in the PEP.

2) For the IDEP, provide a summary of the evaluation and determination of the overall effectiveness of the IDEP, using the evaluation methods described in the IDEP. For each illicit discharge that was not eliminated within 90 days of its discovery the permittee shall provide a written certification that the illicit discharge was eliminated or a description of how the illicit discharge will be eliminated.

3) If applicable, the permittee shall submit to the Department any new outfall or point of discharge information as required in Part I.A.2. of this permit.

**b. Data and Results**

The permittee shall provide a summary of all of the information collected and analyzed, including monitoring data, if any, during the reporting cycle.

**c. Upcoming Activities**

The permittee shall provide a summary of the BMPs to be implemented during the next reporting cycle.

**d. Changes to BMPs and Measurable Goals**

The permittee shall describe any changes to BMPs or measurable goals in the approved SWMP. In accordance with the permit, these changes will be reviewed to determine if a permit modification is necessary. The Department will notify the permittee if a permit modification is required.

**e. Notice of Changes in Nested Jurisdiction Agreements**

The permittee shall identify any nested jurisdictions that enter into or terminate permit agreements with the permittee which were not identified in the SWMP. The permittee may request to modify the permit coverage to add or remove a nested MS4 by submitting a request to the Department for approval in accordance with Part I.A.1.b. of this permit. Modifications to the permit coverage may result in a permit modification, after opportunity for public comment.

**f. Required Signatures**

All reports required by this permit, and other information requested by the Department, shall be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative of that person in accordance with 40 CFR 122.22(b).

## PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

### Section A. Definitions

**Acute toxic unit (TU<sub>A</sub>)** means 100/LC<sub>50</sub> where the LC<sub>50</sub> is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

**Annual monitoring frequency** refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Authorized public agency** means a state, local, or county agency that is designated pursuant to the provisions of Section 9110 of Part 91, Soil and Sedimentation Control, of the NREPA, to implement soil erosion and sedimentation control requirements with regard to construction activities undertaken by that agency.

**Best management practices (BMPs)** means structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water, to direct the flow of storm water, or to treat polluted storm water.

**Bioaccumulative chemical of concern (BCC)** means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

**Biosolids** are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

**Bulk biosolids** means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

**Certificate of Coverage (COC)** is a document, issued by the Department, which authorizes a discharge under a general permit.

**Chronic toxic unit (TU<sub>C</sub>)** means 100/MATC or 100/IC<sub>25</sub>, where the maximum acceptable toxicant concentration (MATC) and IC<sub>25</sub> are expressed as a percent effluent in the test medium.

**Class B biosolids** refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules, Land Application of Biosolids, promulgated under Part 31 of the NREPA. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

**Combined sewer system** is a sewer system in which storm water runoff is combined with sanitary wastes.

**Continuous monitoring** refers to sampling/readings that occur at regular and consistent intervals throughout a 24-hour period and at a frequency sufficient to capture data that are representative of the discharge. The maximum acceptable interval between samples/readings shall be one (1) hour.

**PART II****Section A. Definitions****Daily concentration**

FOR PARAMETERS OTHER THAN pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – Daily concentration is the sum of the concentrations of the individual samples of a parameter taken within a calendar day divided by the number of samples taken within that calendar day. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations. For guidance and examples showing how to perform calculations using results below quantification levels, see the document entitled "Reporting Results Below Quantification," available at [https://www.michigan.gov/documents/deq/wrd-mpdes-results-quantification\\_620791\\_7.pdf](https://www.michigan.gov/documents/deq/wrd-mpdes-results-quantification_620791_7.pdf).

FOR pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – The daily concentration used to determine compliance with maximum daily pH, temperature, and conductivity limitations is the highest pH, temperature, and conductivity readings obtained within a calendar day. The daily concentration used to determine compliance with minimum daily pH and dissolved oxygen limitations is the lowest pH and dissolved oxygen readings obtained within a calendar day.

**Daily loading** is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

**Daily monitoring frequency** refers to a 24-hour day. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Department** means the Michigan Department of Environment, Great Lakes, and Energy.

**Detection level** means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

**Discharge** means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

**EC<sub>50</sub>** means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

**Fecal coliform bacteria monthly**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a discharge event. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR. If the period in which the discharge event occurred was partially in each of two months, the calculated monthly value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a reporting month. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

**PART II****Section A. Definitions****Fecal coliform bacteria 7-day**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days of discharge during a discharge event. If the number of daily concentrations determined during the discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean value for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. If the 7-day period was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days in a reporting month. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. The first calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

**Flow-proportioned sample** is a composite sample with the sample volume proportional to the effluent flow.

**General permit** means an NPDES permit authorizing a category of similar discharges.

**Geometric mean** is the average of the logarithmic values of a base 10 data set, converted back to a base 10 number.

**Grab sample** is a single sample taken at neither a set time nor flow.

**IC<sub>25</sub>** means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

**Illicit connection** means a physical connection to a municipal separate storm sewer system that primarily conveys non-storm water discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

**Illicit discharge** means any discharge to, or seepage into, a municipal separate storm sewer system that is not composed entirely of storm water or uncontaminated groundwater. Illicit discharges include non-storm water discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.

**Individual permit** means a site-specific NPDES permit.

**Inlet** means a catch basin, roof drain, conduit, drain tile, retention pond riser pipe, sump pump, or other point where storm water or wastewater enters into a closed conveyance system prior to discharge off site or into waters of the state.

**PART II****Section A. Definitions**

**Interference** is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts a POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference].

**Land application** means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

**LC<sub>50</sub>** means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

**Maximum acceptable toxicant concentration (MATC)** means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

**Maximum extent practicable** means implementation of best management practices by a public body to comply with an approved storm water management program as required by a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.

**MBTU/hr** means million British Thermal Units per hour.

**MGD** means million gallons per day.

**Monthly concentration** is the sum of the daily concentrations determined during a reporting period divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

**Monthly loading** is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during a reporting period. The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMR.

**Monthly monitoring frequency** refers to a calendar month. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Municipal separate storm sewer** means a conveyance or system of conveyances designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a POTW as defined in the Code of Federal Regulations at 40 CFR 122.2.

## PART II

### Section A. Definitions

**Municipal separate storm sewer system (MS4)** means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Clean Water Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

**National Pretreatment Standards** are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Clean Water Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

**No observed adverse effect level (NOAEL)** means the highest tested dose or concentration of a substance which results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

**Noncontact cooling water** is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

**Nondomestic user** is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

**Nonstructural controls** are practices or procedures implemented by employees at a facility to manage storm water or to prevent contamination of storm water.

**NPDES** means National Pollutant Discharge Elimination System.

**Outfall** is the location at which a point source discharge first enters a surface water of the state.

**Part 91 agency** means an agency that is designated by a county board of commissioners pursuant to the provisions of Section 9105 of Part 91 of the NREPA; an agency that is designated by a city, village, or township in accordance with the provisions of Section 9106 of Part 91 of the NREPA; or the Department for soil erosion and sedimentation control activities under Part 615, Supervisor of Wells; Part 631, Reclamation of Mining Lands; or Part 632, Nonferrous Metallic Mineral Mining, of the NREPA, pursuant to the provisions of Section 9115 of Part 91 of the NREPA.

**Part 91 permit** means a soil erosion and sedimentation control permit issued by a Part 91 agency pursuant to the provisions of Part 91 of the NREPA.

**Partially treated sewage** is any sewage, sewage and storm water, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's NPDES permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

**Point of discharge** is the location of a point source discharge where storm water is discharged directly into a separate storm sewer system.

**Point source discharge** means a discharge from any discernible, confined, discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock. Changing the surface of land or establishing grading patterns on land will result in a point source discharge where the runoff from the site is ultimately discharged to waters of the state.

**Polluting material** means any material, in solid or liquid form, identified as a polluting material under the Part 5 Rules, Spillage of Oil and Polluting Materials, promulgated under Part 31 of the NREPA (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

**PART II****Section A. Definitions**

**POTW** is a publicly owned treatment work.

**Predevelopment** is the last land use prior to the planned new development or redevelopment.

**Pretreatment** is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

**Public** (as used in the MS4 individual permit) means all persons who potentially could affect the authorized storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

**Public body** means the United States; the state of Michigan; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other body which is created by federal or state statute or law.

**Qualified Personnel** means an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Storm Water Certified Operator to collect the storm water sample.

**Qualifying storm event** means a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that also caused greater than 0.1 inch of rainfall. Upon request, the Department may approve an alternate definition meeting the condition of a qualifying storm event.

**Quantification level** means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

**Quarterly monitoring frequency** refers to a three month period, defined as January through March, April through June, July through September, and October through December. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Regional Administrator** is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

**Regulated area** means the permittee's urbanized area, where urbanized area is defined as a place and its adjacent densely-populated territory that together have a minimum population of 50,000 people as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

**Secondary containment structure** means a unit, other than the primary container, in which significant materials are packaged or held, which is required by state or federal law to prevent the escape of significant materials by gravity into sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface waters or groundwaters of the state.

**Separate storm sewer system** means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which is not a combined sewer where storm water mixes with sanitary wastes, and is not part of a POTW.

**Significant industrial user** is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in

**PART II****Section A. Definitions**

accordance with 40 CFR 403.8(f)(6)).

**Significant materials** means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111, Hazardous Waste Management, of the NREPA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

**Significant spills and significant leaks** means any release of a polluting material reportable under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

**Special-use area** means storm water discharges for which the Department has determined that additional monitoring is needed from: secondary containment structures required by state or federal law; lands on Michigan's List of Sites of Environmental Contamination pursuant to Part 201, Environmental Remediation, of the NREPA; and/or areas with other activities that may contribute pollutants to the storm water.

**Stoichiometric** means the quantity of a reagent calculated to be necessary and sufficient for a given chemical reaction.

**Storm water** means storm water runoff, snow melt runoff, surface runoff and drainage, and non-storm water included under the conditions of this permit.

**Storm water discharge point** is the location where the point source discharge of storm water is directed to surface waters of the state or to a separate storm sewer. It includes the location of all point source discharges where storm water exits the facility, including *outfalls* which discharge directly to surface waters of the state, and *points of discharge* which discharge directly into separate storm sewer systems.

**Structural controls** are physical features or structures used at a facility to manage or treat storm water.

**SWPPP** means the Storm Water Pollution Prevention Plan prepared in accordance with this permit.

**Tier I value** means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

**Tier II value** means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

**Total maximum daily loads (TMDLs)** are required by the Clean Water Act for waterbodies that do not meet water quality standards. TMDLs represent the maximum daily load of a pollutant that a waterbody can assimilate and meet water quality standards, and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

**Toxicity reduction evaluation (TRE)** means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

**Water Quality Standards** means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of the NREPA, being R 323.1041 through R 323.1117 of the Michigan Administrative Code.

**Weekly monitoring frequency** refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**WWSL** is a wastewater stabilization lagoon.

**PART II****Section A. Definitions**

**WWSL discharge event** is a discrete occurrence during which effluent is discharged to the surface water up to 10 days of a consecutive 14 day period.

**3-portion composite sample** is a sample consisting of three equal-volume grab samples collected at equal intervals over an 8-hour period.

**7-day concentration**

**FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS** – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily concentrations determined. If the number of daily concentrations determined during the WWSL discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the WWSL discharge event in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

**FOR ALL OTHER DISCHARGES** – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations in the reporting month. When required by the permit, report the maximum calculated 7-day concentration for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

**7-day loading**

**FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS** – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily loadings determined. If the number of daily loadings determined during the WWSL discharge event is less than 7 days, the number of actual daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the WWSL discharge event in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

**FOR ALL OTHER DISCHARGES** – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days in a reporting month divided by the number of daily loadings determined. If the number of daily loadings determined is less than 7, the actual number of daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations in the reporting month. When required by the permit, report the maximum calculated 7-day loading for the month in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

**24-hour composite sample** is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period. A time-proportioned composite sample may be used upon approval of the Department if the permittee demonstrates it is representative of the discharge.

## PART II

### Section B. Monitoring Procedures

#### 1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

#### 2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Clean Water Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations.** Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Manager of the Permits Section, Water Resources Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control program.

#### 3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

#### 4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

#### 5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

## PART II

### Section C. Reporting Requirements

#### 1. Start-Up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

#### 2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring," the permittee shall submit self-monitoring data via the Department's MiWaters system.

The permittee shall utilize the information provided on the MiWaters website, located at <https://miwaters.deq.state.mi.us>, to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the 20<sup>th</sup> day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

#### 3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th (April 1st for animal feeding operation facilities) of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

#### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act, 1987 PA 96, as amended, for assurance of proper facility operation, shall be submitted as required by the Department.

## PART II

### Section C. Reporting Requirements

#### 5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a *written* notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

#### 6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Clean Water Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. **24-Hour Reporting**  
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.
- b. **Other Reporting**  
The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

#### 7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if the notice is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from **out-of-state** call 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventive measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

**PART II****Section C. Reporting Requirements****8. Upset Noncompliance Notification**

If a process "upset" (defined as 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) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Department by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that 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); and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

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.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

**9. Bypass Prohibition and Notification**

- a. Bypass Prohibition  
Bypass is prohibited, and the Department may take an enforcement action, unless:
  - 1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - 2) 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 backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and
  - 3) the permittee submitted notices as required under 9.b. or 9.c. below.
- b. Notice of Anticipated Bypass  
If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.
- c. Notice of Unanticipated Bypass  
The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated on the second page of this permit (if the notice is provided after regular working hours, call: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

## PART II

### Section C. Reporting Requirements

d. Written Report of Bypass

A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.

e. 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 essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.

f. Definitions

- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or 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 in production.

### 10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

### 11. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, as soon as possible but no later than 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

## PART II

### Section C. Reporting Requirements

#### 12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such notice, the permit or, if applicable, the facility's COC may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

#### 13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

#### 14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted sixty days prior to start-up of any substantial improvements or modifications made to an existing wastewater treatment facility.

## PART II

### Section C. Reporting Requirements

#### 15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Clean Water Act and the NREPA.

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 noncompliance, 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.

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

#### 16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically all such reports or notifications as required by this permit, on forms provided by the Department.

## PART II

### Section D. Management Responsibilities

#### 1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Clean Water Act and constitutes grounds for enforcement action; for permit or Certificate of Coverage (COC) termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

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.

#### 2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the NREPA.

#### 3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

#### 4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or
- b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

#### 5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

## PART II

### Section D. Management Responsibilities

#### 6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the NREPA.

#### 7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

#### 8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

- a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

#### 9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Clean Water Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit, shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Clean Water Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Clean Water Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

#### 10. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

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 Department, it shall promptly submit such facts or information.

## PART II

### Section E. Activities Not Authorized by This Permit

#### 1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

#### 2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

#### 3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

#### 4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act except as are exempted by federal regulations.

#### 5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

#### 6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environment, Great Lakes, and Energy permits, or approvals from other units of government as may be required by law.

## Memo

**TO:** Ben Swayze – Cascade Charter Township

**FROM:** Michael L. Berrevoets, PE

**DATE:** October 28, 2021

**PROJECT NO.:** 04058

**RE:** Cascade Charter Township Stormwater Ordinance

This memo is provided to outline the major changes with the new Stormwater Ordinance (SWO) that is being considered for adoption by the Township Board. The SWO has been developed as a model ordinance in cooperation with other local governments in the Lower Grand River Watershed. Adoption of the ordinance is required to maintain compliance with the Township's NPDES MS4 permit.

The SWO includes many new record keeping requirements, additional required oversight by the Township, and design standards for new developments.

### Major Changes and Requirements

1. Stormwater Permit will be required for all new developments. The developer will be required to include the following in their permit application:
  - a. Site Drainage Plan
  - b. Deposit for the stormwater permit review fee.
  - c. Post an applicable performance guarantee (Note, amount must be established in Section 2.06.2)
  - d. Provide all easements necessary to implement the approved drainage plan.
  - e. Provide the required maintenance agreement for routine, emergency, and long-term maintenance. This agreement shall be recorded and is binding on all future property owners.
2. Inspection, Monitoring, Reporting and Recordkeeping
  - a. The Township may inspect and/or obtain stormwater samples to determine compliance with the ordinance requirements.
  - b. The new SWO still requires that any discharger who accidentally discharges into a water body any substance other than stormwater or an exempted discharge shall immediately inform the Township.
3. Enforcement
  - a. The Township is required to establish dollar amounts (fines) for municipal civil infractions in Section 6.01.1 for violating any provisions of the ordinance. This is not a new requirement, however it is an opportunity to review fine amounts with adoption of the new ordinance.
  - b. Township is authorized to issue a Stop Work Order where there is work that results in a violation of the ordinance.

- c. Township may complete the project if the owner fails to comply with the ordinance and the Owner shall be obligated to reimburse the Township. This can only be done after giving reasonable notice and an opportunity for compliance.

4. Maintenance Agreement is required

- a. The Developer shall provide all stormwater maintenance agreements necessary to implement the approved drainage plan.
- b. The agreement shall include a maintenance plan and schedule for long-term maintenance.
- c. Maintenance plan must include a detailed annual estimated budget for the initial three years.
- d. If there is a failure to undertake the required maintenance, the Township is authorized, but not required, to hire an entity to undertake the monitoring or maintenance. The property owner shall be obligated to reimburse the Township for associated costs.

5. Performance and Design Standards

The new ordinance also includes revised performance and design standards that developers will need to incorporate in their site plans for review prior to issuing the storm water permit. The cause for the change is due to increasing stormwater requirements set forth by the State (EGLE). These standards look similar to current standards; however, they are much more restrictive especially with respect to water quality treatment and channel protection requirements. These standards are very similar across communities in the Lower Grand River Watershed with the exception of a few additional requirements that are unique to the Township.

The SWO references the Township “Stormwater Standards Manual” (SSM) which further outlines the specifics of how the SWO will be applied when developers are preparing site plans. The SSM is a 143-page document that contains Best Management Practices (BMPs) and detailed information necessary to meet the SWO requirements.

a. Water Quality Treatment

- All sites are required to provide water quality treatment for the entire project site. This requires treatment of the calculated site runoff for the entire project site from the 90 percent annual non-exceedance storm, which is approximately equal to 1-inch of rain. This volume of runoff is commonly referred to as the “first flush” that typically contains the majority of pollutants. This standard requires a minimum of 80% removal of Total Suspended Solids (TSS). Developers will have the option to select approved BMPs to satisfy the Water Quality Treatment requirement. These BMPs can include settling (in a permanent pool or detention), filtration, infiltration, absorption, or chemical/mechanical treatment.

b. Channel Protection

- The SWO requires that post-development project site runoff volume and peak flow rate be at or below predevelopment levels for all storms up to the 2-year, 24-hour event. In general, these rate storms have been found to result in the most downstream erosion and this requirement is necessary to mitigate that erosion.
- This standard requires onsite retention of the volume increase. Retention can be provided through infiltration, or interception and evapotranspiration or reuse.
- This requirement may be difficult to achieve depending on existing site conditions that have poor draining soils, bedrock, high groundwater or located in stormwater hot spots. In those cases, the

SWO allows for an Alternative Approach which is extended detention of the 2-year, 24-hour event. This involves providing detention of the runoff for not less than 24 hours or more than 72 hours effectively reducing the peak flow to minimize the downstream impacts. There are very specific conditions where the Alternative Approach will be allowed.

- There is also a unique requirement for Channel Protection in the Cascade SSM. When the SWO and SSM were being developed it was decided that redevelopment of existing developed parcels presented an opportunity for additional improvements in subwatersheds with impaired water courses. The SSM contains a provision where development and redevelopment in critical subwatersheds shall meet presettlement conditions for channel protection.

c. Flood Control

- The SWO also includes requirements for flood control which is the concern with larger or more intense rain events. This requirement is similar to the current ordinance with the Flood Control Zone Map still being used; however, there have been some increased requirements in some areas. The flood control requirements are dependent on the location of the development.
- Development in Zone 1 requires retention of the 100-year storm event if the permeability of the soil exceeds 3-inches per hour and the highest groundwater level is more than 3 feet below the proposed basin bottom. If those conditions are not met, then detention is required for the 100-year storm event with a restricted release rate of 0.13 cubic feet per second per acre of development. The current ordinance only required detention of the 25-year storm event if infiltration was not possible due to soil or groundwater conditions.
- Development in Zone 2 requires detention of the 25-year storm event with a maximum release rate of 0.13 cubic feet per second per acre developed.
- Development in Zone 3 does not require flood control provided there is a suitable outlet for the 100-year storm runoff to the open water of the river. It should be noted that Zone 3 is generally limited to parcels along either the Thornapple River or Grand River. If there is not a suitable outlet for the 100-year storm then the developer will need to comply with Zone 2 requirements. It is the Developer's responsibility to prove there is a suitable outlet.
- In all zones, the overflow route and extent of high-water levels for the 100-year flood shall be identified for the site and for the downstream areas between the site and the nearest acceptable floodway or outlet.

d. There are also additional performance and design standards which are site-specific requirements.

- Pretreatment of site runoff is required on a site-specific basis prior to discharging to certain stormwater BMPs.
- The SWO and SSM also contain requirements on how to handle "Hot Spots" which have a potential greater risk of polluted runoff than a typical site. These uses would include sites such as gas stations, commercial vehicle maintenance, auto recyclers, recycling centers, and scrap yards. There are special requirements for these types of uses to protect groundwater or nearby surface waters.

Copy Brian Hilbrands

**Storm Water Ordinance  
for  
Cascade Charter Township  
Kent County, Michigan**



**STORM WATER ORDINANCE  
FOR  
CASCADE CHARTER TOWNSHIP  
KENT COUNTY, MICHIGAN**

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**Cascade Charter Township  
Kent County, Michigan  
Ordinance 7 of 2002  
As amended by Ord no 2 of 2008; 5/14/2008**

**AN ORDINANCE** to provide for the regulation and control of storm water runoff; to provide for storm water permits and the procedures and standards for the issuance thereof; to provide for payment or reimbursement of costs and expenses incurred by Cascade Charter Township associated with storm water permits and the consideration thereof; to establish standards and requirements for the protection of floodways and for the control of soil erosion and sedimentation; to adopt other provisions for the establishing, maintaining and protection of drains and drainageways; to provide regulations for the inspection, sampling and monitoring of storm water and other discharges; to establish performance and design standards for storm water management in specified zones of Cascade Charter Township; and to provide penalties for violations of the ordinance.

**THE BOARD OF CASCADE CHARTER TOWNSHIP ORDAINS:**

**Article I - General**

**Sec. 1.01 Statutory Authority and Title**

This ordinance is adopted in accordance with the Charter Township Act, as amended, being MCL 42.1, et seq.; the Township and Village Public Improvement Act, as amended, being MCL 41.721, et seq.; the Drain Code of 1956, as amended, being MCL 280.1, et seq.; the Land Division Act, as amended, being MCL 560.1, et seq.; the Revenue Bond Act, as amended, being MCL 141.101, et seq.; and the Natural Resources and Environmental Protection Act, as amended, being MCL 324.101, et seq.; Section 401(p) of the Federal Water Pollution Control Act (also known as the Clean Water Act), as amended, being 33 USC 1342(p) and 40 CFR Parts 9, 122, 123 and 124; and other applicable state and federal laws.

This ordinance shall be known and may be cited as the Cascade Charter Township Storm Water Ordinance.

**Sec. 1.02 Findings**

The Cascade Charter Township finds that:

- (1) Water bodies, roadways, structures, and other property within, and downstream of the Township are at times subjected to flooding;
- (2) Flooding is a danger to the lives and property of the public and is also a danger to the natural resources of the Township and the region;
- (3) Land development alters the hydrologic response of watersheds, resulting in increased storm water runoff rates and volumes, increased flooding,

increased stream channel erosion, and increased sediment transport and deposition;

- (4) Storm water runoff produced by land development contributes to increased quantities of water-borne pollutants;
- (5) Increases of storm water runoff, soil erosion, and non-point source pollution have occurred as a result of land development, and cause deterioration of the water resources of the Township and downstream municipalities;
- (6) Storm water runoff, soil erosion, and non-point source pollution, due to land development within the Township, have resulted in a deterioration of the water resources of the Township and downstream municipalities;
- (7) Increased storm water runoff rates and volumes, and the sediments and pollutants associated with storm water runoff from future development projects within the Township will, absent reasonable regulation and control, adversely affect the Township's water bodies and water resources, and those of downstream municipalities;
- (8) Storm water runoff, soil erosion, and non-point source pollution can be controlled and minimized by the regulation of storm water runoff from development;
- (9) Adopting the standards, criteria and procedures contained in this ordinance and implementing the same will address many of the deleterious effects of storm water runoff;
- (10) Adopting these standards is necessary for the preservation of the public health, safety and welfare.

### **Sec. 1.03 Purpose**

It is the purpose of this ordinance to establish minimum storm water management requirements and controls to accomplish, among others, the following objectives:

- (1) To reduce artificially induced flood damage;
- (2) To minimize increased storm water runoff rates and volumes from identified new land development;
- (3) To minimize the deterioration of existing watercourses, culverts and bridges, and other structures;
- (4) To encourage water recharge into the ground where geologically favorable conditions exist;
- (5) To prevent an increase in non-point source pollution;

- (6) To maintain the integrity of stream channels for their biological functions, as well as for drainage and other purposes;
- (7) To minimize the impact of development upon stream bank and streambed stability;
- (8) To reduce erosion from development or construction projects;
- (9) To preserve and protect water supply facilities and water resources by means of controlling increased flood discharges, stream erosion, and runoff pollution; and,
- (10) To reduce storm water runoff rates and volumes, soil erosion, and non-point source pollution, wherever practicable, from lands that were developed without storm water management controls meeting the purposes and standards of this ordinance.
- (11) To reduce the adverse impact of changing land use on water bodies and, to that end, this ordinance establishes minimum standards to protect water bodies from degradation resulting from changing land use where there are insufficient storm water management controls.

#### **Sec. 1.04 Applicability, Exemptions and General Provisions**

- (1) This ordinance shall apply to any development site which requires approval of a plat, a site development plan, building permit, or any other permit for work which will alter storm water drainage characteristics of the development site, provided, however, that this ordinance shall not apply to the following:
  - (a) The installation or removal of individual mobile homes within a mobile home park. This exemption shall not be construed to apply to the construction, expansion, or modification of a mobile home park.
  - (b) Farm operations and farm buildings, except dwellings, directly related to farm operations. This exemption shall not apply to livestock production facilities as defined in this ordinance, greenhouses and other similar structures.
  - (c) Plats with final plat approval and other developments with final land use approval before the effective date of this ordinance, where such approvals remain in effect.
  - (d) The construction of, or an addition, extension or modification to, an individual single-family or a two-family detached dwelling.
  - (e) Construction, development or redevelopment associated with aeronautical facilities at the Gerald R. Ford International Airport.

#### **Sec. 1.05 Definitions**

For the purpose of this ordinance, the following words and phrases shall have the meanings respectively ascribed to them by this Section unless the context in which they are used specifically indicates otherwise:

- (1) Aeronautical Facilities – Any and all devices, physical or otherwise, objects of nature or human-made, which aid and are used in aeronautics.
- (2) Base Flood – A flood having a one (1) percent chance of being equaled or exceeded in any given year.
- (3) Base Flood Elevation – The high water elevation of the Base Flood, commonly referred to as the "100-year flood elevation".
- (4) Base Flood Plain – The area inundated by the Base Flood.
- (5) Best Management Practices (BMPs) – A practice, or combination of practices and design criteria that comply with the Michigan Department of Environmental Quality's Guidebook of BMPs for Michigan Watersheds, or equivalent practices and design criteria that accomplish the purposes of this ordinance (including, but not limited to minimizing storm water runoff and preventing the discharge of pollutants into storm water) as determined by the Township Engineer, and, where appropriate, the standards of the Kent County Drain Commissioner.
- (6) Building Opening – Any opening of a solid wall such as a window or door, through which floodwaters could penetrate.
- (7) Clean Water Act – The Federal Water Pollution Control Act, 33 USC Sec 1251 et seq., as amended, and the applicable regulations promulgated thereunder.
- (8) Construction Site Storm Water Runoff – Storm water runoff from a development site following an earth change.
- (9) Design Engineer – Registered and licensed professional engineer responsible for the design of a drainage plan.
- (10) Detention – A system which is designed to capture storm water and release it over a given period of time through an outlet structure at a controlled rate.
- (11) Developed or Development – The installation or construction of impervious surfaces on a development site that require, pursuant to state law or local ordinance, the Township approval of a site plan, plat, site condominium, special land use, planned unit development, rezoning of land, land division approval, private road approval or

other approvals required for the development of land or the erection of buildings or structures.

- (12) Developer – Any person proposing or implementing the development of land.
- (13) Development Site – Any land that is being or has been developed, or that a developer proposes for development or that is subject to an earth change.
- (14) Discharger – Any person or entity who directly or indirectly discharges storm water from any property. Discharger also means any employee, officer, director, partner, contractor, or other person who participates in, or is legally or factually responsible for, any act or omission that is or results in a violation of this ordinance.
- (15) Drain – Any drain as defined in the Drain Code of 1956, as amended, being MCL 280.1, et. seq., other than an established county or inter-county drain.
- (16) Drainage – The collection, conveyance, or discharge of ground water and/or surface water.
- (17) Drainageway – The area within which surface water or ground water is carried from one part of a lot or parcel to another part of the lot or parcel or to adjacent land.
- (18) Earth Change – Any human activity that removes ground cover, changes the slope or contours of the land, or exposes the soil surface to the actions of wind and rain. Earth change includes, but is not limited to, any excavating, surface grading, filling, landscaping, or removal of vegetative roots.
- (19) EPA – The United States Environmental Protection Agency.
- (20) Erosion – The process by which the ground surface is worn away by action of wind, water, gravity or a combination thereof.
- (21) Exempted Discharges – Discharges other than storm water as specified in Section 4.02 of this ordinance.
- (22) Federal Emergency Management Agency (FEMA) – The agency of the federal government charged with emergency management.
- (23) Flood or Flooding – A general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of water bodies or the unusual and rapid accumulation of surface water runoff from any source.
- (24) Floodplain – Any land area subject to periodic flooding.

- (25) Flood-Proofing – Any structural and/or non-structural additions, changes, or adjustments to structures or property that reduce or eliminate flood damage to land, or improvements utilities and structures.
- (26) Flood Protection Elevation (FPE) – The Base Flood Elevation plus one (1) foot at any given location.
- (27) Floodway – The channel of any watercourse and the adjacent land areas that must be reserved to carry and discharge a base flood without cumulatively increasing the water surface elevation more than one-tenth (1/10) of a foot due to the loss of flood conveyance or storage.
- (28) Grading – Any stripping, excavating, filling, and stockpiling of soil or any combination thereof and the land in its excavated or filled condition.
- (29) Illicit Connection – Any method or means for conveying an illicit discharge into water bodies or the Township’s storm water system.
- (30) Illicit Discharge – Any discharge to water bodies that does not consist entirely of storm water, discharges pursuant to the terms of an NPDES permit, or exempted discharges as defined in this ordinance.
- (31) Impervious Surface – Surface that does not allow storm water runoff to slowly percolate into the ground.
- (32) KCDC – Kent County Drain Commissioner.
- (33) Livestock Production Facilities – An agricultural activity in which 100 or more livestock are fed, bred and/or raised within a confined area, other than an open pasture either inside or outside an enclosed building.
- (34) Lowest Floor – The lowest floor or the lowest enclosed area (including basement), but not including an unfinished or flood-resistant enclosure which is usable solely for parking of vehicles or building access.
- (35) MDEQ – Michigan Department of Environmental Quality.
- (36) NPDES – National Pollution Discharge Elimination System.
- (37) Overland flow-way – Surface area that conveys a concentrated flow of storm water runoff.

- (38) Person – An individual, firm, partnership, association, public or private corporation, public agency, instrumentality, or any other legal entity.
- (39) Plan – Written narratives, specifications, drawings, sketches, written standards, operating procedures, or any combination of these which contain information pursuant to this ordinance.
- (40) Pollutant – A substance discharged which includes, but is not limited to the following: any dredged spoil, solid waste, vehicle fluids, yard wastes, animal wastes, agricultural waste products, sediment, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological wastes, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, commercial and agricultural waste, or any other contaminant or other substance defined as a pollutant under the Clean Water Act.
- (41) Property Owner – Any person having legal or equitable title to property or any person having or exercising care, custody, or control over any property.
- (42) Retention – A system that is designed to capture storm water and contain it until it infiltrates the soil or evaporates.
- (43) Soil Erosion – The stripping of soil and weathered rock from land creating sediment for transportation by water, wind or ice, and enabling formation of new sedimentary deposits.
- (44) State of Michigan Water Quality Standards – All applicable State rules, regulations, and laws pertaining to water quality, including the provisions of Section 3106 of Part 31 of 1994 PA 451, as amended.
- (45) Storm Drain – A system of open or enclosed conduits and appurtenant structures intended to convey or manage storm water runoff, ground water and drainage.
- (46) Storm Water Permit – A permit issued pursuant to this ordinance.
- (47) Storm Water Runoff – The runoff and drainage of precipitation resulting from rainfall or snowmelt or other natural event or process.
- (48) Storm Water Runoff Facility – The method, structure, area, system, or other equipment or measures which are designed to receive, control, store, or convey storm water.
- (49) Stream – A river, stream or creek which may or may not be serving as a drain, or any other water body that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.

- (50) Township – Cascade Charter Township.
- (51) Water Body – A river, lake, stream, creek or other watercourse or wetlands.
- (52) Watershed – A region draining into a water body.
- (53) Wetlands – Land characterized by the presence of water at a frequency and duration sufficient to support wetland vegetation or aquatic life.

**Article II – Storm Water Permits**

**Sec. 2.01 Permit Required.**

- (1) A developer shall not engage in any development without first receiving a storm water permit from the Township pursuant to Section 2.02.
- (2) The granting of a storm water permit shall authorize only such development for which the permit is required, subject to the terms of the permit, and it shall not be deemed to approve other development or other land use activities.

**Sec. 2.02 Storm Water Permit Review Procedures (As amended by Ord no 2 of 2008; 5/14/2008)**

The Township shall grant a storm water permit, which may impose terms and conditions in accordance with Section 2.09, and which shall be granted only upon compliance with each of the following requirements:

- (1) The developer has submitted a drainage plan complying with Section 2.03.
- (2) The drainage plan contains a description of an adequate, temporary storm water retention system to prevent construction site storm water runoff, satisfying the requirements of Section 2.05, and the developer has obtained a soil erosion permit, if necessary.
- (3) The developer provides a permanent on-site storm water system meeting the requirements of sections 8.01 and 8.02
- (4) The developer has paid or deposited the storm water permit review fee pursuant to Section 2.04.
- (5) The developer has paid or posted the applicable financial guarantee pursuant to Section 2.06.
- (6) The developer provides all easements necessary to implement the approved drainage plan and to otherwise comply with this Ordinance including, but not limited to, Section 7.02. All easements shall be acceptable to the Township in

form and substance and shall be recorded with the Kent County Register of Deeds.

- (7) The drainage plan is designed in conformity with the Township's design and performance standards for drains and storm water management systems, as set forth in Article VIII.
- (8) All storm water runoff facilities shall be designed in accordance with the then-current BMPs.
- (9) The developer provides the required maintenance agreement for routine, emergency, and long-term maintenance of all storm water runoff facilities and in compliance with the approved drainage plan and this Ordinance including, but not limited to, Section 7.03. The maintenance agreement shall be acceptable to the Township in form and substance and shall be recorded with the Kent County Register of Deeds.

#### **Sec. 2.03 Drainage Plan.**

The developer shall provide a drainage plan to the Township for review and approval by the Township. The drainage plan shall identify and contain all of the following:

- (1) The location of the development site and water bodies that will receive storm water runoff.
- (2) The existing and proposed topography of the development site, including the alignment and boundary of the natural drainage courses, with contours having a maximum interval of one foot (using USGS datum). The information shall be superimposed on the pertinent Kent County soil map.
- (3) The development tributary area to each point of discharge from the development.
- (4) Calculations for the final peak discharge rates.
- (5) Calculations for any facility or structure size and configuration.
- (6) A drawing showing all proposed storm water runoff facilities with existing and final grades.
- (7) The sizes and locations of upstream and downstream culverts serving the major drainage routes flowing into and out of the development site. Any significant off-site and on-site drainage outlet restrictions other than culverts should be noted on the drainage map.
- (8) An implementation plan for construction and inspection of all storm water runoff facilities necessary to the overall drainage plan, including a schedule of the estimated dates of completing construction of the storm water runoff facilities shown on the plan and an identification of the proposed inspection

procedures to ensure that the storm water runoff facilities are constructed in accordance with the approved drainage plan.

- (9) A plan to ensure the effective control of construction site storm water runoff and sediment track-out onto roadways.
- (10) Drawings, profiles, and specifications for the construction of the storm water runoff facilities reasonably necessary to ensure that storm water runoff will be drained, stored, or otherwise controlled in accordance with this ordinance.
- (11) A maintenance agreement, in form and substance acceptable to the Township, for ensuring maintenance of any privately owned storm water runoff facilities. The maintenance agreement shall include the developer's written commitment to provide routine, emergency, and long-term maintenance of the facilities and, in the event that the facilities are not maintained in accordance with the approved drainage plan, the agreement shall authorize the Township to maintain any on-site storm water runoff facility as reasonably necessary, at the developer's expense.
- (12) The name of the engineering firm and the registered professional engineer that designed the drainage plan and that will inspect final construction of the storm water runoff facilities.
- (13) All design information must be compatible for conversion to Grand Valley Regional Geographic Information System (REGIS).
- (14) Any other information necessary for the Township to verify that the drainage plan complies with the Township's design and performance standards for drains and storm water management systems.

#### **Sec. 2.04 Storm Water Permit Review Fees.**

- (1) At the time of filing an application for a storm water permit, fees shall be paid to the Township in accordance with the fee schedule as received and adopted by resolution of the Cascade Charter Township Board of Trustees.

#### **Sec. 2.05 Construction Site Runoff Controls**

Before making any earth change on a development site regulated by this ordinance, the developer shall first obtain a soil erosion permit issued in accordance with Part 91 of Act No. 451 of the Public Acts of 1994, as amended, if one is required. The developer shall install storm water runoff facilities and shall phase the development activities to prevent construction site storm water runoff and off-site sedimentation. During all construction activities on the development site, the Township Engineer may inspect the development site to ensure compliance with the approved construction site runoff controls.

### **Sec. 2.06 Financial Guarantee**

- (1) A storm water permit shall not be issued unless the permittee shall first post with the Township a bond executed by the landowner and a corporate surety with authority to do business in the State of Michigan as a surety.
- (2) The bond shall be in a form approved by the Township, payable to the Township and in the amount of the estimated total cost to implement the storm water plan. The total cost shall be estimated by the Applicant and reviewed by the Township. In lieu of a surety bond, the applicant may file with the Township, a Letter of Credit or cash deposit in the amount equal to that which would be required for the surety bond.
- (3) Every bond and instrument of credit shall include and every cash deposit shall be made on the conditions that the permittee shall comply with all of the provisions of this Ordinance and all of the terms and conditions of the storm water permit, and shall complete all of the work contemplated under the storm water permit within the time limit specified in the storm water permit, or if no time limit is specified, within 180 days after the date of the issuance of the storm water permit.

### **Sec. 2.07 Certificate of Occupancy**

No certificate of occupancy shall be issued until storm water runoff facilities have been completed in accordance with the approved drainage plan; provided, however, the Township may issue a certificate of occupancy if an acceptable letter of credit or other financial guarantee has been submitted to the Township, for the timely and satisfactory construction of all storm water runoff facilities and site grading in accordance with the approved drainage plan.

### **Sec. 2.08 No Change in Approved Facilities**

Storm water runoff facilities, after construction and approval, shall be maintained in good condition, in accordance with the approved drainage plan, and shall not be subsequently altered, revised or replaced except in accordance with the approved drainage plan, or in accordance with approved amendments or revisions in the plan.

### **Sec. 2.09 Terms and Conditions of Permits**

In granting a storm water permit, the Township may impose such terms and conditions as are reasonably necessary to make the purposes of this ordinance. A developer shall comply with such terms and conditions.

## **Article III – Storm Water System, Floodplain and Other Standards, Soil Erosion Control**

### **Sec. 3.01 Management of and Responsibility for Storm Water System**

The Township is not responsible for providing drainage facilities on private property for the management of storm water on said property. It shall be the responsibility of the property owner to provide for, and maintain, private storm water runoff facilities serving the property and to prevent or correct the accumulation of debris that interferes with the drainage function of a water body.

### **Sec. 3.02 Storm Water System**

All storm water runoff facilities shall be constructed and maintained in accordance with all applicable federal, state and local ordinances, and rules and regulations.

### **Sec. 3.03 Storm Water Discharge Rates and Volumes As amended by Ord no 2 of 2008; 5/14/2008**

The Township is authorized to establish minimum design standards for storm water discharge release rates and to require dischargers to implement on-site retention, detention or other methods necessary to control the rate and volume of surface water runoff discharged into the storm water drainage system, on any site which will be developed, re-developed, or modified.

### **Sec. 3.04 Floodplain Standards**

- (1) All new buildings and substantial improvements to existing buildings shall be protected from flood damage up to the Flood Protection Elevation (FPE) and shall be in accordance with all applicable federal, state and local ordinances, and rules and regulations. Floodway alteration shall be permitted only upon review and approval by the Township, in accordance with an approved drainage plan.
- (2) A drainage plan providing for the filling or alteration of a floodway may include provisions for maintaining stability of the banks of streams or other water bodies, by means of the establishing of buffer zones and other means of providing protection of the slopes and banks of water bodies.
- (3) Within any required buffer zone, no earth change shall take place except in accordance with the approved drainage plan. Such a plan may also include provisions for the replacement of floodplain storage volume, where such storage volume is lost or diminished because of approved development.

### **Sec. 3.05 Soil Erosion and Sedimentation Control**

- (1) All persons who cause, in whole or in part, any earth change to occur shall provide soil erosion and sedimentation control so as to adequately prevent

soils from being eroded and discharged or deposited onto adjacent properties or into a storm water drainage system, a public street or right of way, wetland, creek, stream, water body, or floodplain. All development shall be in accordance with all applicable federal, state and local ordinances, rules and regulations.

- (2) During any earth change that exposes soil to an increased risk of erosion or sediment track-out, the property owner and other persons causing or participating in the earth change shall do the following:
  - (a) Comply with the storm water management standards of this ordinance.
  - (b) Obtain and comply with the terms of a soil erosion and sedimentation control permit if required by law.
  - (c) Prevent damage to any public utilities or services within the limits of grading and within any routes of travel or areas of work of construction equipment.
  - (d) Prevent damage to or impairment of any water body on or near the location of the earth change or affected thereby.
  - (e) Prevent damage to adjacent or nearby land.
  - (f) Apply for all required approvals or permits prior to the commencement of work.
  - (g) Proceed with the proposed work only in accordance with the approved plans and in compliance with this ordinance.
  - (h) Maintain all required soil erosion and sedimentation control measures, including but not limited to, measures required for compliance with the terms of this ordinance.
  - (i) Promptly remove all soil, sediment, debris, or other materials applied, dumped, tracked, or otherwise deposited on any lands, public streets, sidewalks, or other public ways or facilities, including catch basins, storm sewers, ditches, drainage swales, or water bodies. Removal of all such soil, sediment, debris or other materials within twenty-four (24) hours shall be considered prima facie compliance with this requirement, unless such materials present an immediate hazard to public health and safety.
  - (j) Refrain from grading lands at locations near or adjoining lands, public streets, sidewalks, alleys, or other public or private property without providing adequate support or other measures so as to protect such other lands, streets, sidewalks or other property from settling, cracking or sustaining other damage.

- (k) Request and obtain inspection of soil erosion and sedimentation control facilities, by the Township at such frequency as required by the Township.

### **Sec. 3.06 Building Openings**

- (1) No building opening shall be constructed below the following elevations:
  - (a) One foot above the 100-year floodplain.
  - (b) The building opening established at the time of plat or development approval and on file in the Township Engineering Department.
  - (c) Three feet above the top of any downstream culvert.
  - (d) Four feet above the bottom of any permanent and defined drain.
- (2) A waiver from elevations stated in Section 3.05(1) may be granted by the Township Engineer following receipt of a certification from a registered professional engineer demonstrating that the proposed elevation does not pose a risk of flooding.
- (3) Upon completion of construction of the structure's foundation and or slab on grade, a registered land surveyor shall certify any minimum building opening elevation specified by this ordinance. This certificate shall attest that the building opening elevation complies with the standards of this ordinance. The permittee for the building permit shall submit the certificate to the Township Building Inspections official before the commencement of framing and/or structural steel placement. If the surveyor should find that the minimum building opening elevation is below the elevation specified in Section 3.06(1)(b) or (c), that opening must be raised using a method that meets with the approval of the Township. After reconstruction, a registered land surveyor or engineer shall re-certify that the minimum building opening elevation complies with the standards of this ordinance before the commencement of framing and or structural steel placement.

### **Sec. 3.07 Sump Pump Discharge**

- (1) Whenever building footing drains are required or utilized, a direct connection between the footing drains through a sump pump-check valve system to a storm sewer is required. A gravity system is not permitted.
- (2) A storm water lateral shall be provided for each parcel at the time of storm sewer construction.

### **Sec. 3.08 Public Health, Safety and Welfare**

Protection of the public health, safety and welfare shall be a primary consideration in the design of all storm water runoff facilities.

## **Article IV – Prohibitions and Exemptions**

### **Sec. 4.01 Prohibited Discharges**

- (1) No person shall discharge to a water body, directly or indirectly, any substance other than storm water or an exempted discharge. Any person discharging storm water shall effectively prevent pollutants from being discharged with the storm water, except in accordance with best management practices.
- (2) The Township is authorized to require dischargers to implement pollution prevention measures, utilizing BMPs, necessary to prevent or reduce the discharge of pollutants into the Township's storm water drainage system.

### **Sec. 4.02 Exempted Discharges**

The following non-storm water discharges shall be permissible, if they do not result in a violation of State of Michigan water quality standards:

- Water supply line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground water
- Uncontaminated ground water infiltration to storm drains
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Individual residential car washing
- Dechlorinated swimming pool water
- Street wash water
- Discharges or flows from emergency fire fighting activities
- Discharges for which a specific federal or state permit has been issued.

### **Sec. 4.03 Interference with Natural or Artificial Drains**

- (1) It shall be unlawful for any person to stop, fill, dam, confine, pave, alter the course of, or otherwise interfere with any natural or constructed drain, or drainageway without first submitting a drainage plan to the Township and receiving approval of that plan. Any deviation from the approved plan is a violation of this ordinance. This section shall not prohibit, however, necessary emergency action to prevent or mitigate drainage that would be injurious to the environment, the public health, safety, or welfare.
- (2) No filling, blocking, fencing or above-surface vegetation planting shall take place within a floodway.
- (3) For an overland flow-way:

- (a) Silt screen fences shall not be permitted below the top of the bank of a water body.
  - (b) Chain link fences shall be permitted if the Township determines that the fence will not obstruct or divert the flow of water.
  - (c) If a fence is removed by the Township for drain access or drain maintenance, the fence shall be replaced by the owner of the fence at the owner's expense.
  - (d) No shrubs or trees shall be planted below the top of the bank of a water body.
- (4) Shrubs, trees or other above-ground vegetation shall not be planted over the top of an underground storm sewer or over the top of the easement within which the storm sewer has been installed.

#### **Sec. 4.04 Storage of Hazardous or Toxic Materials in Drainageway**

Except as permitted by law, it shall be unlawful for any person to store or stockpile within a drainageway any hazardous or toxic materials unless adequate protection and/or containment has been provided so as to prevent any such materials from entering a drainageway.

### **Article V – Inspection, Monitoring, Reporting, and Record Keeping.**

#### **Sec. 5.01 Inspection and Sampling**

To assure compliance with the standards in this pervasively regulated area, the Township may inspect and/or obtain storm water samples from storm water runoff facilities of any discharger to determine compliance with the requirements of this ordinance. Upon request, the discharger shall allow the Township's properly identified representative to enter upon the premises of the discharger at all hours necessary for the purposes of such inspection or sampling. The Township shall provide the discharger reasonable advance notice of such inspection and/or sampling. The Township or its properly identified representative may place on the discharger's property the equipment or devices used for such sampling or inspection.

#### **Sec. 5.02 Storm Water Monitoring Facilities**

A discharger of storm water runoff shall provide and operate equipment or devices for the monitoring of storm water runoff, so as to provide for inspection, sampling, and flow measurement of each discharge to a water body or a storm water runoff facility, when directed in writing to do so by the Township. The Township may require a discharger to provide and operate such equipment and devices if it is necessary or appropriate for the inspection, sampling and flow measurement of discharges in order to determine whether adverse effects from or because of such discharges may occur. All such equipment and devices for the inspection, sampling

and flow measurement of discharges shall be installed and maintained in accordance with applicable laws, ordinances and regulations.

#### **Sec. 5.03 Accidental Discharges**

- (1) Any discharger who accidentally discharges into a water body any substance other than storm water or an exempted discharge shall immediately inform the Township concerning the discharge. If such information is given orally, a written report concerning the discharge shall be filed with the Township within five (5) days. The written report shall specify:
  - (a) The composition of the discharge and the cause thereof.
  - (b) The exact date, time, and estimated volume of the discharge.
  - (c) All measures taken to clean up the accidental discharge, and all measures proposed to be taken to reduce and prevent any recurrence.
  - (d) The name and telephone number of the person making the report, and the name of a person who may be contacted for additional information on the matter.
- (2) A properly reported accidental discharge shall be an affirmative defense to a civil infraction proceeding brought under this ordinance against a discharger for such discharge. It shall not, however, be a defense to a legal action brought to obtain an injunction, to obtain recovery of costs or to obtain other relief because of or arising out of the discharge. A discharge shall be considered properly reported only if the discharger complies with all the requirements of Section 5.03(1).

#### **Sec. 5.04 Record Keeping Requirement**

Any person subject to this ordinance shall retain and preserve for no less than three (3) years any and all books, drawings, plans, prints, documents, memoranda, reports, correspondence and records, including records on magnetic or electronic media and any and all summaries of such records, relating to monitoring, sampling and chemical analysis of any discharge or storm water runoff from any property.

## **Article VI – Enforcement**

### **Sec. 6.01 Sanctions for Violation**

- (1) Any person violating any provision of this ordinance shall be responsible for a municipal civil infraction and subject to a fine of not less than \$500 for a first offense, and not less than \$1,000 for a subsequent offense, plus costs, damages, expenses, and other sanctions as authorized under Chapter 87 of the Revised Judicature Act of 1961 and other applicable laws, including, without limitation, equitable relief; provided, however, that the violation stated in Section 6.01(2) shall be a misdemeanor. Each day such violation occurs or continues shall be deemed a separate offense and shall make the violator liable for the imposition of a fine for each day. The rights and remedies provided for in this section are cumulative and in addition to any other remedies provided by law. An admission or determination of responsibility shall not exempt the offender from compliance with the requirements of this ordinance.

For purposes of this section, "subsequent offense" means a violation of the provisions of this ordinance committed by the same person within 12 months of a previous violation of the same provision of this ordinance for which said person admitted responsibility or was adjudicated to be responsible.

The Township Manager or Planning Director is authorized to issue municipal civil infraction citations to any person alleged to be violating any provision of this ordinance.

- (2) Any person who neglects or fails to comply with a stop work order issued under Section 6.02 shall, upon conviction, be guilty of a misdemeanor, punishable by a fine of not more than \$500 or imprisonment in the county jail for not more than 93 days, or both such fine and imprisonment, and such person shall also pay such costs as may be imposed in the discretion of the court.
- (3) Any person who aids or abets a person in a violation of this ordinance shall be subject to the sanctions provided in this section.

### **Sec. 6.02 Stop Work Order**

Where there is work in progress that causes or constitutes in whole or in part, a violation of any provision of this ordinance, the Township is authorized to issue a Stop Work Order to prevent further or continuing violations or adverse effects. All persons to whom the stop work order is directed, or who are involved in any way with the work or matter described in the stop work order shall fully and promptly comply therewith. The Township may also undertake or cause to be undertaken, any necessary or advisable protective measures to prevent violations of this ordinance or to avoid or reduce the effects of noncompliance herewith. The cost of any such protective measures shall be the responsibility of the owner of the property upon which the work is being done and the responsibility of any person carrying out or participating in the work, and such cost shall be a lien upon the property.

### **Sec. 6.03 Failure to Comply; Completion**

In addition to any other remedies, should any owner fail to comply with the provisions of this ordinance, the Township may, after the giving of reasonable notice and opportunity for compliance, have the necessary work done, and the owner shall be obligated to promptly reimburse the Township for all costs of such work.

### **Sec. 6.04 Emergency Measures As amended by Ord no 2 of 2008; 5/14/2008**

When emergency measures are necessary to moderate a nuisance, to protect public safety, health and welfare, and/or to prevent loss of life, injury or damage to property, the Township is authorized to carry out or arrange for all such emergency measures. Property owners shall be responsible for the cost of such measures made necessary as a result of a violation of this ordinance, and shall promptly reimburse the Township for all of such costs.

### **Sec. 6.05 Cost Recovery for Damage to Storm Drain System**

A discharger shall be liable for all costs incurred by the Township as the result of causing a discharge that produces a deposit or obstruction, or causes damage to, or impairs a storm drain, or violates any of the provisions of this ordinance. Costs include, but are not limited to, those penalties levied by the EPA or MDEQ for violation of an NPDES permit, attorney fees, and other costs and expenses.

### **Sec. 6.06 Collection of Costs; Lien**

Costs incurred by the Township and the Drain Commissioner pursuant to Sections 6.02, 6.03, 6.04 and 6.05 shall be a lien on the premises which shall be enforceable in accordance with Act No. 94 of the Public Acts of 1933, as amended from time to time. Any such charges which are delinquent for six (6) months or more may be certified annually to the Township Treasurer who shall enter the lien on the next tax roll against the premises and the costs shall be collected and the lien shall be enforced in the same manner as provided for in the collection of taxes assessed upon the roll and the enforcement of a lien for taxes. In addition to any other lawful enforcement methods, the Township or the Drain Commissioner shall have all remedies authorized by Act No. 94 of the Public Acts of 1933, as amended.

### **Sec. 6.07 Appeals**

Any person as to whom any provision of this ordinance has been applied may appeal in writing, not later than 30 days after the action or decision being appealed from, to the Township Board the action or decision whereby any such provision was so applied. Such appeal shall identify the matter being appealed, and the basis for the appeal. The Township Board shall consider the appeal and make a decision whereby it affirms, rejects or modifies the action being appealed. In considering any such appeal, the Township Board may consider the recommendations of the Township Engineer and the comments of other persons having knowledge of the matter. In considering any such appeal, the Township Board may grant a variance from the

terms of this ordinance to provide relief, in whole or in part, from the action being appealed, but only upon finding that the following requirements are satisfied:

- (1) The application of the ordinance provisions being appealed will present or cause practical difficulties for a development or development site; provided, however, that practical difficulties shall not include the need for the developer to incur additional reasonable expenses in order to comply with the ordinance; and
- (2) The granting of the relief requested will not substantially prevent the goals and purposes sought to be accomplished by this ordinance, nor result in less effective management of storm water runoff.

## **Article VII – Storm Water Easements and Maintenance Agreements**

### **Sec. 7.01 Applicability of Requirements**

The requirements of this Article concerning storm water easements and maintenance agreements shall apply to all persons required to submit a drainage plan to the Township for review and approval.

### **Sec. 7.02 Storm Water Management Easements**

The developer shall provide all storm water management easements necessary to implement the approved drainage plan and to otherwise comply with this ordinance in form and substance required by the Township and shall record such easements as directed by the Township. The easements shall assure access for proper inspection and maintenance of storm water runoff facilities and shall provide adequate emergency overland flow-ways.

### **Sec. 7.03 Maintenance Agreements**

The developer shall provide all storm water maintenance agreements necessary to implement the approved drainage plan and to otherwise comply with this ordinance in form and substance as required by the Township, and shall record such agreements as directed by the Township. The maintenance agreements shall, among other matters, assure access for proper inspection and maintenance of storm water runoff facilities and adequate emergency overland flow-ways.

### **Sec. 7.04 Establishment of County Drains**

Before final approval, all storm water management facilities for platted subdivisions shall be established as county drains, as authorized in Section 433, Chapter 18 of the Michigan Drain Code (P.A. 40 of 1956, as amended) for long-term maintenance.

## **Article VIII – Performance and Design Standards**

### **Sec. 8.01 Performance Standards**

In order to achieve the goals and purposes of this ordinance, the following three storm water management zones (Zones A, B and C) are hereby established. The Zones are shown on the map attached as Appendix A and made a part of this ordinance.

- (1) Zone A represents areas that require the most protective storm water management regulations. The goal of this zone is to preserve the natural condition of water bodies included in it, in whole or in part. Zone A has, in general, little impervious surface area and few storm water facilities. In this zone, when site conditions permit, infiltration of storm water runoff shall be required, rather than the directed flow of storm water runoff into water bodies. This storm water management practice provides greater protection for surface water quality, and assists in augmenting stream base flow, reduction of flash storm flows and prevention of stream bank erosion. Section 8.02 specifies design criteria for Zone A, in order that the volume and rate of storm water runoff are controlled at predevelopment levels.
- (2) Zone B represents developed areas that have significant impervious surfaces and storm water runoff facilities in place. The goal of Zone B is the control of storm water runoff in order to prevent further destabilizing of streams and other water bodies. In this zone, the use of detention ponds, the maintenance and enhancement of buffer strips and other measures to reduce directly-connected impervious areas are specified in Section 8.02 for the achieving of the storm water management standards applicable to Zone B. The management practices for this zone are intended to maintain existing water quality and to alleviate adverse downstream impact on water bodies.
- (3) Zone C consists of highly urbanized areas, or areas where there has been significant modification of drainageways. Areas with adequate conveyance capacity for a 100-year storm to a river or lake may also be located in Zone C. Among the measures required in Zone C, as stated in Section 8.02, are the use of sediment basins, the maintenance and enhancement of buffer strips along water bodies and the reduction of impervious surface areas that are directly connected to water bodies. An important element of storm water management practice in Zone C is the control and prevention of sedimentation, in order to reduce pollution of water bodies.

**Sec. 8.02 Design Standards As amended by Ord no 2 of 2008; 5/14/2008**

**1) Storm Zone A Flood Control Requirements:**

- a. Utilize retention ponds (above or below grade) and infiltration to the greatest extent possible as allowed by the local soil conditions
- b. Design shall be in accordance with the Kent County Drain Commissioner's Development Drainage Rules for Retention Ponds with the following modifications:
  - i. A minimum of two soil borings extending a minimum of 10 feet below each proposed basin bottom with sieve/permeability analysis of the soil in the 10 feet immediately below each proposed basin bottom.
  - ii. Retention basins shall be designed to store runoff from a single 100 year storm event
- c. If soil condition do not permit infiltration, storm water facilities will satisfy one of the following:
  - i. Provide a permanent on-site storm water system with a restricted outlet sufficient to provide on-site detention of storm water runoff in a twenty-five (25) year storm event, and a direct connection (overland or underground) for all storm water runoff that will be discharged from and through the development site in a one hundred (100) year storm event; or
  - ii. Provide a permanent on-site storm water system with a restricted outlet designed to provide on-site detention or on-site retention of storm water runoff in a one hundred (100) year storm event.

**2) Storm Zone B Flood Control Requirements must satisfy one of the following:**

- a) Provide a permanent on-site storm water system with a restricted outlet sufficient to provide on-site detention or on-site retention of storm water runoff in a twenty-five (25) year storm event, and a direct connection (overland or underground) for all storm water runoff that will be discharged from and through the development site in a one hundred (100) year storm event; or
- b) Provide a permanent on-site storm water system with a restricted outlet designed to provide on-site detention or on-site retention of storm water runoff in a one hundred (100) year storm event.

**3) The following shall be in accordance with the Kent County Drain Commissioner's Development Drainage Rules:**

- a. Design storm duration and distribution
  - b. Required Calculation Methods
  - c. Emergency Spillway Design
- 4) If proposed site grading changes the surface area contributing to specific discharge points on the site, storm water control release rates shall be based on pre-development contributing areas.
- 5) All storm water control systems shall be designed to convey storm water from off-site around, not through, the proposed on-site storm water system and shall be provide pass-through capacity of the 25 year storm event for all off-site drainage, provided a 100 year floodway is available.

- 6) Storm systems designed to work in-line with drainage courses conveying off-site drainage shall be subject to special review and may be subject to more stringent requirements.
- 7) On-site storm water conveyance systems shall be designed to convey storm water runoff from a ten (10) year storm event using Manning's Equation for full flow capacity calculations
- 8) Water quality controls for Storm Zone C and equivalent treatment for Storm Zones A and B shall be designed to meet a removal efficiency of 75% for a very fine sand (settling velocity of 0.03-feet per second)

a. Removal efficiency of sediment basins shall be determined with the following formula:  $E = 1 - (1 + AV/NQ)^{-N}$

- E = 75% removal efficiency (decimal form)
- A = Basin surface ares (sf)
- V = Particle velocity (0.03 ft/sec)
- N = Number of sediment cells
- Q = Inflow (cfs)

9) All underground detention/retention basins shall have water quality controls to prevent sediment from entering the detention/retention system. Access for maintenance and sediment removal shall be provided.

10) The design standards for storm water runoff facilities for Zones A, B and C, as described in Section 8.01, also include the following:

	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>
<b>Storm Water Management Standards</b>	Use infiltration basins, infiltration trenches, extended detention basins, and/or constructed wetlands. Maintain and enhance buffer strips.	Use detention ponds; maintain and enhance buffer strips, and reduce directly connected impervious area.	Use sediment basins, maintain and enhance buffer strips, and reduce directly connected impervious area.
<b>Water Quality Control</b>	Detain the first 0.5" of runoff from the contributing watershed, with infiltration where conditions permit, with 24 hours of detention, or provide equivalent treatment	Detain the first 0.5" of runoff from the contributing watershed for 24 hours or provide equivalent treatment.	Provide sedimentation control within the drainage system.

<b>Bank Erosion Control</b>	Rate of release shall be limited to 0.05 cfs/acre for a 2-year storm event.	Storm water runoff shall not exceed the capacity of the downstream conveyance system.	Storm water runoff shall not exceed the capacity of the downstream conveyance system.
<b>Flood Control</b>	Detention with infiltration when conditions permit. Release rate of 0.13 cfs/acre per KCDC rules.	Release rate of 0.13 cfs/acre per KCDC rules.	Direct conveyance of storm water runoff within the capacity of downstream system.

**Sec. 8.03 Resolution to Implement Performance and Design Standards**

The Cascade Charter Township Board may adopt a resolution establishing more detailed design and performance standards for storm water runoff facilities, consistent with the terms of this ordinance, and in order to further implement its goals and purposes.

**Article IX – Other Matters**

**Sec. 9.01 Interpretation**

Words and phrases in this ordinance shall be construed according to their common and accepted meanings, except that words and phrases defined in Section 1.05 shall be construed according to the respective definitions given in that section. Technical words and technical phrases that are not defined in this ordinance but which have acquired particular meanings in law or in technical usage shall be construed according to such meanings.

**Sec. 9.02 Catch-Line Headings**

The catch-line headings of the articles and sections of this ordinance are intended for convenience only, and shall not be construed as affecting the meaning or interpretation of the text of the articles or sections to which they may refer.

**Sec. 9.03 Severability**

The provisions of this ordinance are hereby declared severable, and if any court of competent jurisdiction should declare any part or provision of this ordinance invalid or unenforceable, such invalidity or unenforceability shall not affect any other part or provision of the ordinance.

**Sec. 9.04 Other Ordinances**

This ordinance shall be in addition to other ordinances of Cascade Charter Township, and shall not be deemed to repeal or replace other ordinances or parts thereof except to the extent that such repeal is specifically provided for in this Article.

**Sec. 9.05 Effective Date**

This ordinance shall become effective, following its publication or following the publication of a summary of its provisions in the Grand Rapids Press, a local newspaper of general circulation.

**Sec. 9.06 Ordinance Adoption**

The foregoing Ordinance was offered by Board Member Goodyke, supported by Board Member Fox. The roll call vote being as follows:

YEAS:           Beahan, Koessel, Carpenter, Julien, Fox, Goldberg  
NAYS:           None  
ABSENT:       None

**ORDINANCE DECLARED ADOPTED.**

By \_\_\_\_\_  
Ron Goodyke  
Township Clerk

**CERTIFICATION**

I hereby certify the above to a true copy of an Ordinance adopted by the Cascade Charter Township Board at a regular meeting held at the Cascade Library – Wisner Center on the 14<sup>th</sup> day of May, 2008, at 7:00 p.m., pursuant to the required statutory procedures.

By \_\_\_\_\_  
Ron Goodyke  
Township Clerk

Cascade Charter Township  
Kent County Michigan  
Resolution 24 of 2002

Whereas, on May 22, 2002, the Cascade Charter Township Board adopted Ordinance No.7 of 2002, the Storm Water Ordinance;

Whereas, Section 8.03 of said ordinance provides that Cascade Charter Township may adopt by resolution additional design and performance standards for water runoff facilities, consistent with the terms of the ordinance, in order to further implement its goals and purposes;

Whereas, the Cascade Charter Township Board now desires to adopt such additional design and performance standards for storm water runoff facilities and other standards pertaining to storm water management.

It Is Therefore Resolved As Follows:

Section 1. Storm Water Management Zones. The performance standards stated in Section 8.01 of said ordinance are hereby supplemented as follows:

- a) In any single development site, up to three different detention volumes may be calculated to determine the staged outlet elevations: (1) water quality control, (2) bank erosion control, and (3) flood control. The volumes are not intended to be additive; the flood control volume shall include the water quality and bank erosion control volumes.
- b) The default flood control volume shall be based on detaining the 25-year storm frequency so long as the downstream storm water conveyance system has adequate capacity and includes an acceptable emergency overland floodway. If the design engineer determines the downstream conveyance system is not adequate or an acceptable emergency overland floodway does not exist, then the flood control volume shall be based on detaining the 100-year storm.

Section 2. Flood Plain Protection. Section 8.01 of said ordinance is supplemented as follows:

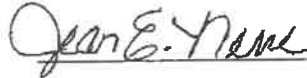
- a) Natural floodway filling or alteration shall not be allowed without review and approval by Cascade Charter Township and compliance with the Floodplain Regulatory Authority found in Part 31, Water Resource Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) on watercourses with contributing drainage are of 2 square miles or greater. If floodway has not been mapped, the applicant's consultant shall provide the floodway delineation to Cascade Charter Township for approval.
- b) Natural floodway fringe filling or alteration shall not be allowed without review and approval by Cascade Charter Township and compliance with the Floodplain Regulatory Authority found in Part 31, Water Resource Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) on watercourses with contributing drainage are of 2 square miles or greater. If floodway has not been mapped, the applicant's consultant shall provide the floodway delineation to Cascade Charter Township for approval.

- c) To provide for stream bank stability a buffer zone is to be established and called out on a recorded plat, an approved block grading plan, a site plan or an improvement plan. This zone shall consist of existing natural tree and vegetation slope protection within a minimum of 24 feet from the ordinary high-water mark.
- d) Replacement of lost floodplain shall meet the following criteria.
  - a. Replacement of the loss of floodplain storage volume at a 1 to 1 ratio unless watershed conditions warrant a higher ratio. This applies to floodplain associated with rainfall events up to a 100-year frequency. The grading plan shall provide for an equivalent volume of storage for floodplains associated with more frequent events such as 10 and 25-year frequencies.
  - b. Storm water detention does not apply toward the replacement volume.
  - c. Floodplain storage volume shall be computed above the seasonal high ground water level only.
  - d. The inflow and outflow rates to the area shall be consistent with predevelopment rates.
  - e. Up to 50% of the floodplain mitigation storage volume may be used for snow storage.
  - f. The proximity of the floodplain mitigation area shall provide for an equivalent hydrologic impact to the receiving stream and adjacent parcels.

The foregoing Resolution was offered by Board Member Jones, supported by Board Member Carpenter. The roll call vote being as follows:

YEAS: Goodyke, Timmons, Carpenter, Julien, Jones  
NAYS:  
ABSENT: Kleinheksel, Parrish

RESOLUTION DECLARED ADOPTED.

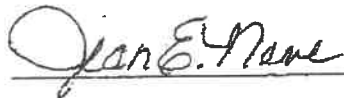


Jean E Neve  
Deputy Township Clerk

#### CERTIFICATION

I hereby certify the above to a true copy of a resolution adopted by the Cascade Charter Township Board at a regular meeting held at the Township Museum Building on the 22<sup>nd</sup> day of May, 2002 pursuant to the required statutory procedures.

Dated: May 23, 2002



Jean E Neve  
Deputy Township Clerk

Cascade Charter Township  
Kent County Michigan  
Resolution 25 of 2002

Whereas, Cascade Charter Township administers various operations which require service or administrative fees.

Whereas, Cascade Charter Township from time to time reviews and evaluates its administrative and service costs to insure that the fees assessed are in line with the cost to provide such service.

Now, Therefore, Be It Resolved that Cascade Charter Township hereby adopts the attached Cascade Charter Township Storm Water Permit Fee Schedule (Exhibit A), which shall become effective upon the publication date of the Storm Water Ordinance (Ordinance # 7 of 2002).

And, Be It Further Resolved that this action shall not limit the Township Board from waiving all or part of any fee or administrative review rate upon direct appeal by the applicant.

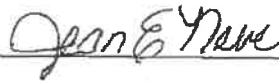
The foregoing Resolution was offered by Board Member Goodyke, supported by Board Member Jones. The roll call vote being as follows:

YEAS: Timmons, Goodyke, Carpenter, Julien, Jones

NAYS:

ABSENT: Kleinheksel, Parrish

RESOLUTION DECLARED ADOPTED.

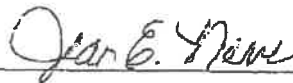


Jean E Neve  
Deputy Township Clerk

CERTIFICATION

I hereby certify the above to a true copy of a resolution adopted by the Cascade Charter Township Board at a regular meeting held at the Township Museum Building on the 22<sup>nd</sup> day of May, 2002 pursuant to the required statutory procedures.

Dated: May 23, 2002



Jean E Neve  
Deputy Township Clerk

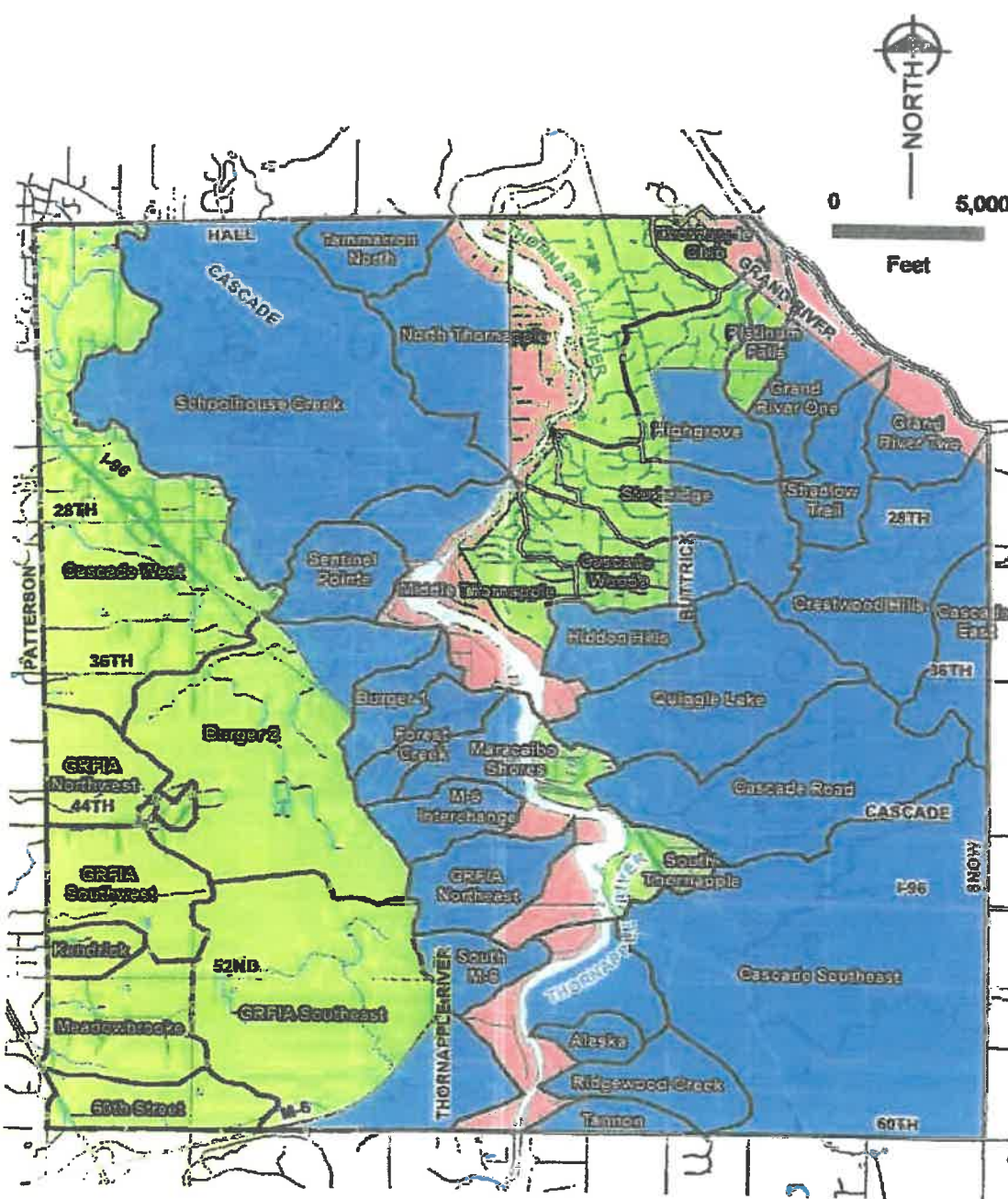
# EXHIBIT A

## Cascade Charter Township Storm Water Permit Fee Schedule

At the time of application for a storm water permit, the applicant shall deposit with the Township Clerk, as an escrow deposit, an initial amount of \$500. Any excess funds remaining in the escrow account after the application has been fully processed, reviewed, and the final Township approval and acceptance of the storm water plan has occurred, will be refunded to the applicant with no interest to be paid on those funds. If the funds in the account are reduced to less than the required initial amount, the applicant shall deposit an additional \$500 into the account, before the application review process will be continued. Additional amounts may be required to be placed in the escrow account by the applicant, at the discretion of the Township.

All expenses and costs incurred by the Township directly associated with processing, reviewing and approving or denying a storm water permit application shall be paid (or reimbursed) to the Township from the funds in the escrow account established by the applicant, as described above. The Township may draw funds from an applicant's escrow account to reimburse the Township for out-of-pocket expenses incurred by the Township relating to the application. Such reimbursable expenses include, but are not limited to, expenses related to the following:

- (a) Services of the Township Attorney directly related to the application.
- (b) Services of the Township Engineer directly related to the application.
- (c) Services of other independent contractors working for the Township that are directly related to the application.
- (d) Any additional public hearings, required mailings and legal notice requirements necessitated by the application.



engineers  
scientist  
architects  
constructors

**Cascade Charter Township**  
Kent County, Michigan  
**Storm Water Management Plan**

**LEGEND**

- Zone A
- Zone B
- Zone C



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**PROPOSED STORMWATER  
MANAGEMENT ZONES**

PROJECT NO.  
G05664

FIGURE NO.  
**12**

PLAN INFO: Stormwater Management Zones and DATE: 05/09/06 USER: mtl  
 ©Copyright 2006 All Rights Reserved

Scale: 1" = 5,000'



# PROPOSED MODEL STORMWATER ORDINANCE

FOR LOCAL GOVERNMENTS  
WITHIN THE LOWER GRAND RIVER  
WATERSHED

2018

**CASCADE CHARTER TOWNSHIP**

Prepared by the Stormwater Ordinance Committee of the  
Lower Grand River Watershed

**GVMC**

## **ACKNOWLEDGEMENTS**

This version of the Kent County Model Ordinance was based on the 2001 Kent County Model Ordinance, which was created through a collaboration of municipal officials, engineers, attorneys, and stormwater management experts led by the Kent County Drain Office. The Stormwater Discharge Permit Applications submitted by the communities in the Lower Grand River Watershed in April 2015 included a commitment by all permittees to develop and submit a revised ordinance or regulatory process, which required numerous adjustments and modifications to the 2001 version to meet the new requirements. A Stormwater Ordinance (SWOrd) Committee was formed in June 2014 to fulfill that commitment.

The committee members, with support of their community, contributed their time, efforts and talent toward the preparation of this document. The Grand Valley Metro Council would like to acknowledge the assistance provided from all of the members to the completion of this Model Ordinance and to thank them for their efforts toward creating a coordinated approach to storm water management and regulations among the Lower Grand local governments.

DRAFT

**PROPOSED MODEL STORMWATER ORDINANCE  
FOR  
LOCAL GOVERNMENTS  
WITHIN THE LOWER GRAND RIVER WATERSHED**

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CASCADE CHARTER TOWNSHIP  
COUNTY OF KENT, MICHIGAN

**AN ORDINANCE** to provide for the regulation and control of stormwater runoff; to provide for stormwater Permits and the procedures and standards for the issuance thereof; to provide for payment or reimbursement of costs and expenses incurred by Cascade Charter Township associated with stormwater Permits and the consideration thereof; to establish standards and requirements for the protection of Floodways and for the control of Soil Erosion and sedimentation; to adopt other provisions for the establishing, maintaining and protection of drains and drainageways; to provide regulations for the inspection, sampling and monitoring of stormwater and other discharges; to establish performance and design standards for stormwater management in Cascade Charter Township; and to provide penalties for violations of the ordinance.

THE BOARD OF CASCADE CHARTER TOWNSHIP ORDAINS:

**Article I - General**

**Sec. 1.01 Statutory Authority and Title**

This ordinance is adopted in accordance with the Charter Township Act, as amended, being MCL 42.1, et seq.; the Township and Village Public Improvement Act, as amended, being MCL 41.721, et seq.; the Drain Code of 1956, as amended, being MCL 280.1, et seq.; the Land Division Act, as amended, being MCL 560.1, et seq.; the Revenue Bond Act, as amended, being MCL 141.101, et seq.; and the Natural Resources and Environmental Protection Act, as amended, being MCL 324.101, et seq.; Section 401(p) of the Federal Water Pollution Control Act (also known as the Clean Water Act), as amended, being 33 USC 1342(p) and 40 CFR Parts 9, 122, 123 and 124; and other applicable state and federal laws.

This ordinance shall be known and may be cited as the Cascade Charter Township Stormwater Ordinance.

**Sec. 1.02 Findings**

Cascade Charter Township finds that:

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226
- (1) Water bodies, roadways, structures, and other property within, and downstream of Cascade Charter Township are at times subjected to Flooding;
  - (2) Flooding is a danger to the lives and property of the public and is also a danger to the natural resources of Cascade Charter Township and the region;
  - (3) Land development alters the hydrologic response of Watersheds, resulting in increased Stormwater Runoff rates and volumes, increased Flooding, increased Stream channel erosion, and increased sediment transport and deposition;
  - (4) Stormwater Runoff produced by land development contributes to increased quantities of water-borne Pollutants;
  - (5) Increases of Stormwater Runoff, Soil Erosion, and non-point source pollution have occurred as a result of land development, and cause deterioration of the water resources of Cascade Charter Township and downstream municipalities;
  - (6) Stormwater Runoff, Soil Erosion, and non-point source pollution, due to land development within Cascade Charter Township, have resulted in a deterioration of the water resources of Cascade Charter Township and downstream municipalities;
  - (7) Increased Stormwater Runoff rates and volumes, and the sediments and Pollutants associated with Stormwater Runoff from future Development projects within Cascade Charter Township will, absent reasonable regulation and control, adversely affect Cascade Charter Township's water bodies and water resources, and those of downstream municipalities;
  - (8) Stormwater Runoff, Soil Erosion, and non-point source pollution can be controlled and minimized by the regulation of Stormwater Runoff from Development;
  - (9) Post-Construction Stormwater Runoff Program requirements for new Development and redevelopment within Cascade Charter Township are set forth in the 2013 Michigan Department of Environmental Quality (DEQ) *Permit Application for Discharge of Storm Water to Surface Waters of the State from a Municipal Separate Storm Sewer System (MS4)* under the NPDES program (Rev 10/2014).
  - (10) Adopting the standards, criteria and procedures contained in this ordinance and implementing the same will address many of the deleterious effects of Stormwater Runoff;

- 227 (11) Adopting these standards is necessary for the preservation of the public  
228 health, safety and welfare.  
229  
230 (12) Adopting these standards is necessary to comply with the NPDES MS4  
231 Permit.  
232  
233 (13) Illicit discharges contain Pollutantspollutants that will significantly degrade  
234 **Cascade Charter Township's** waterbodies and water resources  
235  
236 (14) Illicit discharges enter **Cascade Charter Township's** municipal separate  
237 storm sewer system (MS4) through either direct connections (e.g. sanitary  
238 sewer laterals mistakenly or deliberately connected to the storm sewers)  
239 or indirect connections (e.g. infiltration, or spills conveyed by surface flow  
240 into the storm sewer system).  
241  
242 (15) Establishing and implementing measures for controlling Illicit Discharges  
243 and connections will address many of their deleterious effects.  
244

245 **Sec. 1.03 Purpose**

246  
247 It is the purpose of this ordinance to establish minimum stormwater management  
248 requirements and controls to accomplish, among others, the following objectives:  
249

- 250 (1) To reduce artificially induced Flood damage;  
251  
252 (2) To minimize increased Stormwater Runoff rates and volumes from  
253 identified new land development;  
254  
255 (3) To minimize the deterioration of existing watercourses, culverts and  
256 bridges, and other structures;  
257  
258 (4) To encourage water recharge into the ground where geologically favorable  
259 conditions exist;  
260  
261 (5) To prevent an increase in non-point source pollution;  
262  
263 (6) To maintain the integrity of Stream channels for their biological functions,  
264 as well as for drainage and other purposes;  
265  
266 (7) To minimize the impact of Development upon Stream bank and streambed  
267 stability;  
268  
269 (8) To reduce erosion from Development or construction projects;  
270  
271 (9) To preserve and protect water supply facilities and water resources by  
272 means of controlling increased Flood discharges, Stream erosion, and  
273 runoff pollution; and,  
274

- 275 (10) To reduce Stormwater Runoff rates and volumes, Soil Erosion, and non-  
276 point source pollution, wherever practicable, from lands that were  
277 developed without stormwater management controls meeting the  
278 purposes and standards of this ordinance.  
279  
280 (11) To reduce the adverse impact of changing land use on water bodies and,  
281 to that end, this ordinance establishes minimum standards to protect water  
282 bodies from degradation resulting from changing land use where there are  
283 insufficient stormwater management controls.  
284  
285 (12) To regulate the contribution of Pollutants to the municipal separate storm  
286 sewer system (MS4) from stormwater discharges.  
287  
288 (13) To prohibit Illicit Discharges and connections to the municipal separate  
289 storm sewer system.  
290  
291 (14) To establish legal authority to carry out all inspection, surveillance and  
292 monitoring procedures necessary to ensure compliance with this  
293 Ordinance.  
294  
295

296 **Sec. 1.04 Applicability, Exemptions and General Provisions**  
297

- 298 (1) This ordinance shall apply to all new Development and all redevelopment  
299 projects, including private, commercial and public projects that disturb one  
300 (1) acre or more, and projects less than one (1) acre that are part of a  
301 larger common Plan of Development or sale that would disturb one (1)  
302 acre or more.  
303  
304 (2) This ordinance shall apply to sites less than one (1) acre as set forth in  
305 [Chapter 21 of the Township Zoning Ordinance.](#)  
306  
307 (3) This ordinance shall not apply to the following:  
308  
309 (a) The installation or removal of individual mobile homes within a  
310 mobile home park. This exemption shall not be construed to apply  
311 to the construction, expansion, or modification of a mobile home  
312 park.  
313  
314 (b) Construction of, or an addition, extension or modification to, an  
315 individual single-family or a two-family detached dwelling  
316  
317 (c) Farm operations and buildings, except dwellings, directly related  
318 to-farm operations. This exemption shall not apply to greenhouses  
319 and other similar structures.  
320

- 321 (d) Plats with preliminary plat approval and other Developments with  
322 final land use approval prior to the effective date of this ordinance,  
323 where such approvals remain in effect.  
324  
325 (e) .  
326  
327 (f) Construction, development or redevelopment associated with  
328 aeronautical facilities at the Gerald R. Ford International Airport.  
329

330 **Sec. 1.05 Definitions**  
331

332 For the purpose of this ordinance, the following words and phrases shall have the  
333 meanings respectively ascribed to them by this Section unless the context in which they  
334 are used specifically indicates otherwise:  
335

- 336 (1) **Local Government** – Cascade Charter Township, or a properly delegated  
337 official.  
338  
339 (2) **Base Flood** – A Flood having a one (1) percent chance of being equaled  
340 or exceeded in any given year.  
341  
342 (3) **Base Flood Elevation** – The high water elevation of the Base Flood,  
343 commonly referred to as the "100-year Flood elevation".  
344  
345 (4) **Base Flood Plain** – The area inundated by the Base Flood.  
346  
347 (5) **Best Management Practices (BMPs)** – A practice, or combination of  
348 practices and design criteria that accomplish the purposes of this  
349 ordinance (including, but not limited to reducing Stormwater Runoff rates,  
350 reducing Stormwater Runoff volume, and reducing the amount of  
351 Pollutants in stormwater) as determined by Cascade Charter Township ,  
352 and, where appropriate, the standards of the County Drain Commissioner.  
353  
354 (6) **Building Opening** – Any opening of a solid wall such as a window or door,  
355 through which Floodwaters could penetrate.  
356  
357 (7) **Clean Water Act** – The Federal Water Pollution Control Act, 33 USC Sec  
358 1251 et seq., as amended, and the applicable regulations promulgated  
359 thereunder.  
360  
361 (8) **Construction Site Stormwater Runoff** – Stormwater runoff from a  
362 Development site following an earth change and before final site  
363 stabilization.  
364  
365 (9) **Detention** – A system which is designed to capture stormwater and  
366 release it over a given period of time through an outlet structure at a  
367 controlled rate.  
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- (10) Development –The installation or construction of buildings, structures or other Impervious Surfaces on a site that disturbs one (1) acre of land or more, including projects less than one (1) acre that are part of a larger common Plan or sale that would disturb one (1) acre or more. A Development may include a land division, plat, site condominium, planned unit Development, mobile home park, private road or other special land use requiring land use or other review and approval by Cascade Charter Township
- (11) Developer – Any Person or entity proposing or implementing the Development of land.
- (12) Development Site – Any land that is being or has been developed, or that a Developer proposes for Development.
- (13) Discharger – Any Person or entity who directly or indirectly discharges stormwater from any property.
- (14) Drain – Any drain as defined in the Drain Code of 1956, as amended, being MCL 280.1, et. seq.
- (15) Drainage – The collection or conveyance of stormwater, ground water and/or surface water.
- (15) Drainageway – The area within which surface water or ground water is conveyed from one part of a lot or parcel to another part of the lot or parcel or to adjacent land or to a watercourse.
- (16) Earth Change – Any human activity which removes ground cover, changes the slope or contours of the land, or exposes the soil surface to the actions of wind and rain. Earth change includes, but is not limited to, any excavating, surface Grading, filling, landscaping, or removal of vegetative roots.
- (17) EPA – The United States Environmental Protection Agency.
- (18) Erosion – The process by which the ground surface is worn away by action of wind, water, gravity or a combination thereof.
- (19) Federal Emergency Management Agency (FEMA) – The agency of the federal government charged with emergency management.
- (20) Flood or Flooding – A general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of water bodies or the unusual and rapid accumulation of surface water runoff from any source.

- 416 (21) Hazardous Material(s) – Any material including any substance, waste or  
417 combination thereof, which because of its quantity, concentration or  
418 physical, chemical, or infectious characteristics may cause, or significantly  
419 contribute to, a substantial present or potential hazard to human health,  
420 safety, property, or the environment when improperly treated, stored,  
421 transported, disposed of, or otherwise managed.  
422
- 423 (22) Local Floodplain – Any land area subject to periodic Flooding as  
424 determined by Cascade Charter Township.  
425
- 426 (23) State-Regulated Floodplain – Any area of land adjoining a river or Stream  
427 that will be inundated by a Base Flood that has a drainage area of 2  
428 square miles or more when measured at the downstream limits of the  
429 proposed Development site.  
430
- 431 (24) Flood-Proofing – Any structural and/or non-structural additions, changes,  
432 or adjustments to structures or property that reduce or eliminate Flood  
433 damage to land, improvements, utilities or structures.  
434
- 435 (25) Flood Protection Elevation (FPE) – The Base Flood Elevation plus one (1)  
436 foot at any given location.  
437
- 438 (26) Floodway – The channel of a river or Stream and the portions of the  
439 Floodplain adjoining the channel that are reasonably required to carry and  
440 discharge a 100-year Flood.  
441
- 442 (27) Grading – Any stripping, excavating, filling, and stockpiling of soil or any  
443 combination thereof, and the land in its excavated or filled condition  
444
- 445 (28) Groundwater - water below the land surface in the zone of saturation as  
446 defined by the MDEQ in Part 213  
447
- 448 (29) High Groundwater – A groundwater elevation which does not meet minimum  
449 distance from the bottom of proposed practice as defined in the  
450 Stormwater Standards Manual.  
451
- 452 (30) Illicit Connection – Any method or means for conveying an Illicit Discharge  
453 into water bodies or Cascade Charter Township's stormwater system.  
454
- 455 (31) Illicit Discharge – Any discharge to water bodies or stormwater systems  
456 that does not consist entirely of stormwater, discharges pursuant to the  
457 terms of an NPDES Permit, or exempted discharges as defined in this  
458 ordinance.  
459
- 460 (32) Impervious Surface – Any surface that does not allow stormwater to  
461 percolate into the ground.  
462

- 463 (33) Lowest Floor – The lowest floor or the lowest enclosed area (including a  
464 basement), but not including an unfinished or Flood-resistant enclosure  
465 which is usable solely for parking of vehicles or building access.  
466
- 467 (34) MDEQ – Michigan Department of Environmental Quality  
468
- 469 (35) NPDES – National Pollution Discharge Elimination System The NPDES  
470 Program protects the surface waters of the state by assuring that  
471 discharges of Wastewater comply with state and federal regulations.  
472 Anyone discharging or proposing to discharge Wastewater to the surface  
473 waters of the state are required to make application for and obtain a valid  
474 NPDES Permit prior to Wastewater discharge.  
475
- 476 (36) MS4 – A Municipal Separate Storm Sewer System is a system of drainage  
477 (including roads, Storm Drains, pipes, and ditches, etc.) that is not a  
478 combined sewer or part of a sewage treatment plant. During wet weather,  
479 Pollutants are transported through MS4s to local water bodies.  
480
- 481 (37) MS4 Permit – Regulated Communities with Municipal Separate Storm  
482 Sewer Systems (MS4s) that discharge to waters of the state are required  
483 to obtain a Permit under Section 402 of the Federal Clean Water Act, as  
484 amended, and under the Water Resources Protection (Part 31, Act 451,  
485 PA 1994) of the Michigan Natural Resources and Environmental  
486 Protection Act (NREPA), as amended.  
487
- 488 (38) Overland flow-way – Surface area that conveys a concentrated flow of  
489 Stormwater Runoff.  
490
- 491 (39) Person – An individual, firm, partnership, association, public or private  
492 corporation, public agency, instrumentality, or any other legal entity.  
493
- 494 (40) Plan – Written narratives, specifications, drawings, sketches, written  
495 standards, operating procedures, or any combination of these.  
496
- 497 (41) Pollutant – A substance discharged which includes, but is not limited to  
498 the following: any dredged spoil, solid waste, vehicle fluids, yard wastes,  
499 animal wastes, agricultural waste products, sediment, incinerator residue,  
500 sewage, garbage, sewage sludge, munitions, chemical wastes, biological  
501 wastes, radioactive materials, heat, wrecked or discharged equipment,  
502 rock, sand, cellar dirt, and industrial, municipal, commercial and  
503 agricultural waste, or any other contaminant or other substance defined as  
504 a Pollutant under the Clean Water Act.  
505
- 506 (42) Project Site – Area of earth change or disturbance  
507
- 508 (43) Property Owner – Any Person having legal or equitable title to property or  
509 any Person having or exercising care, custody, or control over any  
510 property.

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- (44) Retention – A system which is designed to capture stormwater and contain it until it infiltrates the soil or evaporates.
- (45) Riparian Property Owner – A Property Owner who’s land is adjacent to a waterbody.
- (46) Sewershed - A catchment defined by Storm Drain infrastructure emptying into a common outlet.
- (47) Soil Erosion – The stripping of soil and weather rock from land creating sediment for transportation by water, wind, or ice, and enabling formation of new sedimentary deposits.
- (48) State of Michigan Water Quality Standards – All applicable State rules, regulations, and laws pertaining to water quality, including the provisions of Section 3106 of Part 31 of 1994 PA 451, as amended.
- (49) Storm Drain – A system of open or enclosed conduits and appurtenant structures intended to convey or manage Stormwater Runoff, ground water and drainage.
- (50) Stormwater Permit – A Permit issued pursuant to this ordinance.
- (51) Stormwater Runoff – Water that originates during precipitation events or with snowmelt. Stormwater that does not soak into the ground or evaporate becomes Stormwater Runoff, which either flows directly into surface waters or is channeled into storm drainage systems.
- (52) Stormwater Management Facility – The method, structure, area, system, plantings, trees, or other equipment or measures which are designed to receive, control, store, convey, infiltrate, or treat stormwater.
- (53) Stormwater Standards Manual - establishes a uniform set of minimum stormwater design standards necessary to provide for public safety, the protection of property, and to comply with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Individual Permit.
- (54)
- (55) Stream – A river, Stream or creek which may or may not be serving as a drain, or any other Water Body that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.

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- (56) Substantial Improvement - A repair, reconstruction, or improvement of an existing structure, such that the cost equals or exceeds fifty (50) percent of the true cash value of the structure either:
    - a. before the improvement is started, or
    - b. before the damage occurred if the structure has been damaged and is being restored, or
    - c. Substantial Improvement is started when the first alteration of any structural part of the building commences.
  - (57) Uncontaminated Pumped Groundwater - Pumped groundwater from dewatering wells at sites where no known soil or groundwater contamination exists
  - (58) Wastewater – Any water or other liquid, other than uncontaminated stormwater discharged from a facility.
  - (59) Water Body – A river, lake, Stream, creek or other watercourse or Wetlands.
  - (60) Watershed – A land area draining into a Water Body.
  - (61) Wetlands – Land characterized by the presence of water at a frequency and duration sufficient to support Wetland vegetation or aquatic life.

584 **Article II – Stormwater Permits**

585

586 **Sec. 2.01 Permit Required.**

587

588 (1) No Person shall engage in any Development activity without first receiving  
589 a Stormwater Permit from the **Local Government** pursuant to Section  
590 2.02.

591

592 (2) The granting of a Stormwater Permit only authorizes the discharge of  
593 stormwater from the Development for which the Permit is required, subject  
594 to the terms of the Permit. It shall not be deemed to approve other  
595 Development, other land use activities, or replace other required Permits.

596

597 **Sec. 2.02 Stormwater Permit Review Procedures**

598

599 Cascade Charter Township shall grant a Stormwater Permit, which may impose  
600 terms and conditions in accordance with Section 2.09, only upon compliance with  
601 each of the following requirements:

602

603 (1) The Developer has submitted a site (drainage) Plan complying with  
604 Section 2.03.

605

606 (2) The Developer has paid or deposited the stormwater Permit review fee  
607 pursuant to Section 2.04.

608

609 (3) The Developer has paid or posted any applicable performance guarantee  
610 pursuant to Section 2.06.

611

612 (4) The Developer agrees to provide all easements necessary to implement  
613 the approved drainage Plan and to otherwise comply with this Ordinance  
614 including, but not limited to, Section 7.02. All easements shall be  
615 acceptable to Cascade Charter Township in form and substance and shall  
616 be recorded with the County Register of Deeds. At the discretion of the  
617 local government the final easement may be required to be recorded prior  
618 to Permit issuance.

619

620 (5) The Developer provides the required maintenance agreement for routine,  
621 emergency, and long-term maintenance of all structural and vegetative  
622 BMPs installed and implemented to meet the performance standards, and  
623 to comply with the approved drainage Plan and this Ordinance including,  
624 but not limited to, Section 7.03. The maintenance agreement shall be  
625 acceptable to Cascade Charter Township in form and substance, may not  
626 be amended without the approval of Cascade Charter Township, shall be  
627 binding on all future Property Owners, and shall be recorded with the  
628 County Register of Deeds.

629

630 **Sec. 2.03 Drainage Plan.**

631  
632 The Developer shall provide adequate stormwater management facilities for the  
633 Development site. Adequate facilities reduce the exposure of people to  
634 drainage-related adverse impacts and to health and safety hazards. They  
635 reduce the exposure of real and personal property to damage through  
636 stormwater inundation. The stormwater management system and stormwater  
637 best management practices (BMPs) shall be designed in accordance with the  
638 latest version of the document "Stormwater Standards, Procedures and Design  
639 Criteria for Stormwater Management" (aka "Stormwater Standards" manual) of  
640 Cascade Charter Township.

641  
642 The Developer shall provide a drainage Plan to Cascade Charter Township for  
643 review and approval by Cascade Charter Township. The drainage Plan shall  
644 identify and contain all of the information required in the "Stormwater Standards"  
645 manual, including an implementation Plan relative to the Development site.

646  
647 The implementation Plan for construction and inspection of all stormwater  
648 management facilities necessary to the overall drainage Plan shall include a  
649 schedule of the estimated dates of completing construction of the stormwater  
650 management facilities shown on the Plan and an identification of the proposed  
651 inspection procedures to ensure that the stormwater management facilities are  
652 constructed in accordance with the approved drainage Plan.

653  
654 **Sec. 2.04 Stormwater Permit Review Fees.**

655  
656 (1) All expenses and costs incurred by Cascade Charter Township directly  
657 associated with processing, reviewing and approving or denying a  
658 Stormwater Permit application shall be paid to Cascade Charter Township  
659 from the funds in a separate escrow account established by the  
660 Developer, as provided in subsection (2). Cascade Charter Township  
661 shall draw funds from a Developer's escrow account to reimburse  
662 Cascade Charter Township for out-of-pocket expenses incurred by  
663 Cascade Charter Township relating to the application. Such reimbursable  
664 expenses include, but are not limited to, the following:

- 665  
666 (a) Services of Cascade Charter Township Attorney directly related to  
667 the application.  
668  
669 (b) Services of Cascade Charter Township Engineer directly related  
670 to the application.  
671  
672 (c) Services of other independent contractors or consultants  
673 working for Cascade Charter Township which are directly related to  
674 the application.  
675  
676 (d) Any additional public hearings, required mailings and legal  
677 notice requirements necessitated by the application.

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- (2) At the time a Developer applies for a Stormwater Permit, Cascade Charter Township may require the Developer to deposit with Cascade Charter Township clerk, as an escrow deposit, an initial amount as determined by resolution of the **Board of Trustees** for such matters and shall provide additional amounts as requested by Cascade Charter Township in such increments as are specified in said resolution. Any excess funds remaining in the escrow account after the application has been fully processed, reviewed, and the final **Cascade Charter Township** approval and acceptance of the Development has occurred will be refunded to the Developer with no interest to be paid on those funds. At no time prior to Cascade Charter Township's final decision on an application shall the balance in the escrow account fall below the amount as designated by the **Local Government**. If the funds in the account are reduced to less than the required amount, the Developer shall deposit into the account an additional amount as determined by **Cascade Charter Township Board of Trustees** resolution, before the application review process will be continued. Additional amounts necessary to process the application may be required to be placed in the escrow account by the Developer, at the discretion of the and based upon the criteria set forth in this ordinance **Cascade Charter Township**.

**Sec. 2.05 Construction Site Runoff Controls**

Prior to making any earth change on a Development site regulated by this ordinance, the Developer shall first obtain a Soil Erosion Permit issued in accordance with Part 91 of Act No. 451 of the Public Acts of 1994, as amended, if otherwise required by law. The Developer shall install stormwater management facilities and shall phase the Development activities so as to prevent construction site stormwater runoff and off-site sedimentation. During all construction activities on the Development site, Cascade Charter Township may inspect the Development site to ensure compliance with the approved construction site runoff controls.

**Sec. 2.06 Performance guarantee**

- (1) Cascade Charter Township shall not approve a Stormwater Permit until the Developer submits , a letter of credit or other performance guarantee to **Cascade Charter Township**, in a form and amount satisfactory to **Cascade Charter Township**, a letter of credit or other performance guarantee to ensure the timely and satisfactory construction of all approved stormwater management facilities and to complete site Grading in accordance with the approved drainage Plan. Upon 1) certification by a registered professional engineer that the stormwater management facilities have been completed in accordance with the approved drainage Plan including, but not limited to, the implementation Plan required to be submitted in Section 2.03, and 2) receipt of construction record drawings meeting the minimum requirements of Local Government or the County

726 Drain Commissioner, **Cascade Charter Township** may release the letter  
727 of credit, or other performance guarantee subject to final **Cascade**  
728 **Charter Township** acceptance and approval.

- 729
- 730 (2) Except as provided in subsection (3), the amount of the performance  
731 guarantee shall be \$ [REDACTED], unless **Cascade Charter Township**  
732 reasonably determines that a greater amount is appropriate, in which case  
733 the basis for such determination shall be provided to the Developer in  
734 writing. In determining whether an amount greater than \$ [REDACTED] is  
735 appropriate, Cascade Charter Township shall consider the size and type  
736 of the Development, the size and type of the on-site stormwater system,  
737 and the nature of the off-site stormwater management facilities the  
738 Development will utilize.
- 739
- 740 (3) **Cascade Charter Township** [planner][zoning administrator][REDACTED] may  
741 reduce or waive the amount of the performance guarantee for a  
742 Development that will not increase the percentage of Impervious Surface  
743 of the Development site by more than ten percent (10%) and in ~~light~~  
744 accordance with those factors set forth in subsection (2).
- 745
- 746 (4) This ordinance shall not be construed or interpreted as relieving a  
747 Developer of its obligation to pay all costs associated with on-site private  
748 stormwater management facilities as well as those costs arising from the  
749 need to make other drainage improvements in order to reduce a  
750 Development's impact on a drain consistent with adopted design  
751 standards.

752

753 **Sec. 2.07 Certificate of Occupancy**

754

755 No final certificate of occupancy shall be issued to a Development until  
756 stormwater management facilities have been completed in accordance with the  
757 approved drainage Plan; provided, however, Cascade Charter Township may  
758 issue a certificate of occupancy if an acceptable letter of credit or other  
759 performance guarantee has been submitted to Cascade Charter Township, for  
760 the timely and satisfactory construction of all stormwater management facilities  
761 and site Grading in accordance with the approved drainage Plan.

762

763 **Sec. 2.08 No Change in Approved Facilities**

764

765 Stormwater management facilities, after construction and approval, shall be  
766 maintained in good operational condition, in accordance with the approved  
767 drainage Plan, and shall not be subsequently altered, revised or replaced except  
768 in accordance with the approved drainage Plan, or in accordance with approved  
769 amendments or revisions to that Plan.

770

771 **Sec. 2.09 Terms and Conditions of Permits**

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775

In granting a Stormwater Permit, Cascade Charter Township may impose such terms and conditions as are reasonably necessary to effectuate the purposes of this ordinance. A Developer shall comply with such terms and conditions.

DRAFT

776 **Article III – Stormwater System, Floodplain and Other Standards, Soil Erosion**  
777 **Control**

778  
779 **Sec. 3.01 Management of and Responsibility for Stormwater System**  
780

781 Cascade Charter Township is not responsible for providing drainage facilities on  
782 private property for the management of stormwater on said property. It shall be  
783 the responsibility of the Property Owner to provide for, and maintain, private  
784 stormwater management facilities serving the property and to prevent or correct  
785 the accumulation of debris that interferes with the drainage function of a Water  
786 Body or the functioning of such drainage.

787  
788 **Sec. 3.02 Stormwater System**  
789

790 All stormwater management facilities shall be constructed and maintained in  
791 accordance with all applicable federal, state and local ordinances, and rules and  
792 regulations.

793  
794 **Sec. 3.03 Stormwater Discharge Rates and Volumes**  
795

796 Cascade Charter Township has minimum design standards set forth in Article  
797 VIII of this ordinance shall apply to all new Development and redevelopment  
798 projects, including preventing or minimizing water quality impacts. Specific  
799 exemptions are listed in the Stormwater Standards Manual.

800  
801 **Sec. 3.04 Floodplain Standards**  
802

- 803 (1) All new buildings and Substantial Improvements to existing buildings shall  
804 be protected from Flood damage up to the Flood Protection Elevation  
805 (FPE) and shall be in accordance with all applicable federal, state and  
806 local ordinances, and rules and regulations. Floodway alteration in a  
807 Local Floodplain shall be permitted only upon review and approval by the  
808 **Cascade Charter Township**, in accordance with an approved drainage  
809 Plan.
- 810 (2) A drainage Plan providing for the filling or alteration of a Floodway within a  
811 local Floodplain shall include provisions for maintaining stability of the  
812 banks of Streams or other water bodies. Establishing buffer zones is one  
813 means of providing protection of the slopes and banks of water bodies.
- 814 (3) Within any required buffer zone, no earth change shall take place except  
815 in accordance with the approved drainage Plan. Such a Plan may also  
816 include provisions for the replacement of local Flood plain storage volume,  
817 where such storage volume is lost or diminished as a result of approved  
818 Development.
- 819 (4) Any earth change within a State-Regulated Floodplain shall only be  
820 undertaken in accordance with any required state or federal Permit.  
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- (a) **Advisability of Additional Flood Protection**  
The degree of Flood protection required by this Ordinance is hereby found to be the minimum necessary and reasonable for regulatory purposes. Larger Floods may occur and higher Floodwater heights may occur than will be mitigated or controlled by compliance with these requirements. This Ordinance shall not be interpreted to imply or guarantee that areas outside the Floodway or the State-Regulated Floodplain or uses permitted within such areas, shall remain free from Flooding or Flood damage. Compliance with the terms of this Ordinance will not guarantee freedom from damage, injury or loss of life. This Ordinance shall not be interpreted or applied to create liability for **Cascade Charter Township** or any officer, agent or employee of **Cascade Charter Township** for any Flood or Flood related damage.

**Sec. 3.05 Soil Erosion and Sedimentation Control**

- (1) All Persons who cause, in whole or in part, any earth change to occur shall provide Soil Erosion and sedimentation control so as to adequately prevent soils from being eroded and discharged or deposited onto adjacent properties or into a stormwater drainage system, a public street or right of way, Wetland, creek, Stream, Water Body, or Floodplain. All Development shall be in accordance with all applicable federal, state and local ordinances, rules and regulations.
- (2) During any earth change which exposes soil to an increased risk of erosion or sediment track-out, the Property Owner and other Persons causing or participating in the earth change shall do the following:
  - (a) Comply with the stormwater management standards of this ordinance.
  - (b) Obtain and comply with the terms of a Soil Erosion and sedimentation control Permit if required by law.
  - (c) Prevent damage to any public utilities or services within the limits of Grading and within any routes of travel or areas of work of construction equipment.
  - (d) Prevent damage to or impairment of any Water Body on or near the location of the earth change or affected thereby.
  - (e) Prevent damage to adjacent or nearby land.
  - (f) Apply for all required approvals or Permits prior to the commencement of work.

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- (g) Proceed with the proposed work only in accordance with the approved Plans and in compliance with this ordinance and the Stormwater Standards Manual.
- (h) Maintain all required Soil Erosion and sedimentation control measures, including but not limited to, measures required for compliance with the terms of this ordinance.
- (i) Promptly remove all soil, sediment, debris, or other materials applied, dumped, tracked, or otherwise deposited on any lands, public streets, sidewalks, or other public ways or facilities, as directed by the regulatory agency issuing the Soil Erosion and sediment control Permit. Removal of all such soil, sediment, debris or other materials within twenty-four (24) hours shall be considered prima facie compliance with this requirement, unless such materials present an immediate hazard to public health and safety.
- (j) Refrain from Grading lands at locations near or adjoining lands, public streets, sidewalks, alleys, or other public or private property without providing adequate support or other measures so as to protect such other lands, streets, sidewalks or other property from settling, cracking or sustaining other damage.
- (k) The Property Owner shall have the Soil Erosion and sediment control measures inspected weekly and within twenty-four (24) hours of a rain event of sufficient quantity to cause runoff. The inspection for sites one (1) acre or greater shall be conducted by a MDEQ certified Construction Site Stormwater Operator who shall maintain written inspection logs. Logs shall be made available to **Cascade Charter Township** upon request.

**Sec. 3.06 Building Openings**

- (1) No Building Opening shall be constructed below the following elevations:
  - (a) One foot above the Base Flood Elevation.
  - (b) One foot above the 100-year water surface hydraulic grade line of the stormwater system.
  - (c) The Building Opening established at the time of plat or Development approval and on file with the **Cascade Charter Township**
- (2) No Lowest Floor shall be constructed below the following elevations:
  - (a) One foot above the highest known ground water elevation.

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(b) The lowest allowable floor established at the time of plat or development approval and on file with the **Cascade Charter Township**

(3) A waiver from elevations stated in Section 3.05(1) may be granted by **Cascade Charter Township** following receipt of a certification from a registered professional engineer demonstrating that the proposed elevation does not pose a risk of Flooding.

(4) Upon completion of construction of the structure's foundation and or slab on grade, a registered land surveyor shall certify any minimum Building Opening or Lowest Floor elevation specified by this ordinance. This certificate shall attest that the Building Opening or Lowest Floor elevation complies with the standards of this ordinance. The permittee for the building Permit shall submit the certificate to the **Township/Municipal Building Inspections** official prior to the commencement of framing and/or structural steel placement. If the surveyor should find that the minimum Building Opening or Lowest Floor elevation is below the elevation specified in Section 3.06(1) (a) through (c), that opening must be raised using a method that meets with the approval of **Cascade Charter Township**. After reconstruction, a registered land surveyor or engineer shall re-certify that the minimum Building Opening or Lowest Floor elevation complies with the standards of this ordinance prior to the commencement of framing and or structural steel placement.

**Sec. 3.07 Sump Pump Discharge**

(1) Whenever building footing drains are required or utilized, a direct connection between the footing drains and the storm sewer through a sump pump-check valve system, or a gravity pipe with a double flap gate valve for backflow prevention is required. The check valve system shall be installed on private property and maintained by the Property Ownerproperty owner.

(2) A stormwater lateral shall be provided for each parcel at the time of storm sewer construction. If no lateral is provided, the Property Owner shall discharge said water in such a manner as to not impact neighboring land or public streets. If a stormwater lateral does not exist, and it is technically feasible to construct one, the Property Owner may install one at their expense. Any work to be conducted within the right-of-way must be expressly authorized by **Cascade Charter Township**

(3) The Property Ownerproperty owner assumes all risks associated with connecting directly into the storm sewer system. The requirements outlined in subsection (1) of this section (3.07) are the minimum required for **Cascade Charter Township** to allow a Property Owner to connect a foundation drain to the storm sewer system. Additional measures may be considered to reduce the risk of storm sewer backups, such as the

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inclusion of a physical air gap between the residential stormwater discharge line and the public storm sewer system. All backflow prevention devices shall be installed on private property and maintained by the Property Owner.

- (4) Stormwater runoff shall not be redirected or infiltrated within the influence of footing drains.
- (5) None of the requirements of this section (3.07) shall be interpreted to require a Property Owner to connect into the storm sewer system.
- (6) If a storm sewer connection is not utilized, foundation drain outlets shall comply with **Cascade Charter Township** Code of Ordinances.

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981 **Article IV – Prohibitions and Exemptions**

982  
983 **Sec. 4.01 Prohibited Discharges**

- 984  
985 (1) No Person shall discharge to a Water Body, directly or indirectly, any  
986 substance other than stormwater or an exempted discharge. Any Person  
987 discharging stormwater shall effectively prevent Pollutants from being  
988 discharged with the stormwater, except in accordance with BMPs.  
989  
990 (2) **Cascade Charter Township** is authorized to require Dischargers to  
991 implement pollution prevention measures, utilizing BMPs as necessary, to  
992 prevent or reduce the discharge of Pollutants into **Cascade Charter**  
993 **Township's** stormwater drainage system.  
994  
995 (3) *[Pollutants prohibited]* No Person shall discharge or cause to be  
996 discharged into **Cascade Charter Township** storm drain system or  
997 watercourses any materials, including, but not limited to, Pollutants, or  
998 water containing any Pollutants that cause or contribute to a violation of  
999 applicable water quality standards other than stormwater. The  
1000 commencement, conduct, or continuance of any Illicit Discharge to the  
1001 Storm Drain system is prohibited except for discharges authorized by the  
1002 **Cascade Charter Township** as being necessary to protect public health  
1003 and safety.  
1004  
1005 (4) *Prohibition of Illicit Connections*  
1006 (a) *The construction, use, maintenance, or continued existence of Illicit*  
1007 *Connections to the MS4 is prohibited.*  
1008 (b) *This prohibition expressly includes, without limitation, Illicit*  
1009 *Connections made in the past, regardless of whether the connection*  
1010 *was permissible under law or practices applicable or prevailing at the*  
1011 *time of connection.*  
1012 (c) *Without limitation, a Person is considered to be in violation of this*  
1013 *Ordinance if the Person connects a line conveying Wastewater to the*  
1014 *MS4, or allows such a connection to continue.*  
1015 (5) *[Exceptions]* The prohibitions of this section shall not apply to any  
1016 nonstormwater discharge permitted under an NPDES Permit, waiver, or  
1017 waste discharge order issued to the Discharger and administered under  
1018 the authority of the Federal Environmental Protection Agency, provided,  
1019 that the discharge is in full compliance with all requirements of the Permit,  
1020 waiver, or order and other applicable laws and regulations, and provided  
1021 that written approval has been granted for any discharge to the MS4.

1022  
1023 **Sec. 4.02 Exempted Discharges**

- 1024  
1025 (1) The following non-stormwater discharges shall be exempted from the  
1026 requirement of this Article, provided that they do not result in a violation of  
1027 State of Michigan water quality standards:  
1028

- 1029 Water supply line flushing
- 1030 Landscape irrigation
- 1031 Diverted Stream flows
- 1032 Rising ground water
- 1033 Uncontaminated ground water infiltration to Storm Drains
- 1034 Uncontaminated Pumped Ground Water
- 1035 Discharges from potable water sources
- 1036 Foundation drains
- 1037 Air conditioning condensate
- 1038 Individual residential car washing
- 1039 Dechlorinated swimming pool water
- 1040 Street washwater
- 1041 Discharges or flows from emergency fire fighting activities
- 1042 Discharges for which a specific federal or state Permit has been issued.
- 1043 (2) None of the above exemptions eliminate the need to provide appropriate
- 1044 pollution control or pollution prevention measures required under this
- 1045 Ordinance or under any other Federal or State Law, rule or regulation.
- 1046

1047 **Sec. 4.03 Interference with Natural or Artificial Drains**

- 1048
- 1049 (1) It shall be unlawful for any Person to stop, fill, dam, confine, pave, alter the
- 1050 course of, or otherwise interfere with any natural or constructed drain,
- 1051 ditch, swale, culvert, Water Body, Floodplain, or Flood prone area without
- 1052 first submitting a drainage Plan to **Cascade Charter Township** and
- 1053 receiving approval of that Plan. Any deviation from the approved Plan is a
- 1054 violation of this ordinance. This section shall not prohibit, however,
- 1055 necessary emergency action so as to prevent or mitigate drainage that
- 1056 would be injurious to the environment, the public health, safety, or welfare.
- 1057
- 1058 (2) No filling, blocking, fencing or above-surface vegetation planting shall take
- 1059 place within a Floodway.
- 1060
- 1061 (3) No shrubs or trees shall be planted below the top of the bank of a Water
- 1062 Body.
- 1063
- 1064 (4) For an overland flow-way:
- 1065
- 1066 (a) Silt screen fences shall not be permitted below the top of the bank
- 1067 of a Water Body.
- 1068
- 1069 (b) Chain link fences shall be permitted if **Cascade Charter Township**
- 1070 determines that the fence will not obstruct or divert the flow of
- 1071 water.
- 1072
- 1073 (c) If a fence is removed by **Cascade Charter Township** for drain
- 1074 access or drain maintenance, the fence shall be replaced by the
- 1075 owner of the fence at the owner's expense.
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- (5) Shrubs, trees or other above-ground vegetation shall not be planted over the top of an underground storm sewer or over the top of the easement within which the storm sewer has been installed.

**Sec. 4.04 Storage of Materials in Drainageway**

It shall be unlawful for any Person to store, stockpile or dispose of any hazardous, toxic, or non-toxic material including but not limited to chemicals, explosives, buoyant materials, yard wastes, log and brush piles, unsecured landscaping materials, play or work sheds, animal wastes, fertilizers, flammable liquids and Pollutants win an overland flow-way, drainage system or a Floodplain unless adequate protection and or containment has been provided to prevent such materials from entering, diverting or blocking **Cascade Charter Township** drainage system, except as specifically permitted by State and Federal Law.

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1098 **Article V – Inspection, Monitoring, Reporting, and Recordkeeping.**

1099  
1100 **Sec. 5.01 Inspection and Sampling**

1101  
1102 To assure compliance with the standards outlined in Article VIII, **Cascade Charter**  
1103 **Township** may inspect and/or obtain stormwater samples from stormwater  
1104 management facilities of any Discharger to determine compliance with the requirements  
1105 of this ordinance. Upon request, the Discharger shall allow **Cascade Charter**  
1106 **Township's** properly identified representative to enter upon the premises of the  
1107 Discharger at all hours necessary for the purposes of such inspection or sampling  
1108 absent exigent circumstances. **Cascade Charter Township** shall make a reasonable  
1109 effort to provide the Discharger with advance notice of such inspection and/or sampling.  
1110 Unreasonable delays in allowing access to a Discharger's facility is a violation of this  
1111 Ordinance. As a condition of the issuance of any Permit in accordance with this  
1112 ordinance, a the permittee shall be deemed to have consented to **Cascade Charter**  
1113 **Township's** exercise of its right to place on the Discharger's property the equipment or  
1114 devices used for such sampling or inspection under this Ordinance

1115 **Sec. 5.02 Stormwater Monitoring Facilities**

1116  
1117 A Discharger of stormwater runoff shall install and operate equipment or devices  
1118 for the monitoring of stormwater runoff, at its own expense, so as to provide for  
1119 inspection, sampling, and flow measurement of each discharge to a Water Body  
1120 or a Stormwater Management Facility, when directed in writing to do so by  
1121 **Cascade Charter Township**. **Cascade Charter Township** may require a  
1122 Discharger to provide and operate such equipment and devices if it is necessary  
1123 or appropriate for the inspection, sampling and flow measurement of discharges  
1124 in order to determine whether adverse effects from or as a result of such  
1125 discharges may occur. All such equipment and devices for the inspection,  
1126 sampling and flow measurement of discharges shall be installed and maintained  
1127 in accordance with applicable laws, ordinances and regulations.

1128  
1129 **Sec. 5.03 Accidental Discharges**

1130  
1131 (1) Any Discharger who accidentally discharges into a Water Body any  
1132 substance other than stormwater or an exempted discharge shall  
1133 immediately inform **Cascade Charter Township** concerning the  
1134 discharge. If such information is given orally, a written report concerning  
1135 the discharge shall be filed with **Cascade Charter Township** within five  
1136 (5) days. The written report shall specify:

- 1137  
1138 (a) The composition of the discharge and the cause thereof.  
1139  
1140 (b) The exact date, time, and estimated volume of the discharge.  
1141  
1142 (c) All measures taken to date to clean up the accidental discharge,  
1143 and all measures proposed to be taken to reduce and prevent any  
1144 recurrence.

1145 (d) The name and telephone number of the Person making the report,  
1146 and the name of a Person who may be contacted for additional  
1147 information on the matter.

1148  
1149 (2) A properly-reported accidental discharge shall be an affirmative defense to  
1150 a civil infraction proceeding brought under this ordinance against a  
1151 Discharger for such discharge. It shall not, however, be a defense to a  
1152 legal action brought to obtain an injunction, to obtain recovery of costs or  
1153 to obtain other relief as a result of or arising out of the discharge. A  
1154 discharge shall be considered properly reported only if the Discharger  
1155 complies with all the requirements of Section 5.03(1).  
1156

1157 **Sec. 5.04 Record Keeping Requirement**

1158  
1159 Any Person subject to this ordinance shall retain and preserve for no less than  
1160 three (3) years any and all books, drawings, Plans, prints, documents,  
1161 memoranda, reports, correspondence and records, including records on  
1162 magnetic or electronic media and any and all summaries of such records, relating  
1163 to monitoring, sampling and chemical analysis of any discharge or stormwater  
1164 runoff from any property.  
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1166 **Article VI – Enforcement**

1167  
1168 **Sec. 6.01 Sanctions for Violation**

- 1169  
1170 (1) Any Person violating any provision of this ordinance shall be responsible  
1171 for a municipal civil infraction and subject to a fine of not less than  
1172 \$ [REDACTED] for a first offense, and not less than \$ [REDACTED] for a  
1173 subsequent offense, plus costs, damages, expenses, and other sanctions  
1174 as authorized under Chapter 87 of the Revised Judicature Act of 1961 and  
1175 other applicable laws, including, without limitation, equitable relief;  
1176 provided, however, that the violation stated in Section 6.01(2) shall be a  
1177 misdemeanor. Each day such violation occurs or continues shall be  
1178 deemed a separate offense and shall make the violator liable for the  
1179 imposition of a fine for each day. The rights and remedies provided for in  
1180 this section are cumulative and in addition to any other remedies provided  
1181 by law. An admission or determination of responsibility shall not exempt  
1182 the offender from compliance with the requirements of this ordinance.

1183  
1184 For purposes of this section, "subsequent offense" means a violation of  
1185 the provisions of this ordinance committed by the same Person within 12  
1186 months of a previous violation of the same provision of this ordinance for  
1187 which said Person admitted responsibility or was adjudicated to be  
1188 responsible.

1189  
1190 **Cascade Charter Township** [zoning administrator, building inspector,  
1191 enforcement officer, etc.] is authorized to issue municipal civil infraction  
1192 citations for a violation of any provision of this ordinance.

- 1193  
1194 (2) Any Person who neglects or fails to comply with a stop work order issued  
1195 under Section 6.02 shall, upon conviction, be guilty of a misdemeanor,  
1196 punishable by a fine of not more than \$500 or imprisonment for not more  
1197 than 93 days, or both such fine and imprisonment, and such Person shall  
1198 also pay such costs of prosecution and other charges as may be imposed  
1199 in the discretion of the court.  
1200  
1201 (3) Any Person who aids or abets a Person in a violation of this ordinance  
1202 shall be subject to the sanctions provided in this section.

1203  
1204 **Sec. 6.02 Stop Work Order**

1205  
1206 Where there is work in progress that causes or constitutes in whole or in part, a  
1207 violation of any provision of this ordinance, **Cascade Charter Township** is  
1208 authorized to issue a Stop Work Order to prevent further or continuing violations  
1209 or adverse effects. All Persons to whom a stop work order is directed, or who  
1210 are involved in any way with the work or matter described in a stop work order  
1211 shall fully and promptly comply therewith.

1212  
1213 **Sec. 6.03 Failure to Comply; Completion**

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In addition to any other remedies, should any owner fail to comply with the provisions of this ordinance, **Cascade Charter Township** may, after giving reasonable notice and an opportunity for compliance, have the necessary work done, and the owner shall be obligated to promptly reimburse **Cascade Charter Township** for all costs of such work. Without limiting the foregoing, a failure to comply or otherwise bring property into compliance with other violation of this ordinance shall be deemed a public nuisance and shall be subject to abatement,

**Sec. 6.04 Emergency Measures**

When emergency measures are necessary to protect public safety, health and welfare, and/or to prevent loss of life, injury or damage to property, **Cascade Charter Township** is authorized to carry out or arrange for all such emergency measures. Property owners shall be responsible for the cost of such measures made necessary as a result of a violation of this ordinance, and shall promptly reimburse **Cascade Charter Township** for all of such costs.

**Sec. 6.05 Cost Recovery for Damage to Storm Drain System**

A Discharger shall be liable for all costs incurred by **Cascade Charter Township** as the result of causing a discharge that produces a deposit or obstruction, or causes damage to, or impairs a Storm Drain, or violates any of the provisions of this ordinance. Costs include, but are not limited to, those penalties levied by the EPA or MDEQ for violation of an NPDES Permit, attorney fees, and other costs and expenses.

**Sec. 6.06 Collection of Costs; Lien**

To the extent permitted by law, service charge incurred by **Cascade Charter Township** and the Drain Commissioner including, without limitation, applicable charges incurred pursuant to Sections 6.02, 6.03, 6.04 and 6.05 may be collected by **Cascade Charter Township** or Drain Commissioner in any manner authorized by law including, but not limited to, all remedies authorized by Act No. 94 of the Public Acts of 1933, as amended. When applicable, said costs shall be a lien on the premises which shall be enforceable in accordance with Act No. 94 of the Public Acts of 1933, as amended from time to time or as otherwise authorized by law with any such charges which are delinquent for six (6) months or more may be certified annually to **Cascade Charter Township** Treasurer who shall enter the lien on the next tax roll against the premises and the costs shall be collected and the lien shall be enforced in the same manner as provided for in the collection of taxes assessed upon the roll and the enforcement of a lien for taxes.

**Sec. 6.07 Appeals**

Any Person as to whom any provision of this ordinance has been applied may appeal in writing, not later than 30 days after the action or decision being

1262 appealed from, to **Cascade Charter Township body]Board of Trustees** the  
1263 action or decision whereby any such provision was so applied. Such appeal  
1264 shall identify the matter being appealed, and the basis for the appeal. **Cascade**  
1265 **Charter Township** shall **Board of Trustees** shall consider the appeal at a  
1266 public hearing and shall affirm, reject or modify the action being appealed based  
1267 on the standards set forth in this ordinance. Cascade Charter Township  
1268 **body]Board of Trustees** may impose reasonable conditions on an affirmative  
1269 decision in an appeal. **Cascade Charter Township Board of Trustees** shall  
1270 make its decision in writing and shall furnish a copy of the decision to the Person  
1271 making the appeal. In considering any such appeal, Cascade Charter Township  
1272 Board of Trustees may consider the recommendations of Cascade Charter  
1273 Township Engineer and the comments of other Persons having knowledge of the  
1274 matter. In considering any such appeal, Cascade Charter Township **Board of**  
1275 **Trustees** may grant a variance from the terms of this ordinance so as to provide  
1276 relief, in whole or in part, from the action being appealed, but only upon finding  
1277 that the following requirements are satisfied:

- 1278
- 1279 (1) The application of the ordinance provisions being appealed will present or  
1280 cause practical difficulties for a Development or Development site;  
1281 provided, however, that practical difficulties shall not include the need for  
1282 the Developer to incur additional reasonable expenses in order to comply  
1283 with the ordinance; and
- 1284
- 1285 (2) The granting of the relief requested will not substantially prevent the goals  
1286 and purposes sought to be accomplished by this ordinance, nor result in  
1287 less effective management of stormwater runoff.
- 1288

1289 **Sec. 6.08 Suspension of MS4 Access**

- 1290 (1) The Local Government may, without prior notice, suspend a Person's  
1291 discharge access to the MS4 when such suspension is necessary to stop  
1292 an actual or threatened discharge that presents or may present imminent  
1293 and substantial danger to the environment, or to the health or welfare of  
1294 Persons or the MS4. If the Person fails to comply with a suspension order  
1295 issued in an emergency, the Local Government may take such steps as  
1296 deemed necessary to prevent or minimize damage to the MS4 or the  
1297 environment, or to minimize danger to Persons. A Personperson failing to  
1298 comply with a suspension order pursuant to this section shall be liable for  
1299 all cost incurred by Cascade Charter Township as the result of such failure  
1300 to comply and a violation shall constitute a public nuisance.
- 1301
- 1302 (2) Any Person discharging to the MS4 in violation of this Ordinance may  
1303 have their MS4 access terminated if such termination would abate or  
1304 reduce an Illicit Discharge. Cascade Charter Township will notify a  
1305 violator of the proposed termination of its MS4 access. A Person violates  
1306 this Ordinance if the Person reinstates MS4 access to a premise  
1307 terminated pursuant to this section, without the prior approval of Cascade  
1308 Charter Township.
- 1309

1310 **Article VII – Stormwater Easements and Maintenance Agreements**

1311  
1312 **Sec. 7.01 Applicability of Requirements**

1313  
1314 The requirements of this Article concerning stormwater easements and  
1315 maintenance agreements shall apply to all Persons required to submit a drainage  
1316 Plan to **Cascade Charter Township** for review and approval.

1317  
1318 **Sec. 7.02 Stormwater Management Easements**

1319  
1320 The Property Owner shall provide all stormwater management easements  
1321 necessary to implement the approved drainage Plan and to otherwise comply  
1322 with this ordinance in form and substance required by **Cascade Charter**  
1323 **Township** and shall record such easements as directed by Cascade Charter  
1324 Township. The easements shall assure access for proper inspection and  
1325 maintenance of stormwater management facilities and shall provide adequate  
1326 emergency Overland Flow-ways.

1327  
1328 **Sec. 7.03 Maintenance Agreements**

1329  
1330 (1) Maintenance Agreement Required. The Developer shall provide all  
1331 stormwater maintenance agreements necessary to implement the  
1332 approved drainage Plan and to otherwise comply with this ordinance in  
1333 form and substance as required by **Cascade Charter Township**, and  
1334 shall record such agreements as directed by **Cascade Charter**  
1335 **Township**. The maintenance agreements shall, among other matters,  
1336 assure access for proper inspection and maintenance or corrective actions  
1337 of stormwater BMPs, including emergency Overland Flow-ways, and  
1338 include provisions for tracking the transfer of operation and maintenance  
1339 responsibility to ensure the performance standards are met in perpetuity.

1340  
1341 (2) Maintenance Agreement Provisions.

1342  
1343 (a) The maintenance agreement shall include a maintenance plan and  
1344 schedule for routine, emergency and long-term maintenance of all  
1345 structural and vegetative stormwater BMPs installed and  
1346 implemented to meet the performance standards, with a detailed  
1347 annual estimated budget for the initial three years, and a clear  
1348 statement that only future maintenance activities in accordance with  
1349 the maintenance agreement Plan shall be permitted without the  
1350 necessity of securing new Permits.

1351  
1352 (b) Written notice and submittal of maintenance documentation shall  
1353 be provided to Cascade Charter Township by the Property Owner  
1354 at the interval set forth in the maintenance agreement and subject  
1355 to the provisions of Sections 5-01 through 6-07.

1357 (c) If it has been found by Cascade Charter Township, following notice  
1358 and an opportunity to be heard by the Property Owner, that there  
1359 has been a material failure or refusal to undertake maintenance as  
1360 required under this ordinance and/or as required in the approved  
1361 maintenance agreement as required hereunder, Cascade Charter  
1362 Township shall then be authorized, but not required, to hire an  
1363 entity with qualifications and experience in the subject matter to  
1364 undertake the monitoring and maintenance required, in which event  
1365 the Property Owner shall be obligated to advance or reimburse  
1366 payment for all costs and expenses associated with such  
1367 monitoring and maintenance, together with a reasonable  
1368 administrative fee. The maintenance agreement required under this  
1369 Ordinance shall contain a provision spelling out the requirements  
1370 and, if the applicant objects in any respect to such provision or the  
1371 underlying rights and obligations, such objection shall be resolved  
1372 prior to the commencement of construction of the proposed  
1373 Development on the property.

1374  
1375 **Sec. 7.04 Establishment of County Drains**

1376  
1377 Prior to final approval of a platted subdivision, all stormwater management  
1378 facilities for platted subdivisions shall be established as county drains, as  
1379 authorized in Section 433, Ordinance 18 of the Michigan Drain Code (P.A. 40 of  
1380 1956, as amended) for long-term maintenance.

1381 **Article VIII – Performance and Design Standards**

1382  
1383 **Sec. 8.01 Design Standards**

1384 Stormwater BMPs shall be designed to manage stormwater flow within the  
1385 available capacity of the downstream conveyance system as determined by  
1386 Cascade Charter Township.  
1387

1388  
1389 In addition, stormwater BMPs shall be designed to meet Performance Standards  
1390 as described in Section 8.02. Stormwater system design shall be in accordance  
1391 with the latest version the “Stormwater Standards” manual published by Cascade  
1392 Charter Township.  
1393

1394 **Sec. 8.02 Performance Standards**  
1383  
1395

1396 In order to achieve the goals and purposes of this ordinance, the following  
1397 stormwater management performance standards are hereby established.  
1398

- 1399 (1) **Water Quality Treatment.** Treat the calculated site runoff for the entire  
1400 Project Site from the 90 percent annual non-exceedance storm, which is  
1401 approximately equal to 1-inch of rain (i.e. on average, 90 percent of the  
1402 storms in a given year produce 1-inch of rainfall or less). The treatment  
1403 volume specified is based on capturing and treating the volume of  
1404 stormwater that is the first to runoff in a storm and expected to contain the  
1405 majority of Pollutants. This volume of runoff is often referred to as the “first  
1406 flush.” The water quality treatment standard is required for all sites.  
1407
- 1408 (a) **Total Suspended Solids (TSS).** The methods selected to treat the  
1409 volume of water calculated for the Water Quality Treatment  
1410 performance standard shall be designed on a site-specific basis to  
1411 achieve either a minimum of 80 percent removal of TSS, as  
1412 compared with uncontrolled runoff, or a discharge concentration of  
1413 TSS that does not exceed 80 milligrams per liter (mg/l). This  
1414 performance standard is based on TSS as a surrogate for other  
1415 Pollutants normally found in stormwater runoff. Control of TSS to  
1416 meet this standard is expected to achieve control of other  
1417 Pollutants to an acceptable level that protects water quality.  
1418
- 1419 (2) **Channel Protection.** Maintain the post-development Project Site runoff  
1420 volume and peak flow rate at or below pre-development levels for all  
1421 storms up to the 2-year, 24-hour event. At a minimum, pre-development is  
defined as the last land use prior to the planned new Development or  
redevelopment. The channel protection standard is required for  
stormwater discharges to surface waters or the MS4.

- 1422 (3) Flood Control. Control the volume of site runoff from the Flood control  
1423 rainfall event with a maximum allowable release rate to reduce the  
1424 potential for property damage from overbank Flooding and preserve  
1425 existing Floodplains. The Flood control event and maximum allowable  
1426 release rate shall be determined by **Cascade Charter Township**. The  
1427 Flood control standard is required for all sites.  
1428
- 1429 (a) Overflow Routes. Acceptable overflow routes for the 100-year  
1430 Flood shall be identified for the site and for downstream areas  
1431 between the site and the nearest acceptable Floodway or outlet.  
1432 Stormwater conveyance systems are usually designed to handle  
1433 flows generated by the 10-year storm. When larger storms  
1434 generate higher flows, the conveyance system is expected to  
1435 surcharge resulting in stormwater accumulating on the surface of  
1436 the ground. Gravity will cause such stormwater to flow overland to  
1437 lower elevations. By carefully managing the shape of the land  
1438 surface such overland stormwater flow can be directed to locations  
1439 that will not cause property damage. Adequate emergency  
1440 Overland Flow-ways will direct stormwater flows generated by the  
1441 100-year storm to avoid damage to structures and facilities.  
1442
- 1443 (4) Site-Specific Requirements.  
1444
- 1445 (a) Pretreatment. Pretreatment of site runoff is required on a site  
1446 specific basis prior to discharging to certain stormwater BMPs.  
1447 Pretreatment provides for the removal of fine sediment, trash and  
1448 debris, and preserves the longevity and function of the BMP.  
1449
- 1450 (b) Hot Spots and Groundwater Contamination. Some land use  
1451 activities have a potentially greater risk of polluted runoff than  
1452 others. Project sites with these types of activities are referred to as  
1453 "hot spots" and include uses such as gas stations, commercial  
1454 vehicle maintenance and repair, auto recyclers, recycling centers,  
1455 and scrap yards. Hot spots also include areas with the potential for  
1456 contaminating public water supply intakes. Pretreatment of  
1457 stormwater runoff to address Pollutants associated with hot spots is  
1458 required for the site. Stormwater management strategies and BMPs  
1459 that reduce the potential to mobilize existing soil and groundwater  
1460 contaminants, or that capture and treat stormwater runoff and/or  
1461 accidental spills to protect groundwater or nearby surface waters  
1462 are required.  
1463
- 1464 (c) Coldwater Streams. Stormwater management strategies and BMPs  
1465 that minimize thermal impacts from site runoff and maximize  
1466 groundwater recharge are required for sites with a surface water  
1467 discharge to a coldwater Stream as determined by the Michigan  
1468 Department of Natural Resources.

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**Sec. 8.03 Alternative Approach for Channel Protection**

In many cases, infiltration will likely be used as the primary means of Retention. It is not, however, the sole means of providing onsite Retention, and the developer must include consideration of stormwater reuse, interception, evapo-transpiration, and other vegetative (non-structural) BMPs at the Project Site. Site constraints that limit the use of infiltration may include:

- (1) Poorly draining soils (<0.24 inches per hour; typically hydrologic soil groups C and D).
- (2) Bedrock.
- (3) High groundwater, or the potential of mounded groundwater to impair other uses.
- (4) Wellhead protection areas.
- (5) Stormwater hot spots.
- (6) Part 201 and Part 213 sites, and areas of soil or groundwater contamination.

**Cascade Charter Township** may grant a waiver of the on-site Retention criteria for channel protection described in Section 8.01(2), and allow an alternative approach to meet the channel protection performance standard if the developer demonstrates that site constraints preclude sufficient Retention onsite. If a waiver is granted, the developer must meet the following extended detention criteria:

- (1) **Extended Detention.** Detain the portion of the channel protection volume unable to be retained onsite for a minimum of 24-hours with a maximum release rate no greater than the existing 1-year peak discharge, and a drawdown time no greater than 72 hours. A waiver from the Local Government must be granted to use this alternative approach.

1565 ~~The Local Government may approve off-site mitigation or payment in lieu if the~~  
1566 ~~developer demonstrates that site constraints preclude sufficient treatment and~~  
1567 ~~restoration of hydrology onsite. At a minimum, the Local Government requires:~~  
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1570 ~~(1) Offset ratio. The offset ratio for the amount of stormwater not managed~~  
1571 ~~onsite in relation to the amount of stormwater required to be mitigated at~~  
1572 ~~another site, or for which in-lieu payments will be made is as~~  
1573 ~~follows:~~  
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1575 ~~(a) First Tier: Manage a minimum of 0.4 inches of stormwater runoff~~  
1576 ~~onsite, and provide a 1 to 1.5 offset ratio for the remaining amount~~  
1577 ~~of stormwater managed offsite.~~  
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1579 ~~(b) Second Tier: If it completely infeasible to manage the minimum~~  
1580 ~~onsite, provide a 1 to 2 offset ratio for the amount of stormwater~~  
1581 ~~managed offsite.~~  
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1583 ~~(2) Schedule. Offsite mitigation and payment in lieu projects shall be~~  
1584 ~~completed within 24 months after the start of the original site construction.~~  
1585

1586 ~~(3) Assurances. Offset and in-lieu projects shall be preserved and maintained~~  
1587 ~~in perpetuity through the procedures and tracking system administered by~~  
1588 ~~the Local Government.~~  
1589

#### 1590 **Sec. 8.04 Resolution to Implement Performance and Design Standards**

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1592 **The Board of Trustees of Cascade Charter Township** may adopt a resolution  
1593 establishing more detailed design and performance standards for stormwater  
1594 management facilities, consistent with the terms of this ordinance, and in order to  
1595 further implement its goals and purposes.



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This ordinance was adopted \_\_\_\_\_, by the **Township Board**,  
and made effective \_\_\_\_\_.

\_\_\_\_\_  
**Cascade Charter Township**  
Clerk

DRAFT



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Dr. SE, Grand Rapids, Michigan 49546

**Date:** November 1, 2021  
**To:** Cascade Charter Township Board  
**From:** Supervisor Grace Lesperance  
**Subject:** Consider Appointments to Laraway Lake and Thornapple River Special Assessment District Ad Hoc Committees

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I ask that the Township Board confirm the following appointment to the Laraway Lake and Thornapple River Special Assessment Districts. Application materials for all candidates are attached to this memo.

### **Laraway Lake SAD Ad-Hoc Committee**

Trustee Jim Koessel – Township Board Representative  
Tom Koster – 1930 Boxthorn Ct. SE  
Owen Pyle – 1944 Boxthorn Ct. SE

### **Thornapple River SAD Ad-Hoc Committee**

Trustee John Shipley – Township Board Representative  
Jeff Carpenter (CRTA Representative) – 5016 Sequoia Dr. SE  
Thomas Keith – 4755 Little Harbor Dr. SE  
Michael Wiegand – 7243 Kilmer Dr. SE  
Lori Gottlieb – 7100 Cascade Rd. SE



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Thomas Koster

Address: 1930 Boxthorn Ct. SE

Phone: 616-540-2625 Email: tkoster@realvesco.com

What do you hope to accomplish by serving on the SAD committee? Completion of 10 year plan to renovate Laraway Lake through weed control and other improvements that will restore the lake and improve its visibility and enhance boating and recreational uses of the lake.

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What special experience, education or skill set would you offer to the SAD committee? I am a real estate developer who developed Cascade Lakes, Manchester Hills and other commercial and industrial properties in Western Michigan. Also paid for and engineered road to the lake off from Laraway Lake Road and helped set legal lake limit and storm water improvements to prevent flooding of neighboring properties on the lake.

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Assessing  
949 6176

Building  
949 3765

Building & Grounds  
318 8785

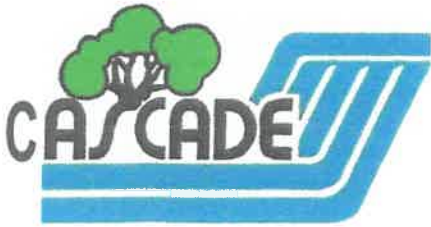
Clock  
949 1508

Fire  
949 1320

Manager  
949 1500

Planning  
949 0224

Treasurer  
949 694



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Owen Pyle \_\_\_\_\_

Address: 1944 Boxthorn CT SE \_\_\_\_\_

Phone: 616-450-3777 \_\_\_\_\_

Email: [owen@concordcapitalmanagement.com](mailto:owen@concordcapitalmanagement.com) \_\_\_\_\_

**What do you hope to accomplish by serving on the SAD committee?**

Closely monitor the work of the weed removal contractor and make sure we are getting the results the neighbors expect.

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**What special experience, education or skill set would you offer to the SAD committee?**

Broad business experience and long time resident of Laraway Lake \_\_\_\_\_

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## Ben Swayze

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**From:** CTRA <cascauthorapple@gmail.com>  
**Sent:** Wednesday, October 27, 2021 7:59 PM  
**To:** Ben Swayze  
**Subject:** RE: Ad Hoc Committee Application - CTRA designee - Thornapple River SAD  
**Attachments:** Carpenter\_CTRADesignee\_CCT - Thornapple River SAD Ad-Hoc Committee Application.pdf

Mr. Swayze,

The Cascade Thornapple River Association Board of Directors voted on 10/27/2021 to submit Jeff Carpenter, of 5016 Sequoia Dr. S.E., as the CTRA designee for the Thornapple River SAD ad hoc committee. His completed application is attached.

Thank you,  
Jim VanHoven - President, Cascade Thornapple River Association



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Jeff Carpenter

Address: 5016 Sequoia SE Grand Rapids, MI 49512

Phone: 517-819-2370 Email: carpen68@msu.edu

What do you hope to accomplish by serving on the SAD committee? See attached

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What special experience, education or skill set would you offer to the SAD committee? See attached

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## **Jeff Carpenter – Thornapple River SAD – Ad Hoc Committee Application Information**

### **Question 1**

#### **Hope to accomplish:**

- Help ensure the initial public SAD petition issues are addressed in a timely and creative fashion, thus ensuring residents see a tangible return on their investment. I am a third-generation river resident and have been using the river for over 40 years. I have extensive knowledge of all sections of the waterway and know that this detailed background would benefit the committee's work.
- The Thornapple River SAD needs a documented strategic plan. This plan could span the 15 years of the initial SAD and could be updated on a regular basis (e.g. every 3 to 5 years). Establishment of a strategic plan would guide current and future committee and Board of Trustees members alike and be a meaningful reference to help ensure consistency and transparency in decision-making.
- Residents expect the committee and Board of Trustees to leverage annual contributions for maximum impact. Success in securing additional matching funds will require partnership with other local, state, federal, non-profit or private resources and this partnership will require thoughtful and well-documented planning.

### **Question 2**

#### **Experience:**

- Served for the past 8 years on the DeWitt Charter Township Zoning Board of Appeals in Clinton County, MI. I have been elected multiple times to Chairperson and currently serve as Vice Chairperson. This affords me a unique understanding of Michigan local government operation, open meetings act requirements and Robert's Rules of Order procedures to conduct transparent public proceedings.
- Served on the DeWitt Charter Township Non-Motorized Transportation Committee in Clinton County, MI. This experience helped me understand how to function in an advisory capacity to an elected Board of Trustees.

#### **Skillset:**

- Provide leadership for a vendor management team at a large public research university. Participate in the development, administration, evaluation and lessons learned analysis of RFX engagements in the public sector. In addition, have experience with public/private partnerships and grants.
- Familiar with public bidding and Michigan FOIA. Appreciate the additional due diligence required in these situations.
- Involved in enterprise strategic planning initiatives and efforts to translate these strategic priorities into operational action and positive outcomes

**Name: Thomas Keith**

**Address: 4755 Little Harbor Dr. S.E. Grand Rapids MI**

**Phone: 616-498-0053 Email: thkeith6@gmail.com**

**What do you hope to accomplish by serving on the SAD committee?**

**Keep committee accountable for all residents and not to small groups with special interests. Help determine best use of time and money to accomplish as much as possible with little waste.**

**What special experience, education or skill set would you offer to the SAD committee?**

**I am an engineering manager by trade and have lived on the river since the mid 70's. I could help to find practical and efficient solutions to issues.**

**I know the river as well as anyone, have seen, and explored it back when the water would go down 8-10 ft in years they left the gates open at draw down. I know what the depths use to be and how the original channel flowed. I grew up here and know the water intimately.**



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Michael Wiegand

Address: 7243 Kilmer Dr SE

Phone: 616-698-1150 Email: mwiegandcpa@charter.net

**What do you hope to accomplish by serving on the SAD committee?** My goal would be to assure that the funds raised from the special assessment are spent in a fiscally responsible manner that benefits all members of the SAD. Also, I believe that care needs to be taken to assure that the goals set by the committee are realistic given the amount of funds to be raised from the special assessment.

**What special experience, education or skill set would you offer to the SAD committee?** I am a CPA with an MBA. My wife and I have lived on the Thornapple River for 35 years. I am fiscally conservative and understand the value of budgeting.

## Ben Swayze

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**From:** Lori Gottlieb <Lmgottlieb@live.com>  
**Sent:** Monday, November 1, 2021 12:53 AM  
**To:** Grace Lesperance; Ben Swayze  
**Subject:** SAD Ad-Hoc Committee

Dear Ben,

I just returned home from FL and found the SAD application. Please consider me for the committee if it isn't too late.

I feel that I would offer a unique view to the committee by trying to represent the community and especially all the property owners affected by the SAD. I would encourage transparency, timely information while making sure the committee follows its objectives in a fiscally sound manner, using all resources available.

I'm a property owner, parent, longtime resident of the area who has over 34 years of work experience and a MBA in Finance.

Sincerely,  
Lori Gottlieb  
7100 Cascade Rd  
616 885-8593  
Lmgottlieb@live.com

Sent from my iPhone



# CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Charles Whitley

Address: 5030 Sequoia DR SE Grand Rapids, MI 49512

Phone: 616 307-0246

Email: whitleyca@gmail.com

**What do you hope to accomplish by serving on the SAD committee?** \_\_\_\_\_

I want to assure that the greatest possible benefit is received from SAD expenditures. Specifically, I would target projects that can make a real impact on river quality and leverage the available funds by seeking partnerships with directly impacted individuals as well as local and regional organizations such as Cascade Township, State of Michigan and environmental councils.

There is also some healing that needs to take place after the trials of the SAD adoption process. I want to help bring the Thornapple River community back together.

**What special experience, education or skill set would you offer to the SAD committee?** \_\_\_\_\_

I am retired so I have excellent availability to participate in SAD committee activities. Additionally, during my working years as an Engineer I had a lot of experience drafting project specifications and performing proposal evaluation. I am currently serving as Vice President of the CTRA with a background in activities leading up to the formation of the Thornapple River SAD. I have notified the CTRA that I would not seek the CTRA sponsored Ad Hoc Committee nomination but would instead apply for an at-large nomination. Somehow the more independent nature of the at-large involvement just seems more appealing at this time.



## CASCADÉ CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

Name: Leann Rowland  
Address: 7176 Aqua fria Ct  
Phone: 616 915 9812 Email: ROWLANDL@COMCAST.NET

What do you hope to accomplish by serving on the SAD committee?

I would like to be part of helping determine what needs the river has are the most pressing, and then determine effective solutions.

I am very excited about the fact that the river finally has a way forward via the SAD.

What special experience, education or skill set would you offer to the SAD committee?

I have lived on the river since 1992 and served on the Cascade Thornapple River Association board for 5 years. I am a financial advisor by trade but am happy to do any research being on this committee might require.



## CASCADE CHARTER TOWNSHIP

5920 Tahoe Drive SE Grand Rapids, Michigan 49546-7123

**Name:** Scott Rissi

**Address:** 7238 Cascade Rd SE GR MI 49546

**Phone:** 616-299-8117      **Email:** Scotttrissi@gmail.com

**What do you hope to accomplish by serving on the SAD committee?** See Attachment

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**What special experience, education or skill set would you offer to the SAD committee?** See Attachment

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Assessing  
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Building  
949-3765

Building & Grounds  
318-8765

Clerk  
949-1503

Fire  
949-1320

Manager  
949-1506

Planning  
949-0224

Treasurer  
949-6944

Scott Rissi  
616-299-8117

#### Question #1

- Work to insure the SAD money is spent only on items discussed throughout the process, and that they are still needed and viable in this fluid environment.
- Organize a list of project goals and a time line to achieve those project goals.
- Consider creating an email notification to residents prior to treatments, also provide an opt out option if a person wishes to not have a particular treatment near their frontage they could make a request/appeal to the committee.
- I want to work with the committee to improve best practices with our upstream and downstream neighbors. I think we can improve on harvesting methods, disposal, and treatment with multi group coordination.
- With our group and other groups working together we should be able to minimize the spread of weeds and improve on the current methods being used. I have already identified practices being employed at all of the dams that are counterproductive to the end goal.

#### Question #2

- I have been active on the Thornapple for over 40 years. I have gained a lot of history of this area, was privileged to speak in person about the history with one of the founding members of the association Jack Dean before his death. He was the first resident, prior to the dam construction. I carry current and historical knowledge of the river.
- I joined the CTRA board in 1998. Established water testing for our river. Then worked with Cascade and Ada Townships to convince a reluctant Ada Thornapple Association they should do regular testing too. Worked with WMEAC and received a grant for both associations to do regular testing, which is still used today. My term as President ended about 2007.
- I took notes in the last SAD process (late 2000's) between the county and township that failed. I rejoined the CTRA board around 2012 and worked with Cascade Township to create a new SAD option without the county drain commission that eventually passed.
- Worked to improve the airports storm water plan.
- Successfully convinced MDOT to remove debris from the river, dredge, and install a plunge pit after M-6 construction at no cost to homeowners.
- Served on the airport sound abatement committee prior to North/South runway construction
- Served on the Lowell Township Parks and Rec committee as Vice Chair and Chairman
- Served on the Cascade Township Planning commission as Secretary, Vice Chair, and Chairman
- Director with the Water Wonderland Chapter of the Antique and Classic Boat Society
- Local business owner
- While I am no longer on the CTRA Board I remain active and engaged with everyone, many river residents, and township staff, view me as a communication hub for all river matters and the one who relays concerns directly to the river board and township due to my extensive knowledge and time served.

Serving in the aforementioned capacities gives me an understanding of Roberts Rules and best meeting practices and goals. I have sought help from multiple agencies and received grants for the river in the past, something the committee will hopefully seek. I understand the role of an advisory committee and have the knowledge, and relationships to contribute.