



**Water & Sewerage
Department**

STORMWATER MANAGEMENT PLAN PROGRESS REPORT

October 2019

Detroit Water and Sewerage Department
STORMWATER MANAGEMENT GROUP
6425 Huber Street • Detroit, MI 48211

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- C. DWSD Enforcement Response Procedure
- D. MS4 Catch Basin Spreadsheet
- E. Stormwater Management Regulations – Post-Construction Stormwater Management Ordinance
- F. Excerpt of City Code Regarding Authority to Prohibit Discharges to the Storm System
- G. DWSD IDEP MS4 Support, SWMP MS4 Outfall Investigation Report, May 2018
- H. Street Sweeping Schedule
- I. Wayne County Illicit Discharge Investigation Training Program
- J. The City of Detroit Water and Sewerage Department Stormwater Management Design Manual
- K. Communications with EGLE
- L. Previous Submittal Addressing City’s Legal Authority

1.0 INTRODUCTION

1.1 Purpose

This Stormwater Management Plan (SWMP) has been prepared to fulfill the requirements of the NPDES permit issued to the City of Detroit for the stormwater discharged from the Municipal Separate Storm Sewer System (MS4). This document updates and supersedes the previous SWMPP which was prepared in December 2017, and is submitted to comply with the requirements of the NPDES permit dated February 25, 2003 which is currently in effect.

1.2 Regulatory Requirements

The City of Detroit's stormwater discharges are currently regulated by the general stormwater discharge permit issued on February 25, 2003 to individual municipalities (the "jurisdictional" general stormwater permit, MIS049000). There are no nested jurisdictions in the City of Detroit.

The permit specifies that permittees are to develop, implement, and enforce a SWMP to reduce the discharge of pollutants from the drainage system to the Maximum Extent Practicable. The MEP requirement must be met by implementing Best Management Practices (BMPs) to address the six "minimum measures" including:

1. Public Involvement/Participation Program
2. Public Education Program (PEP)
3. Illicit Discharge Elimination Program (IDEP)
4. Post-Construction Stormwater Runoff Program
5. Pollution Prevention and Good Housekeeping Program
6. Construction Stormwater Runoff Control

1.3 Affected City Departments

Discharges from municipally-owned storm sewers within the City of Detroit are not the responsibility of a single municipal department or agency. Rather, several City departments have been actively involved in the development and implementation of the SWMP, with the Detroit Water and Sewerage Department (DWSD) serving as the lead agency with the responsibility of coordinating the efforts to be undertaken to comply with the NPDES permit and the Certification of Coverage (COC) issued by EGLE. Other participating city agencies include the General Services Department; the Planning and Development Department; the Department of Public Works; the Buildings, Safety Engineering and Environmental Department; the Greater Detroit Resource Recovery Authority; and, the Law Department.

1.4 Summary of Prior Submittals

The City of Detroit filed an application dated July 17, 2008 requesting coverage under EGLE's General Stormwater Jurisdictional Permit, and the submittal included a list of 48 municipal separated storm sewer system (MS4) outfalls. The drainage area for each outfall was reviewed by field investigation which determined that 16 of the small outfalls were actually roadway underdrains or bridge foundation drains rather than storm sewers (see August 13, 2009 letter in **Appendix K**), leaving a total of 32 MS4 outfalls.

Subsequently, one new storm sewer with an outlet to the Rouge River was constructed by the Department of Public Works before 2013 at Ridge Road, south of McNichols, to handle roadway drainage. This resulted in a total of 33 MS4 outfalls.

In May 2018, the City surveyed each MS4 outfall previously investigated in 2010. Several of the outfalls found in 2010 could not be located or were determined not functional in 2018. The comprehensive 2018 investigation of the City's MS4 identified 34 MS4 outfalls including 22 MS4 outfalls to the Detroit River and its tributaries, and 12 MS4 outfalls to the Rouge River. The updated inventory of municipal storm sewers is discussed in more detail in Section 2.2 of this report.

The City submitted an alternate approach for managing post-construction storm water runoff in a letter dated May 4, 2009 (see **Appendix K**) in response to new requirements imposed by the 2008 revised General Permit. Those requirements have since been eliminated due to EGLE's withdrawal of the 2008 Permit.

Under the General Permit No. MIS040000 Certification of Coverage, the City also submitted the Permit Application for Discharge of Stormwater to Surface Waters of the State from a Municipal Separate Storm Sewer System on April 1, 2016. After review by EGLE, DWSD made edits to the original permit application, and submitted the updated application on August 29, 2019.

Shortly after the issuance of Detroit's first stormwater discharge permit, the City also submitted supplemental information to EGLE regarding the City's legal authority to perform tasks which may need to be undertaken as part of the stormwater management effort. This information was transmitted to EGLE in a letter dated April 27, 2005 (see **Appendix L**).

As part of the April 2007 SWMPP, the City included documentation that the City has the legal authority to prohibit discharges into the storm drainage system. Copies of the applicable regulations are included in **Appendix F**.

2.0 DETROIT'S EXISTING STORMWATER CONVEYANCE SYSTEM

2.1 Stormwater Conveyed through Combined Sewers

The vast majority of stormwater runoff within the City of Detroit is conveyed through the City's combined sewer system which uses a single pipe to convey sanitary waste from residences,

industries and businesses, along with stormwater drainage. The combined sewer system services nearly the entire population of the City of Detroit, with a service area estimated at 139 square miles. The combined sewers convey all dry weather flow, and a large portion of the wet weather flow to the GLWA Water Resource Recovery Facility (WRRF) at 9300 W. Jefferson in accordance with NPDES permit MI0022802.

Within the combined sewer system service area, there are several small tracts where separate storm sewers have been constructed and are utilized to convey stormwater. However, these storm sewers reconnect to the combined sewer system at a downstream point, and do not discharge directly to receiving waters. As such, they are an integral part of the City's combined sewer system, and the resulting discharges of combined sewage through the permitted CSO outfalls are authorized by NPDES Permit MI0022802.

The City's CSO permit also stipulates that DWSD shall implement a program to construct Green Stormwater Infrastructure at the Upper Rouge Tributary (URT) to reduce the stormwater runoff from the combined sewer overflow (CSO) system. The Green Stormwater Infrastructure program was introduced to remove a portion of the city's contributing untreated CSO volume within the URT area as an economical alternative to the terminated Upper Rouge Tunnel project.

2.2 Municipally-Owned Separate Storm Sewers

Detroit's MS4 has a very limited service area consisting primarily of parkland with river frontage, and a small amount of roadway drainage from city streets adjacent to the Rouge River or from bridges over river crossings. 85 residential homes are included in the MS4 area. A comprehensive investigation of the City's MS4 system has identified 34 MS4 outfalls, including 22 MS4 outfalls to the Detroit River and its tributaries, and 12 MS4 outfalls to the Rouge River. These storm sewer discharges are shown in Table 1.

The location of all MS4 storm sewer outfalls and the drainage areas to each outfall are displayed on Figures 1 - 21. As shown, these storm sewers serve an area which includes portions of Belle Isle and the roads around the island, portions of Rouge Park and the City streets which traverse that area, portions of three other small parks, plus a few roadways adjacent to the Rouge River.

Table 1: ESTIMATED DRAINAGE AREA FOR KNOWN STORMWATER OUTFALLS CITY OF DETROIT MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

Outfall ID	Receiving Water	Location	Outfall Diameter	Land Use	Estimated Surface Drainage Area (Acres) (Tetra Tech)	Status
Detroit River and Tributaries						
D1	Detroit River	Lakewood East Park (3308) Bridge at Riverside Dr.	12"	roadway	0.4	Confirmed
D2	Lake Muskoday	Belle Isle Storm Pump Station No. 7	6"	roadway/park	1.59	Confirmed
D4	Nashua Creek	Behind athletic building, Lotier Way - Pump Station	12"	athletic field	3.02	Confirmed
D5	Nashua Creek	Lotier Way behind former zoo	8"	lawn	0.08	Confirmed
D7	Nashua Creek	DRD service yard	6"	service yard	0.26	Confirmed
D8	Lake Tacoma	Strand St/Picnic Way, east of bridge	8"	roadway	0.59	Confirmed
D16	Lake Tacoma	Lake Tacoma off Strand, west of sign	6"	roadway	0.008	Confirmed
D17	Detroit River	Strand St. behind casino	9"	roadway	0.21	Confirmed
D22	Detroit River	Mt. Elliott Park (#3)	12"	park; lawn	3.35	Confirmed
D new-1	Detroit River	Belle Isle, north side of Strand, south side of Lake Tacoma	unknown	Roadway	0.26	Confirmed
D new-2	Detroit River	Belle Isle - north side of the Strand, 150 ft east of bridge to Casino	unknown	Roadway	0.29	Confirmed
D new-3	Detroit River	Belle Isle - north side of the Strand, east of bridge to Casino	unknown	Roadway	0.26	Confirmed
D new-4	Detroit River	Belle Isle - north side of the Strand, 525 ft east of the bridge to Casino	unknown	Roadway	0.21	Confirmed
D new-5	Detroit River	Belle Isle - north side of the Strand, approx. 530 ft east of bridge	unknown	Roadway	0.27	Confirmed
D new-6	Detroit River	Belle Isle - north side of the Strand, approx. 830ft east of bridge to casino	unknown	Roadway	0.27	Confirmed
D new-7	Detroit River	Belle Isle - north side of the Strand, ~990 ft east of bridge to Casino	unknown	Roadway	0.21	Confirmed
D new-8	Detroit River	Belle Isle - north side of the Strand, ~1140 ft east of bridge to casino	unknown	Roadway	0.21	Confirmed
D new-9	Detroit River	Belle Isle - north side of the Strand, ~870 ft west of Picnic Way	unknown	Roadway	0.23	Confirmed
D new-10	Detroit River	Belle Isle - north side of the Strand, ~720 ft west of Picnic Way	unknown	Roadway	0.27	Confirmed
D new-11	Detroit River	Belle Isle - north side of the Strand, ~590 ft west of Picnic Way	unknown	Roadway	0.21	Confirmed
D new-12	Detroit River	Belle Isle - north side of the Strand, ~450 ft west of Picnic Way	unknown	Roadway	0.25	Confirmed
D new-13	Detroit River	Belle Isle - north side of the Strand, ~300 ft west of picnic way	unknown	Roadway	0.76	Confirmed
Rouge River and Tributaries						
R1	Rouge River	Glenhurst Ave. at Grayfield Ave.	15"	roadway	3.03	Confirmed
R10A-new	Rouge River	Located at the south end of Circle drive in Eliza Howell Park	15"	park; lawn; roadway	16.25	Confirmed
R14	Rouge River	Immediately north of Spinoza Dr. on west bank	18"	roadway	0.21	Confirmed
R14A	Rouge River	Immediately south of Spinoza Dr. on west bank	18"	roadway	0.27	Confirmed
R16	Rouge River	Immediately north of Joy, on east bank	18"	roadway	8.88	Confirmed
R17	Rouge River	Parkland Ave @ Constance Rd. south of Joy Rd.	15"	roadway	11.01	Confirmed
R18	Rouge River	Tireman Ave at Spinoza, south of Joy Rd.	18"	roadway	1.47	Confirmed
R18A-New	Rouge River	New construction on Tireman Bridge	unknown	park; lawn; roadway	3.2	Confirmed
R22	Rouge River	Rouge Park - Spinoza Ave near Tireman	36"	roadway	6.36	Confirmed
R23	Rouge River	Rouge Park - Spinoza Ave near Tireman	12"	park; lawn	2.38	Confirmed
R29	Rouge River	North end of Lahser Rd. - south bank of river	12"	parking lot	3.47	Confirmed
R35	Rouge River	Ridge Road south of McNichols Road (new)	12"	paved areas and residential lots	0.63	Confirmed

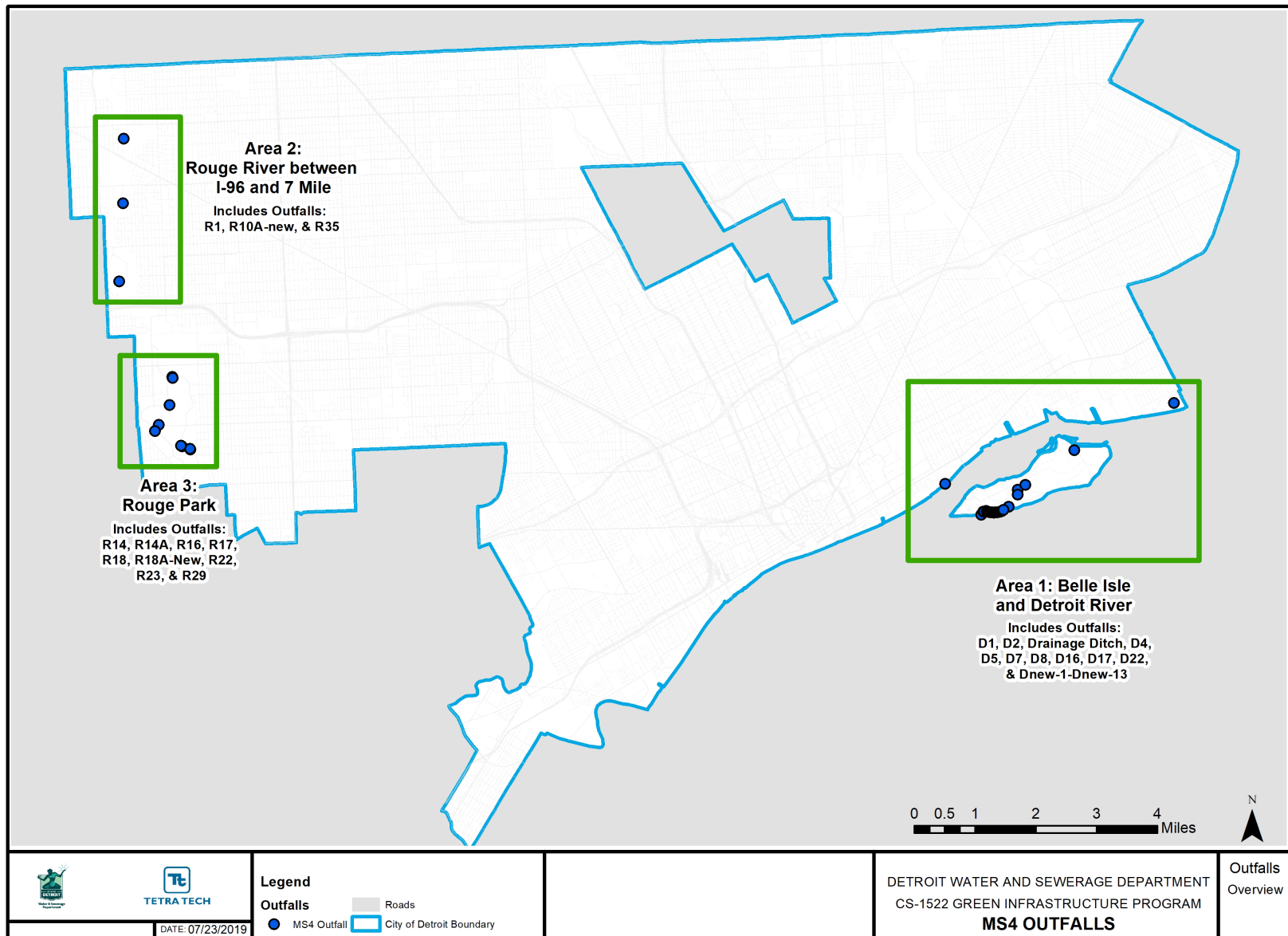


Figure 1: INDEX MAP OF KNOWN SEPARATE STORM SEWER OUTFALLS

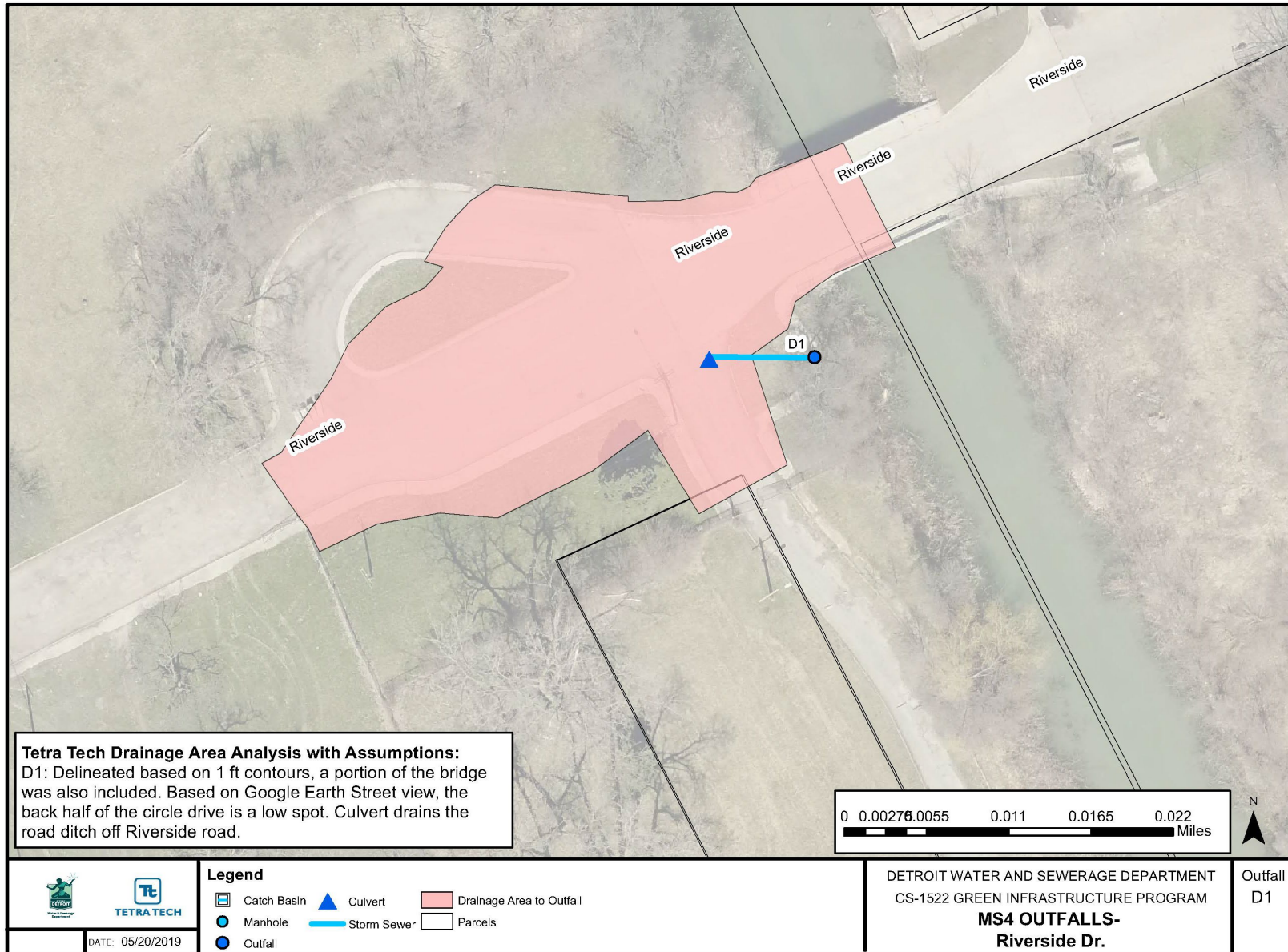


Figure 2: D1 OUTFALL

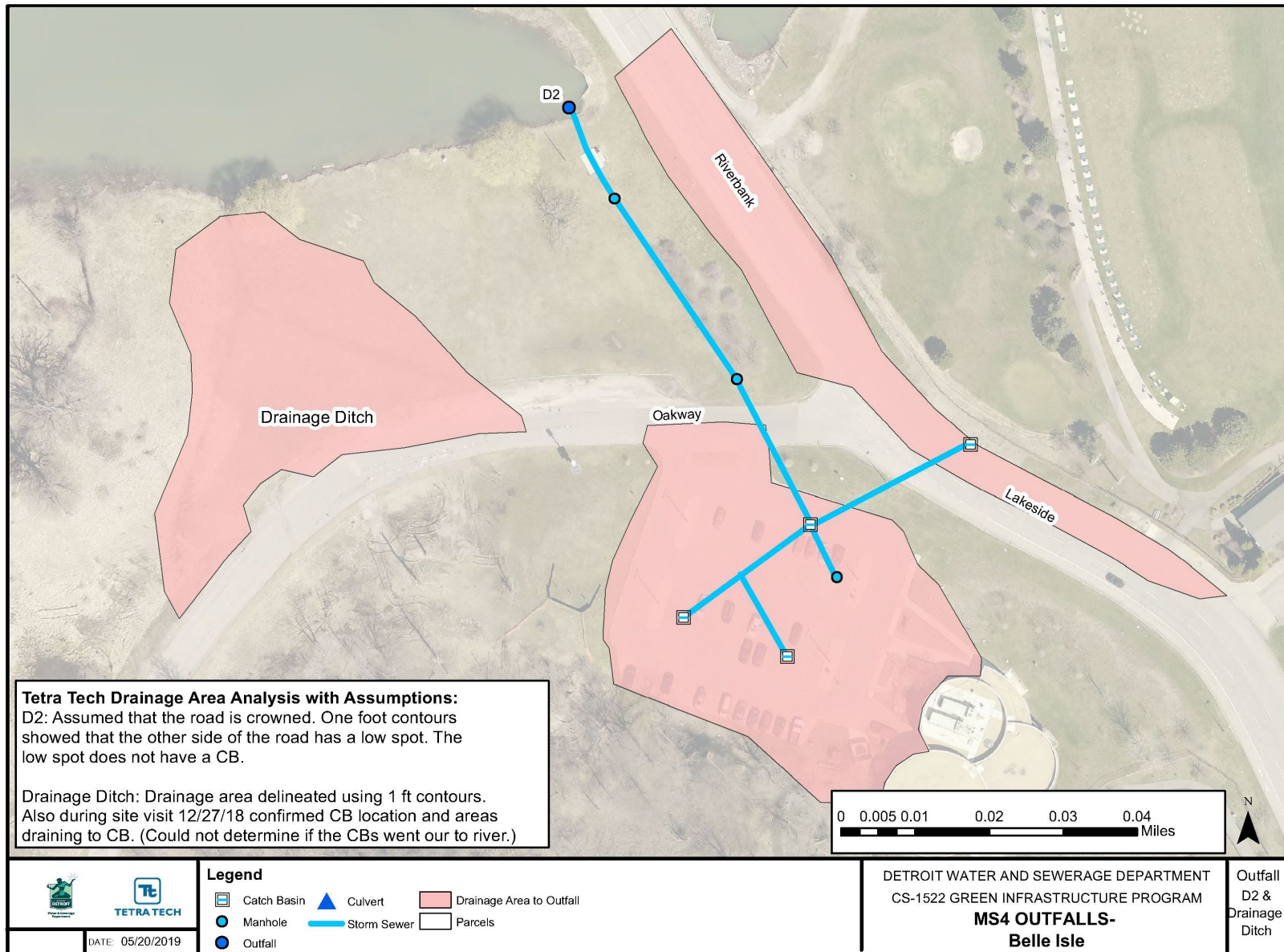


Figure 3: D2 OUTFALL

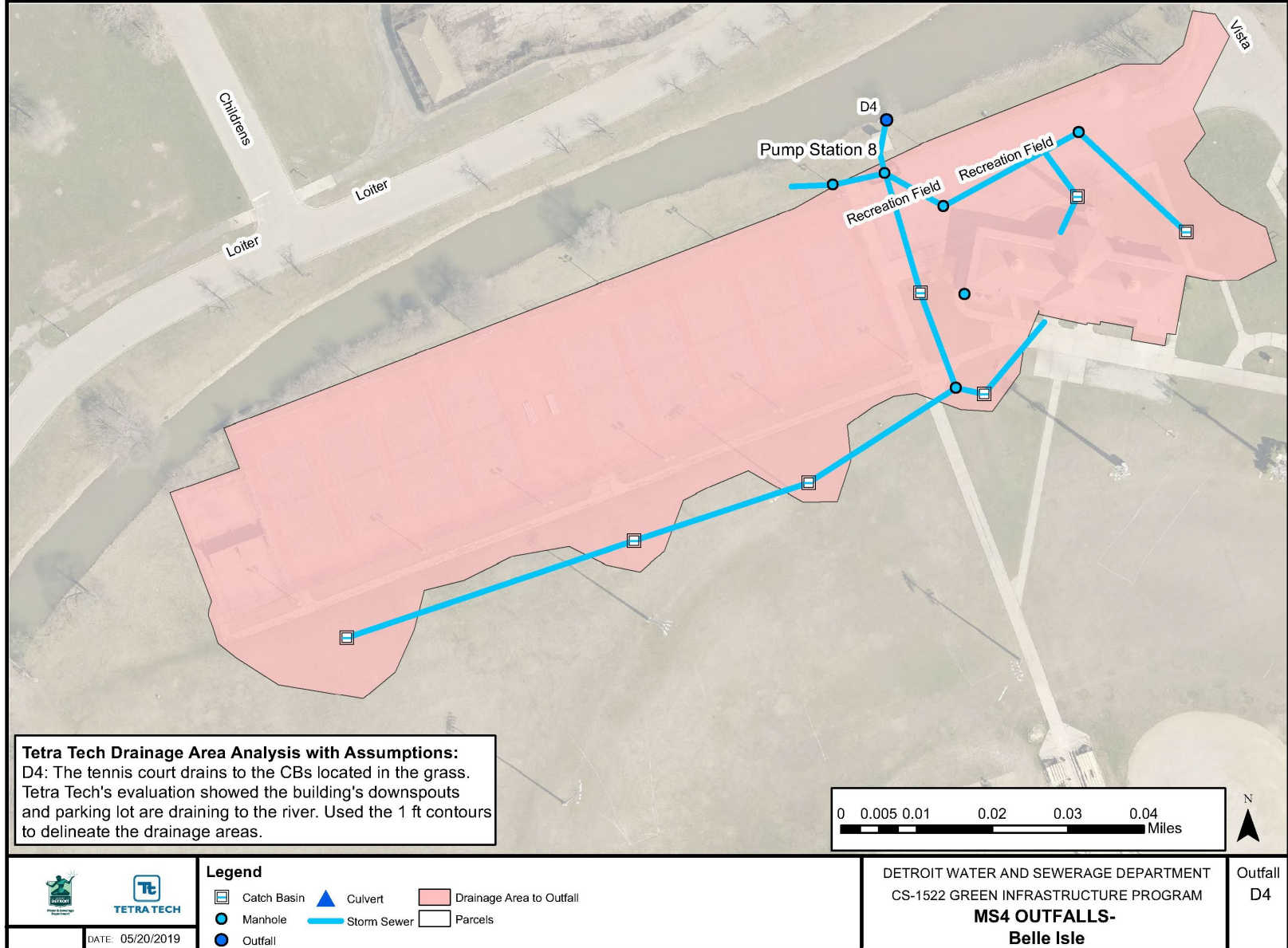


Figure 4: D4 OUTFALL

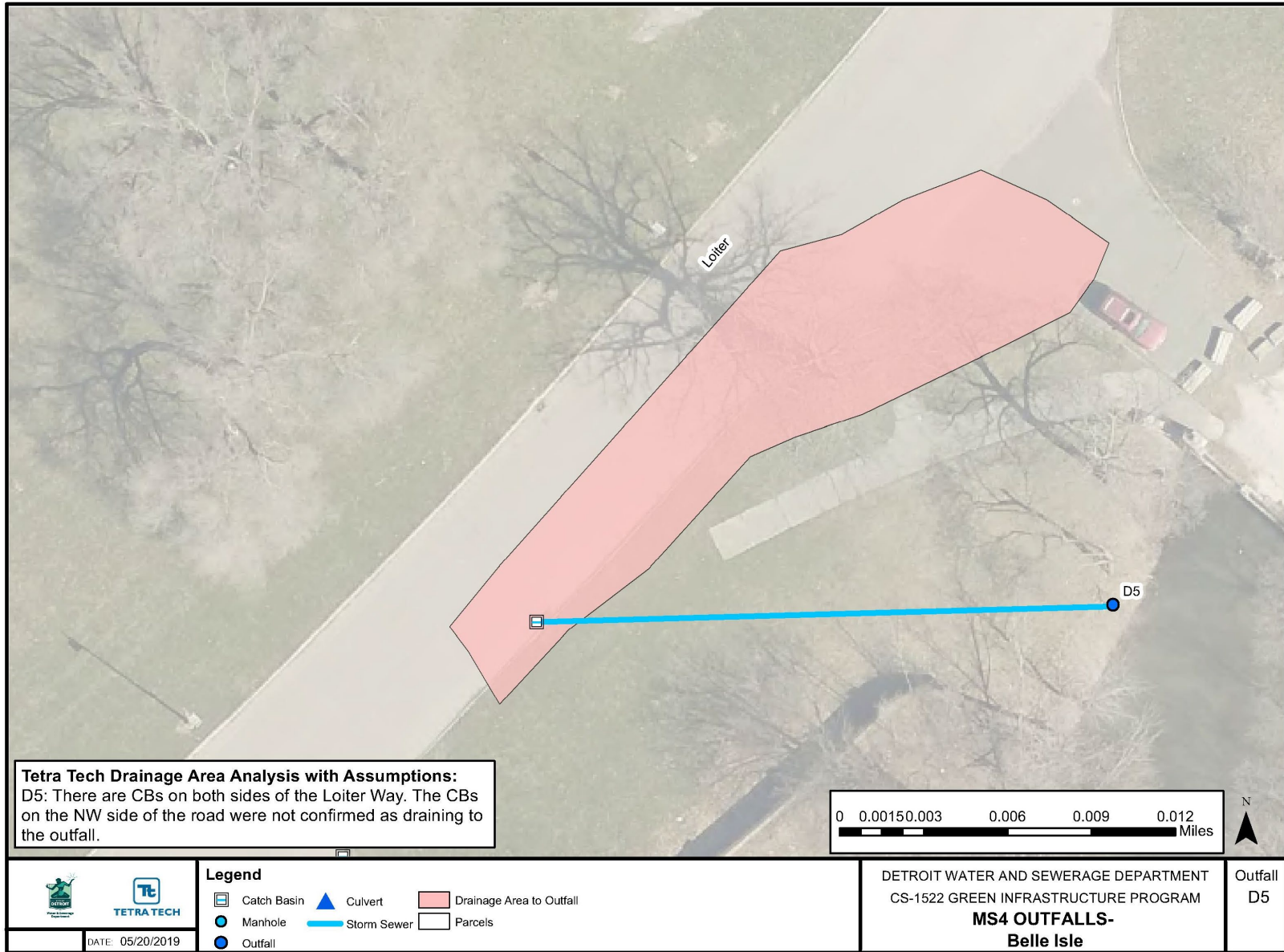


Figure 5: D5 OUTFALL

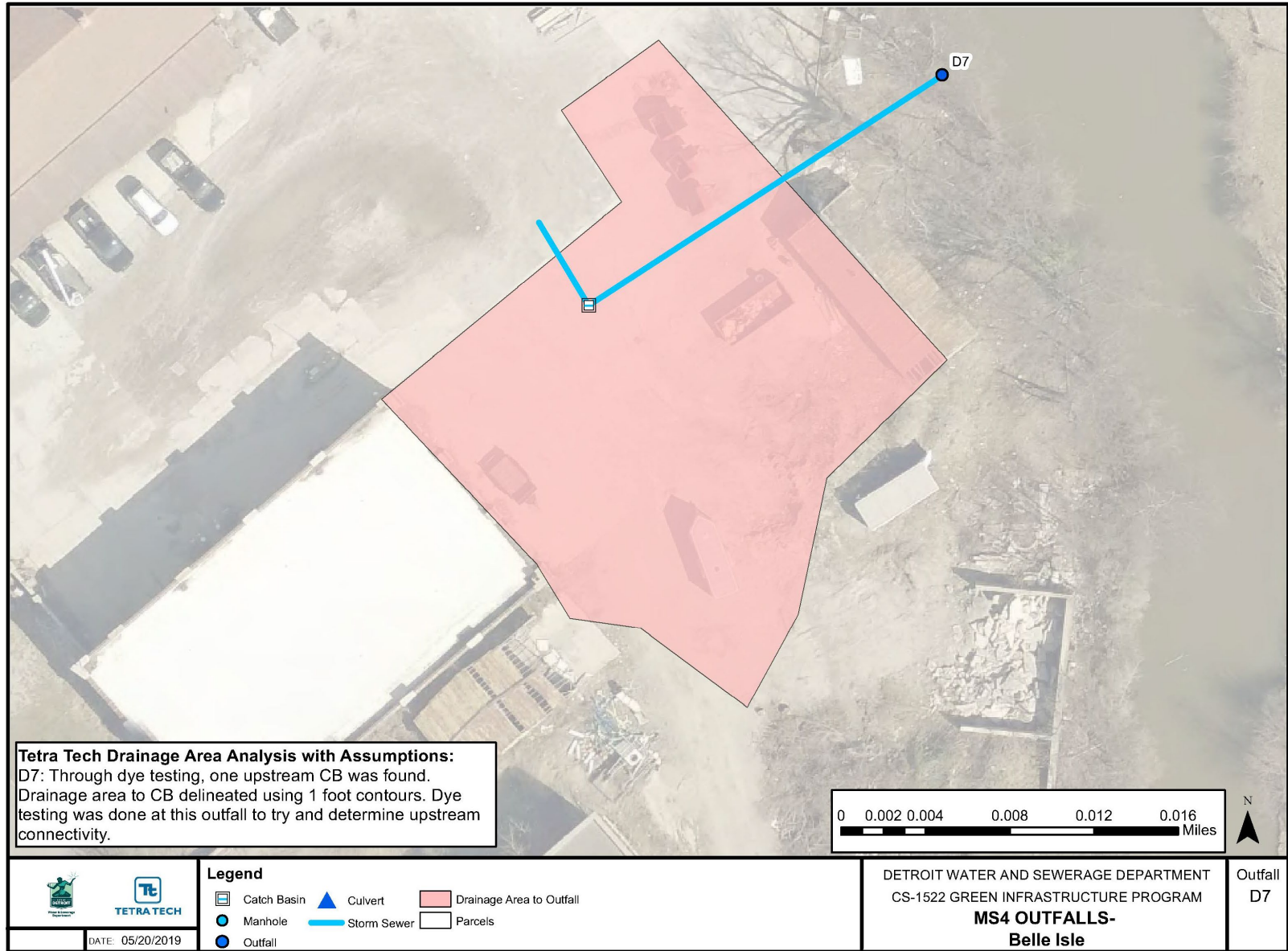


Figure 6: D7 OUTFALL

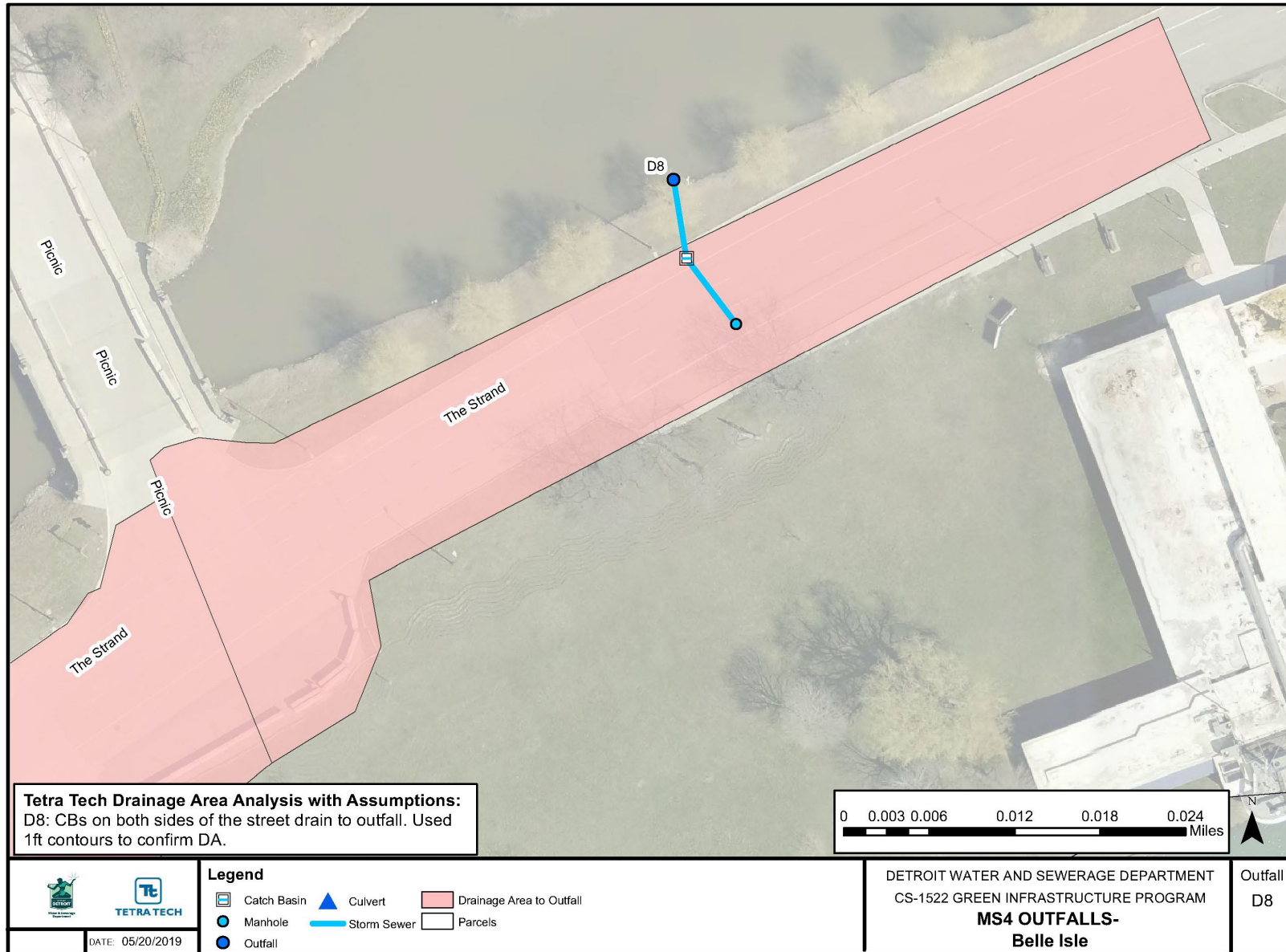


Figure 7: D8 OUTFALL

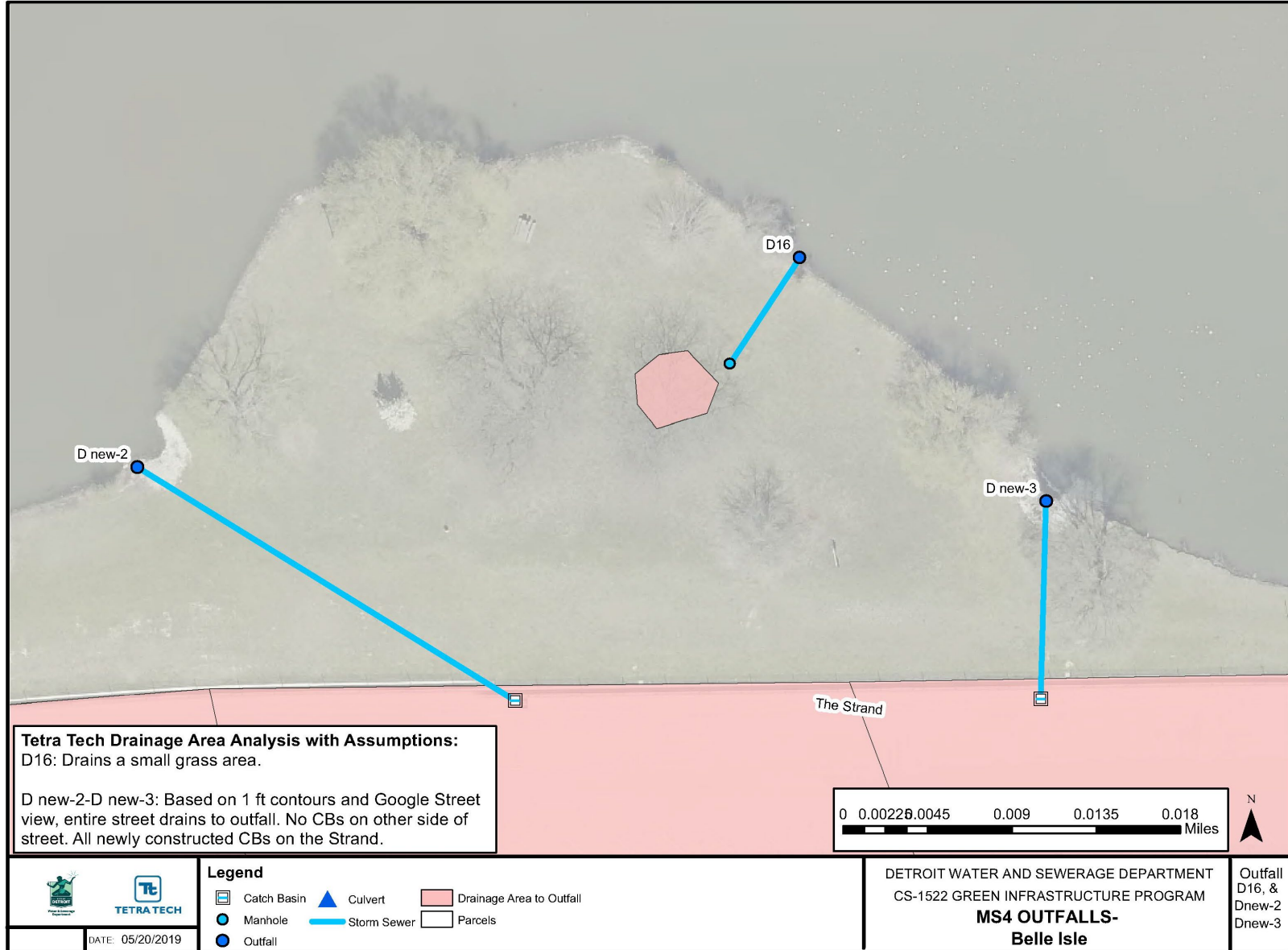


Figure 8: D new-2, D new-3, D16 OUTFALLS

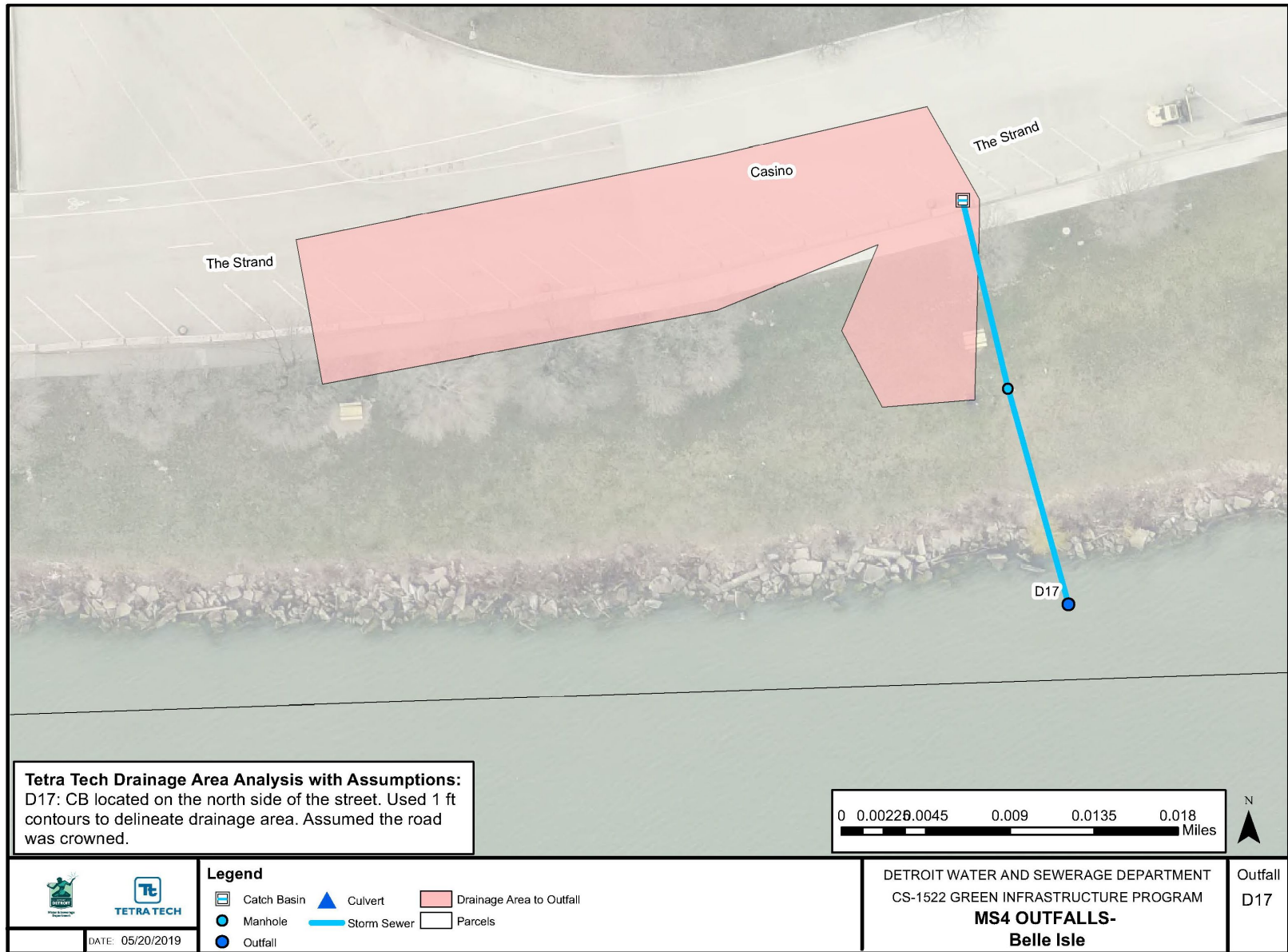


Figure 9: D17 OUTFALL

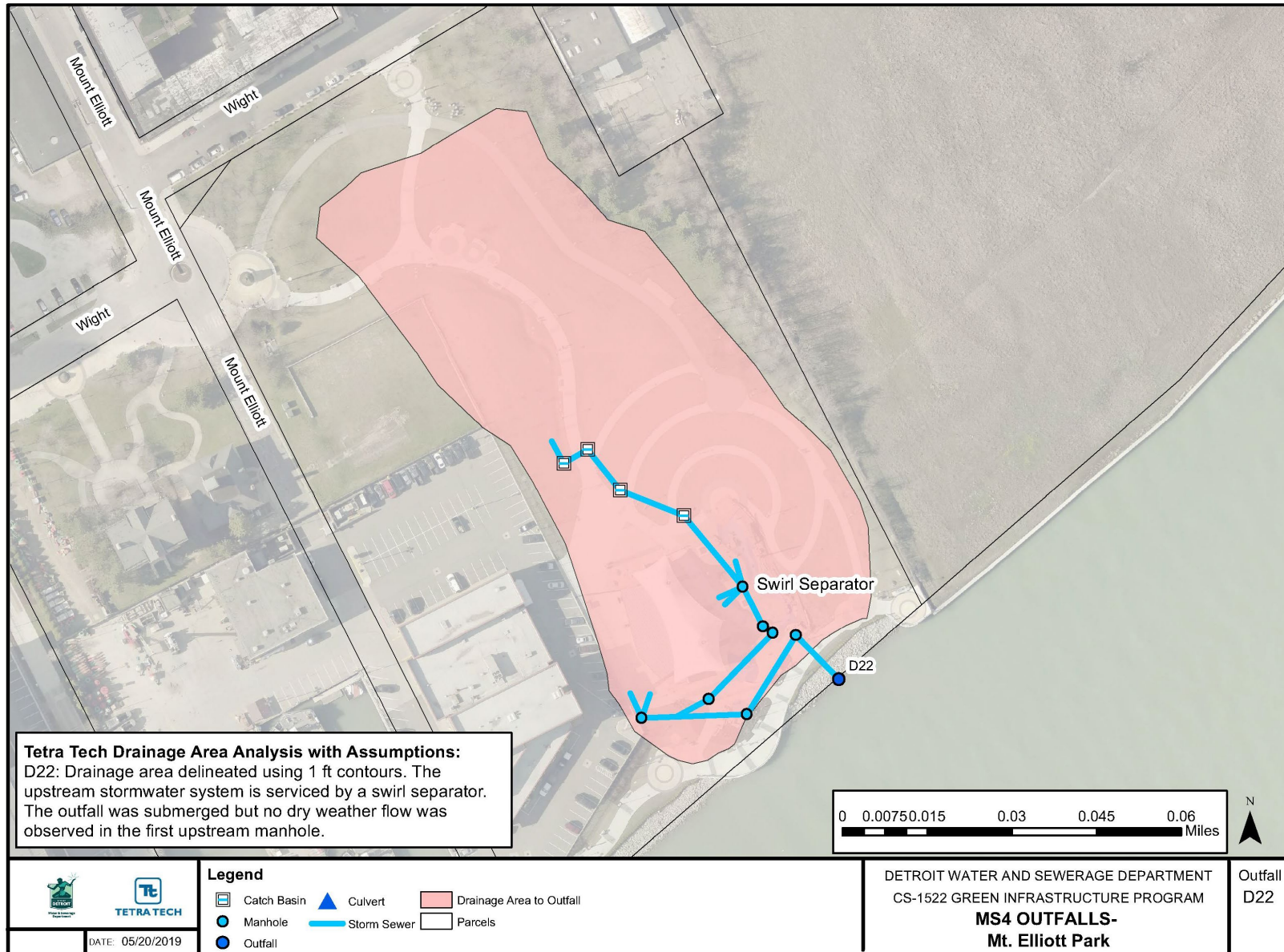


Figure 10: D22 OUTFALL

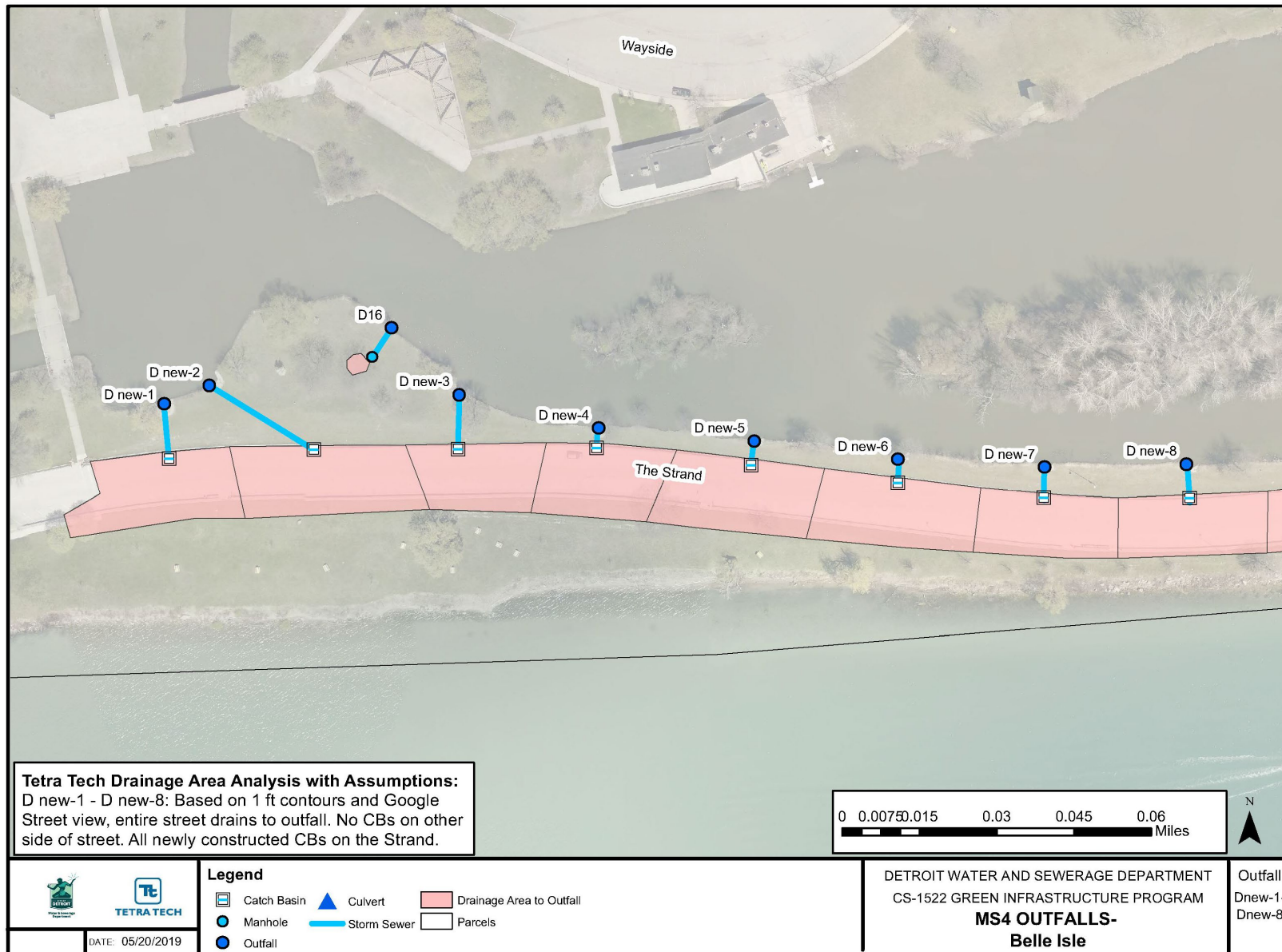


Figure 11: D new-1, D new-2, D16, D new-3, D new-4, D new-5, D new-6, D new-7, D new-8 OUTFALLS

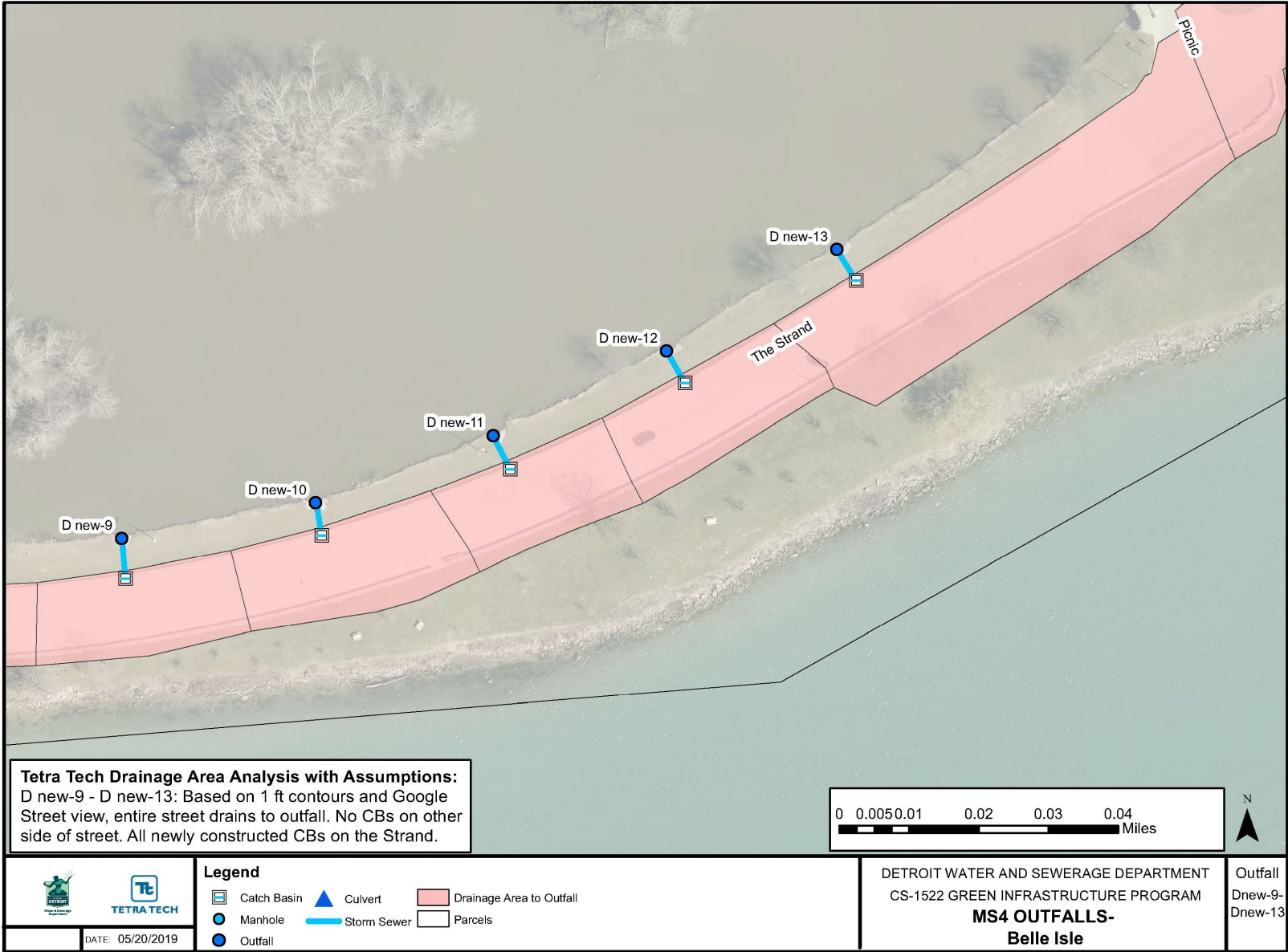


Figure 12: D new-9, D new-10, D new-11, D new-12, D new-13 OUTFALLS

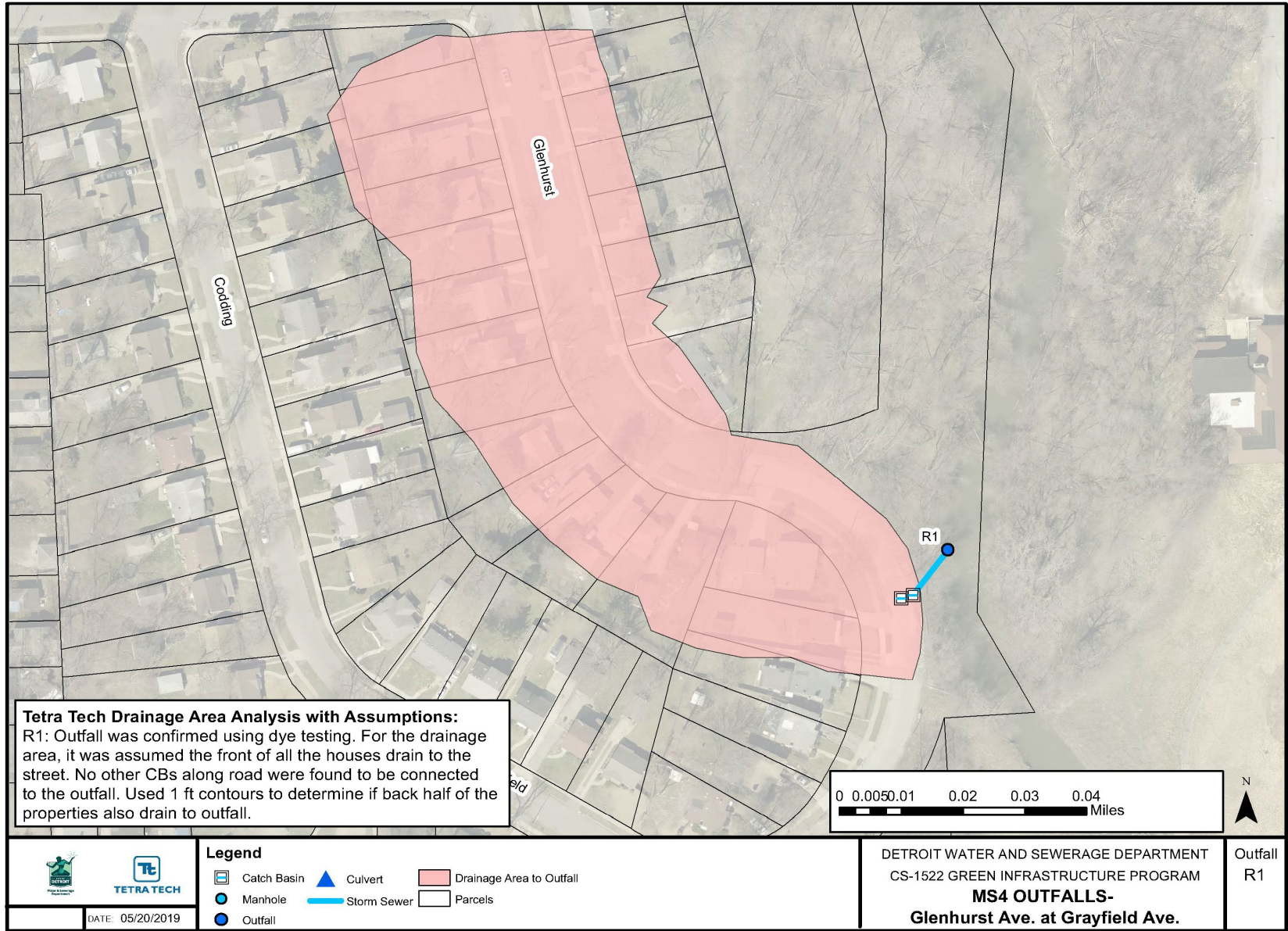


Figure 13: R1 OUTFALL

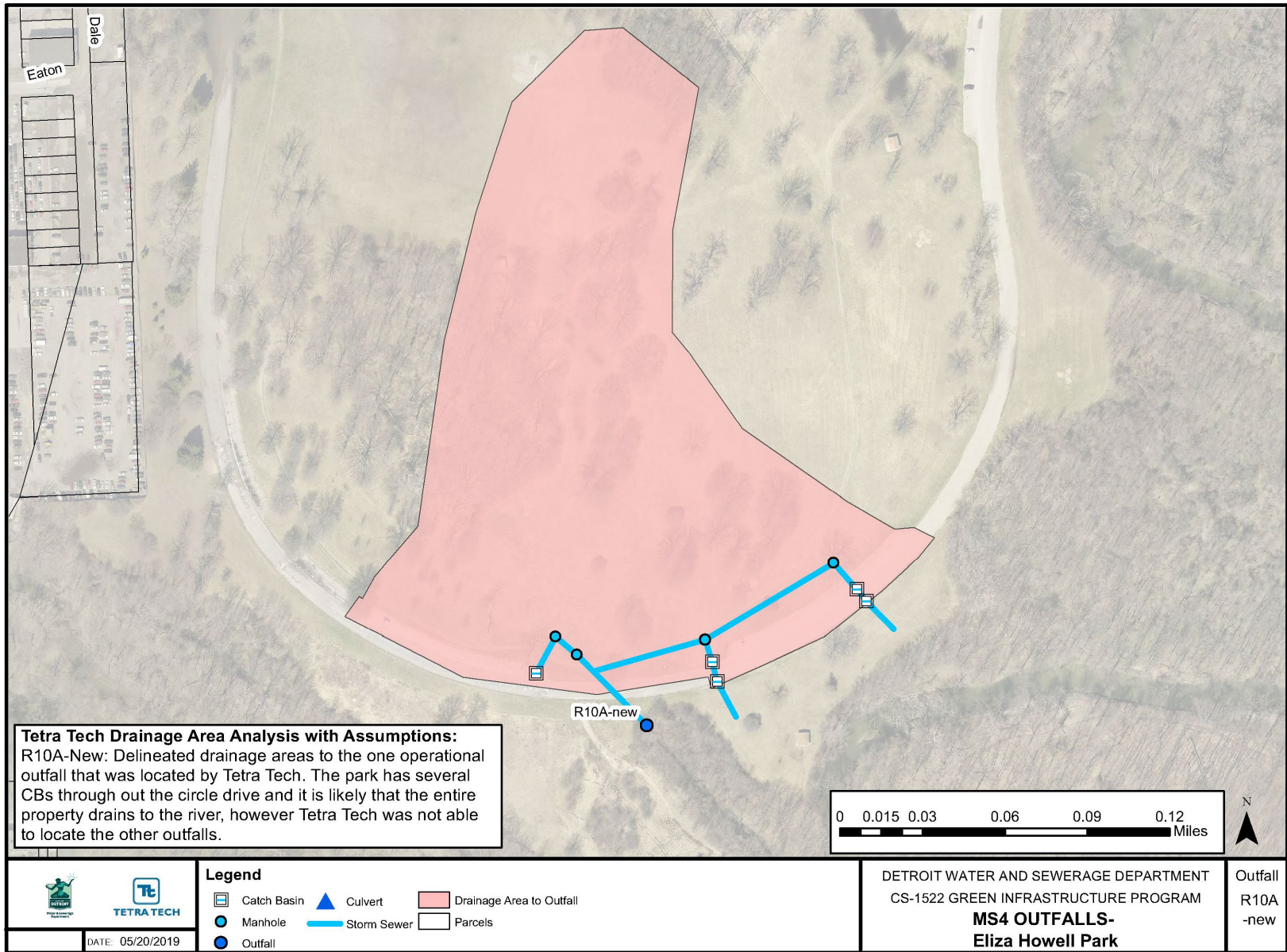


Figure 14: R10A-new OUTFALL

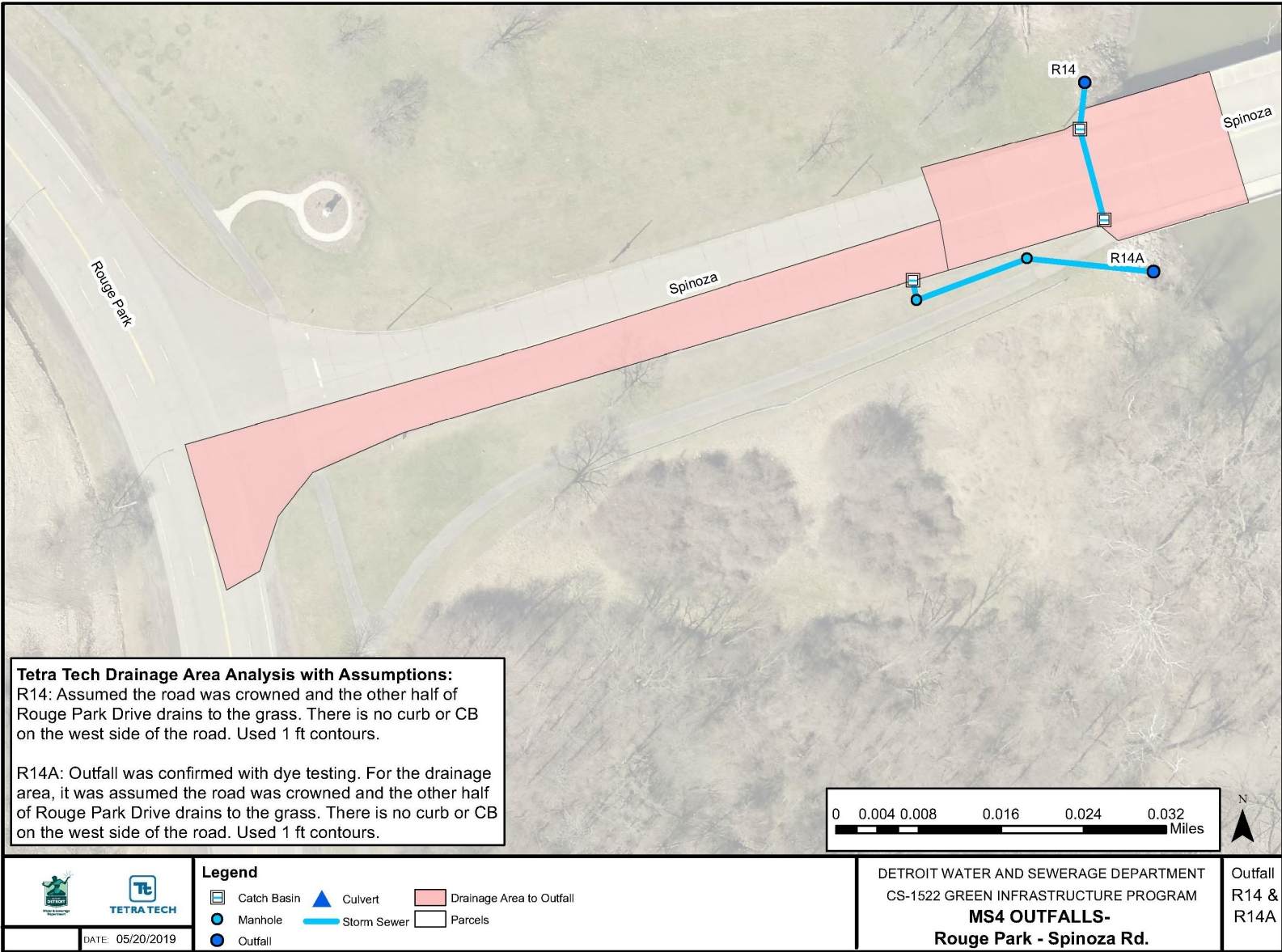


Figure 15: R14, R14A OUTFALLS

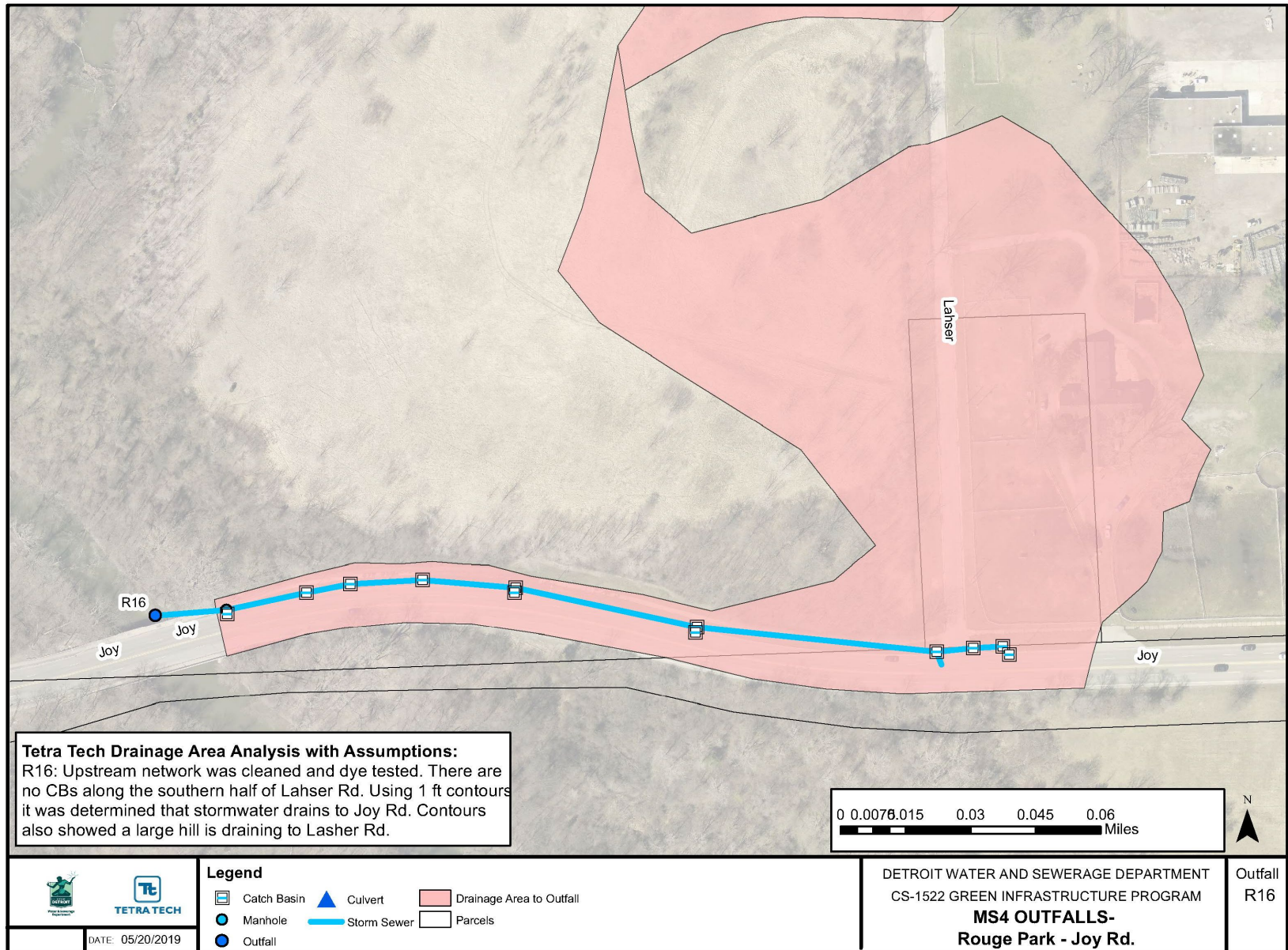


Figure 16: R16 OUTFALL

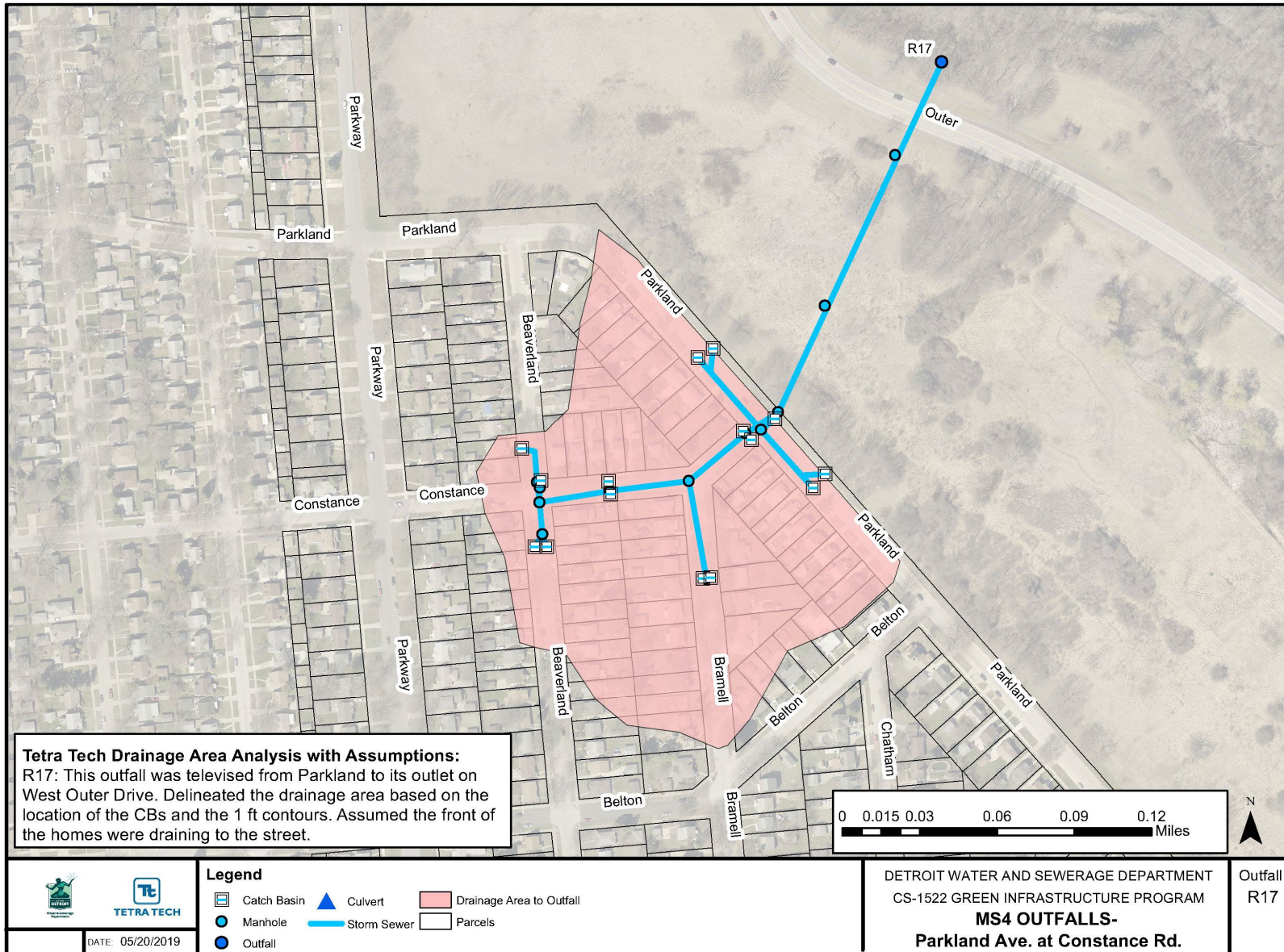


Figure 17: R17 OUTFALL

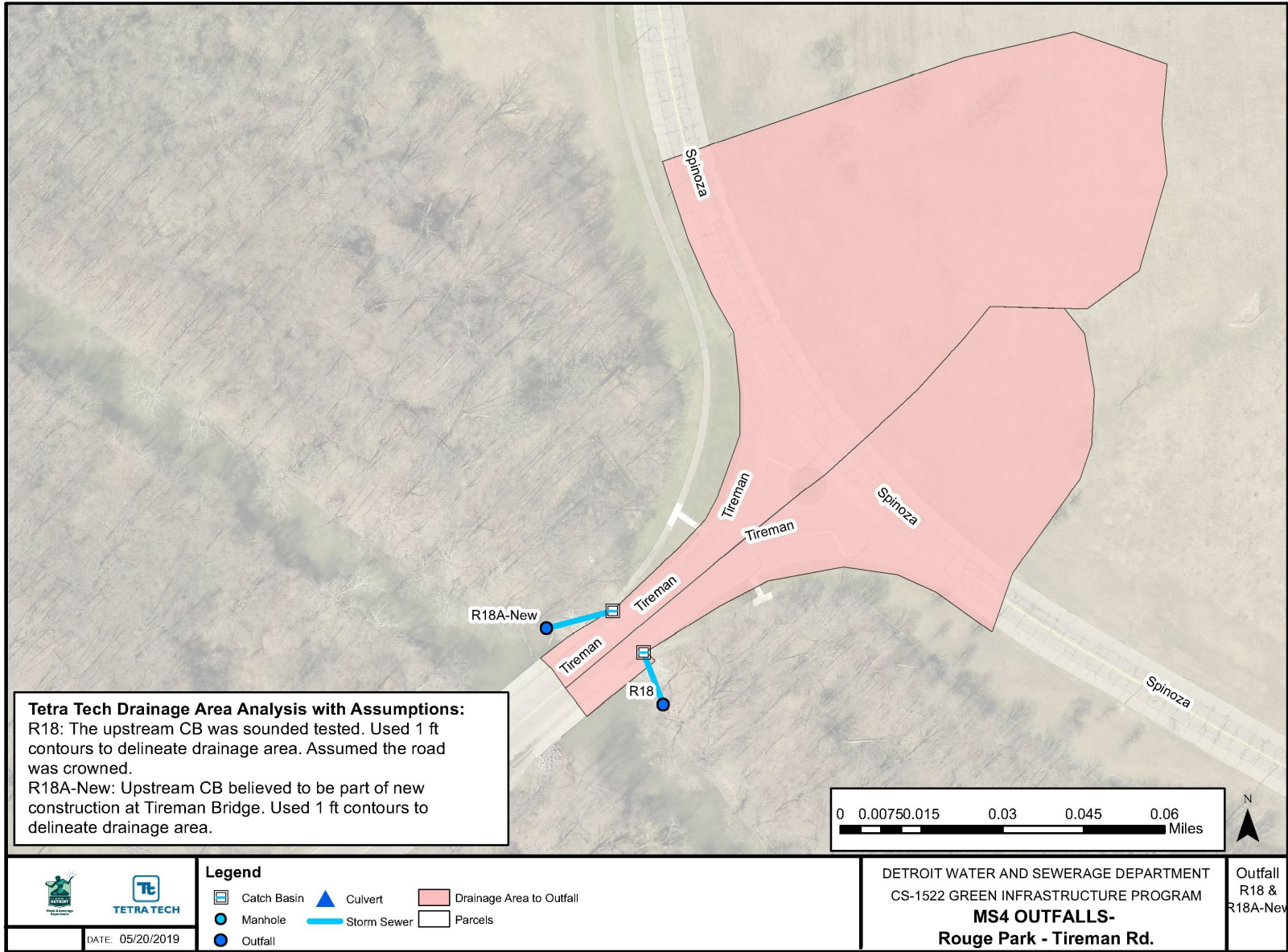


Figure 18: R18A-new, R18 OUTFALLS

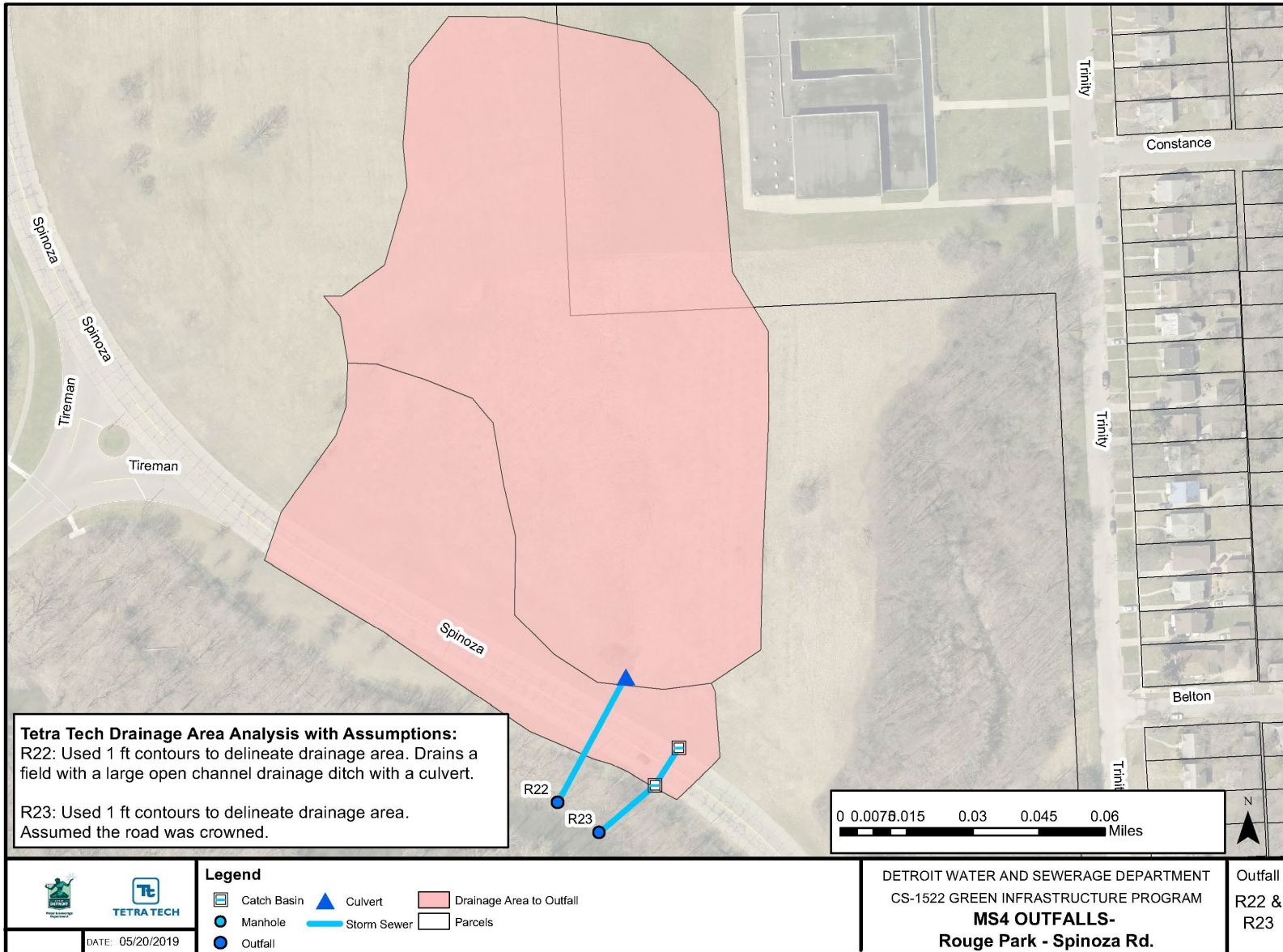


Figure 19: R22, R23 OUTFALLS

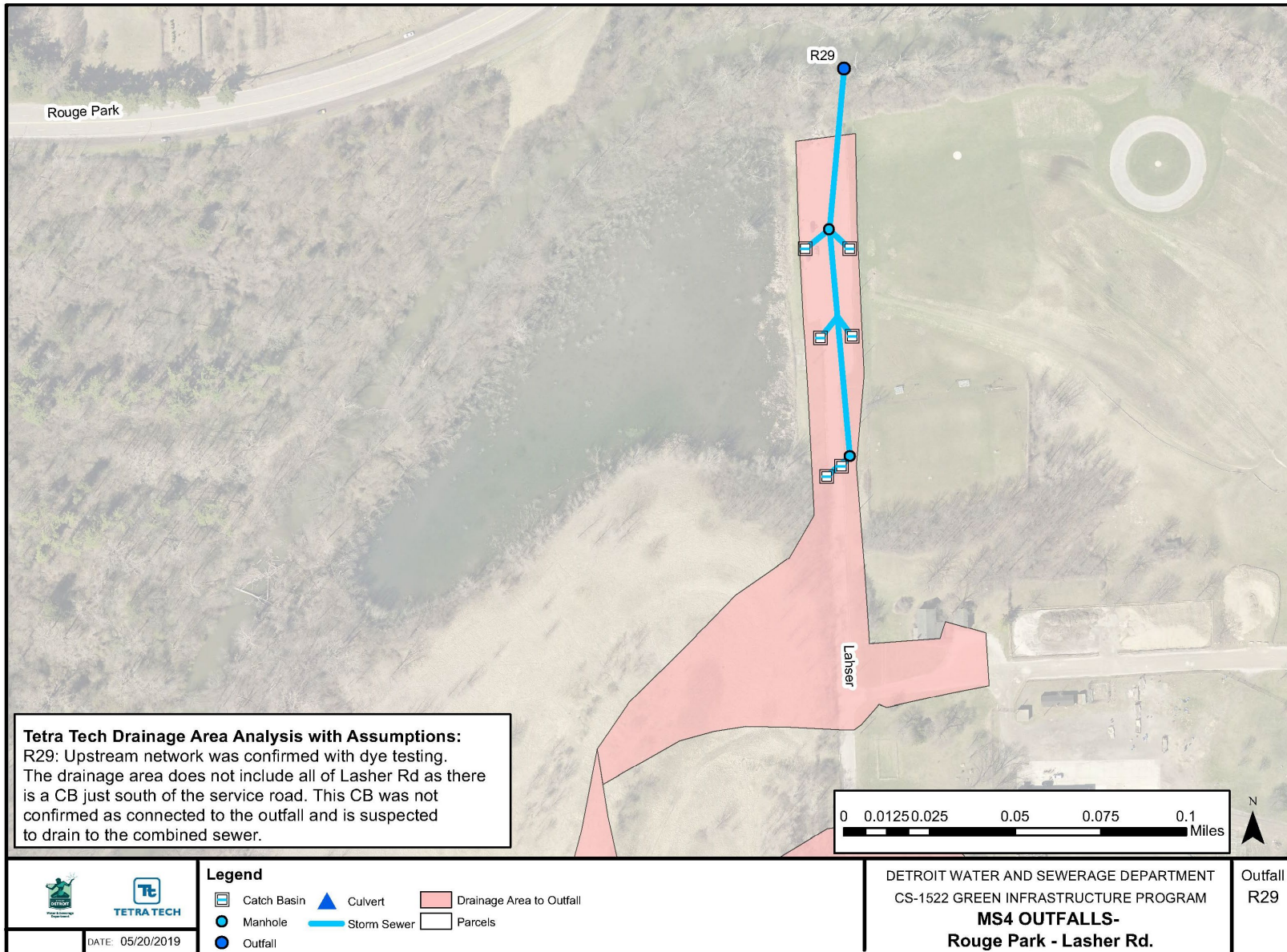


Figure 20: R29 OUTFALL

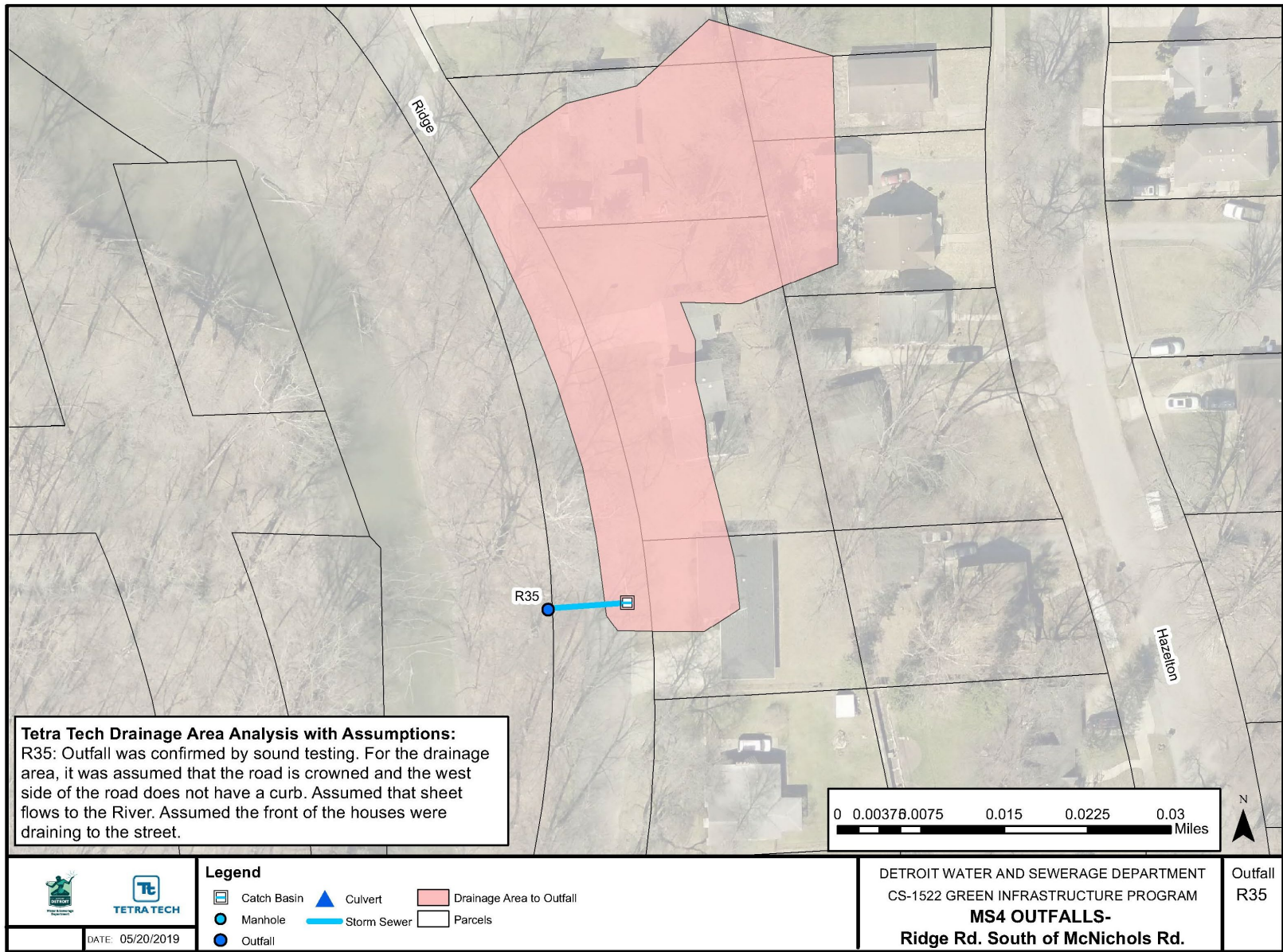


Figure 21: R35 OUTFALL

3.0 STORMWATER MANAGEMENT PLAN (SWMP)

The City of Detroit has developed and is implementing a SWMP which is designed to reduce the discharge of pollutants from the drainage area tributary to the City's MS4 to the maximum extent practicable. The program includes the development and implementation of BMPs to address the measures set forth in the general stormwater NPDES discharge permit. The program includes measurable goals for the Best Management Practice (BMP) and establishes a schedule for implementation if the BMP is not already implemented.

After January 2016, the City of Detroit, with DWSD as the lead Department, assumed responsibility for managing the MS4 permit, including preparation of the biennial update of the SWMP Progress Report. DWSD is also the lead department for managing the Green Stormwater Infrastructure (GSI) Program required under NPDES Permit MI-0022802, providing coordination between these two programs.

The BMPs established for the SWMP reflect the specific conditions within the City of Detroit tributary to the MS4 system. A total of thirty-four (34) storm sewer outfalls have been identified as part of the City's MS4 inventory, including 22 discharges to the Detroit River and its tributaries, and 12 discharges to the Rouge River. A majority of the storm sewer outfalls and tributary drainage systems are found within the City's owned parks including Belle Isle which is leased to the State of Michigan. Only 85 residential homes are included in the MS4 area and there are no industrial or commercial properties. Of the City's total acreage of over 90,000 acres, approximately 70 acres make up the MS4 area.

Based on these land uses and the fact that the drainage area tributary to separated storm sewer discharges is extremely small, a limited number of stormwater BMPs are being implemented. A variety of stormwater management programs are being developed and implemented as part of the City's Long Term CSO Control Program, pursuant to Permit No. MI0022802, including the installation of green stormwater infrastructure (GSI) and implementation of a new Post-construction Stormwater Management regulation which are intended to have a much larger impact. DWSD has also re-vamped their drainage charge program to include incentives (fee credits) for property owners to install and adequately maintain GSI on their properties.

3.1 Implementation Efforts

3.1.1 BMP No. 1: Public Participation/Involvement Program (PPP)

Due to the very small drainage area tributary to the City's storm sewer system and the fact that this property is mostly park areas, the SWMP did not include the creation of new organizations or forums for purposes of public involvement/participation. However, the City has made copies of the SWMP available to the public, including distribution of the plan to local stream and watershed protection organizations, and has continued current forums for public involvement/participation.

Detroit continues to fulfill the following activities associated with public involvement:

1. Provided a link to a memo summarizing the SWMP on DWSD's website.
2. Distributed copies of the SWMP memo for public inspection at public libraries.
3. Distributed copies of the SWMP memo to various organizations involved with stormwater management and green infrastructure. This included the Friends of the Rouge, Friends of the Detroit River, Friends of Rouge Park, Friends of Belle Isle, SEMCOG, and the Alliance of Rouge Communities.
4. Continuing to work with SEMCOG staff to assist with public involvement/participation efforts on a variety of issues affecting Detroit including stormwater management and green stormwater infrastructure.
5. Continuing to cooperate with and participate in the ongoing work and special events coordinated by Friends of the Rouge, Friends of Rouge Park, Friends of Belle Isle Park; Friends of the Detroit River and various Neighborhood Organizations. This effort includes communication on topics such as DWSD's ongoing green stormwater infrastructure.
6. The PPP contact information where the public can submit comments is the Stormwater Management Group (SMG), 6425 Huber Street, Detroit, MI 48211.

3.1.2 BMP No. 2: Public Education Program (PEP)

The PEP is currently focused on visitors in park areas where storm sewers have been identified, which includes Belle Isle and Rouge Park. Detroit has also posted signage at Belle Isle Park and Rouge Park regarding storm water management practices. Representative photos of the signage/stenciling installed at the Rouge Park are included in **Appendix M**.

Due to the small area of the MS4 and limited activities within the MS4, the newly proposed activities on the PEP will be completed via the website and links to the Friends of the Rouge, SEMCOG, Wayne County and other appropriate agencies to educate the small number of residential homes (approximately 85) in the City's MS4 area as there are no commercial or industrial properties in the MS4 area. It should also be noted that there are no septic tanks in the MS4 area.

DWSD will review the website periodically and update accordingly. Topics such as pet waste, car washing, lawn care, hazardous waste will all be topics on DWSD's website to educate and help minimize the potential for illicit discharges. Website topics are presented as follows:

Pet waste disposal

Website: <https://semcog.org/protect-our-waterways#770114-what-you-can-do-about-pet-care>

Flyer: <https://semcog.org/Portals/0/Documents/What-You-Can-Do/To-Protect-Our-Waterways/PetCare.pdf>

Residential Car washing

Website: <https://semcog.org/protect-our-waterways#770113-what-you-can-do-about-car-care>

Flyer: <https://semcog.org/Portals/0/Documents/What-You-Can-Do/To-Protect-Our-Waterways/CarCare.pdf>

Proper Disposal of Hazardous Wastes, etc.

SEMCOG website: <https://semcog.org/protect-our-waterways#770118-what-you-can-do-with-household-hazardous-waste>

SEMCOG flyer: <https://semcog.org/Portals/0/Documents/What-You-Can-Do/To-Protect-Our-Waterways/HouseholdHazardousWaste.pdf>

Detroit website: <https://detroitmi.gov/departments/department-public-works/refuse-collection/household-hazardous-waste-information>

Wayne County website:

<https://www.waynecounty.com/departments/environmental/landresources/household-hazardous-waste.aspx>

Other links:

Storm drain information: <https://semcog.org/protect-our-waterways#770117-what-you-can-do-about-storm-drains>

Landscaping: <https://semcog.org/protect-our-waterways#770116-what-you-can-do-with-landscaping>

Under the PEP component, Detroit has undertaken several BMPs including:

1. Encouraging reporting (e.g. illegal dumping or clogged drains) via the City web site and providing a new mobile application ‘Improve Detroit’ for reporting. People reporting issues are offered drop down menus and are asked to provide location, information that describes the concern, identify the license plate number of vehicles suspected of illegal dumping, and even upload photos to assist with follow up investigations. The same reporting can be done on Detroit’s SeeClickFix website.
2. Continuing the City’s household hazardous waste collection program for proper disposal of pesticides, herbicides, fertilizers, motor vehicle fluids, batteries, cleaners and other potentially hazardous materials. This program is managed by the Greater Detroit Resources Recovery Authority (GDRRA) and the Department of Public Works. The service is free to City of Detroit residents. Information on the program is detailed on the <https://detroitmi.gov/document/household-hazardous-waste>
3. Continuing the household compostable waste program with the regular trash and recycling curbside collection service. Collectable yard wastes include leaves, grass clippings and twigs which are picked up on a biweekly basis. <https://detroitmi.gov/news/city-announces-improvements-bulk-yard-waste-collections-schedule-changes-some-residents>
4. Detroit also initiated a stenciling program for storm drain catch basins in the MS4 area in order to discourage dumping of wastes into drains which go directly to the river with no treatment. This program will be completed under DWSD’s supervision in 2020.
5. Educating the general public regarding responsibilities and stewardship in their watershed and providing overviews of programs and initiatives to support stormwater management. DWSD website currently has information on the benefits of green infrastructure and Low Impact Development including information of the GSI practices that have been constructed in the City. Information is also included the Post Construction Stormwater Management Regulation and Stormwater Management Design Manual. DWSD also provides the annual progress report for DWSD’s Green Stormwater Infrastructure (GSI)

Program.

<https://detroitmi.gov/departments/water-and-sewerage-department#Programs-and-Initiatives>

<https://detroitmi.gov/departments/water-and-sewerage-department/stormwater-management-and-drainage-charge/green-infrastructure-projects>

There are 85 homes within the MS4 area. Due to the small size and limited activities in the City's MS4, metrics for effectiveness of the PEP will include a counter on the DWSD website, counting the number of visitors to the site. DWSD will distribute a flyer to the 85 homes informing them of MS4 program and the links to the DWSD website as well as DWSD – SMG's group contact information.

DWSD will also conduct a survey of 3% of the homes (typical response rate of social surveys) which would include calling three houses once a permit cycle to ask them a list of questions on MS4 issues. To determine effectiveness, questions will be asked that indicate behavior change or increased awareness to stormwater management.

3.1.3 BMP No. 3: Illicit Discharge Elimination Program (IDEP)

The IDEP focuses on the development and implementation of measures to identify and effectively eliminate illicit discharges to the City-owned separate storm sewer system. All known MS4 outfalls have been inspected using outside contractors to provide field investigation support to the City. Field observations were conducted during dry weather periods to determine whether any supplemental investigation, such as sampling and inspection is needed. The City already has the legal authority to prohibit discharges into the storm drainage system. Copies of the applicable regulations were previously provided to EGLE and are included in **Appendix A, B, and L**. The City's ordinance does not specifically address discharges or flows from firefighting activities and other non-stormwater discharges and/or flows. The City has plans to revise the City's ordinance to include the exclusions of acceptable non-stormwater discharges as outlined in NPDES regulation.

The previous field investigation work has confirmed that the City owned storm sewers are not located in areas where drainage from septic tanks needs be considered. The potential for a physical connection from a sanitary sewer to the storm sewer is also quite limited recognizing that most of the area tributary to the storm sewers is open land with no nearby combined or sanitary sewers. Very few of the 34 storm sewers are located within 100 feet of a combined/sanitary sewer. Given the very small probability of seepage infiltrating into the storm drainage system from a sanitary sewer or on-site sewage disposal system, Detroit has determined that establishing a new program to limit infiltration of seepage is not warranted or cost effective.

The activities associated with the IDEP BMP include the following:

1. Provide a map of all existing outfalls. The latest version of this map is included as Figures 1 - 21 of this plan. Updated maps of the confirmed MS4 outfalls will be stored at the DWSD Stormwater Management Group (SMG) office at 6425 Huber, Detroit, Michigan, 48211.

2. Update the inventory of MS4 City-owned storm sewers and the storm sewer maps as necessary to incorporate new or newly discovered storm sewers.
3. Conduct training for City staff for activities such as the identification of illicit discharges and related efforts such as sampling, source detection and elimination in the event that this activity is performed by City staff.
4. Conduct field screening through visual inspection of outfalls once every permit cycle. If field screening indicates a dry weather discharge or presence of suspicious indicators (i.e. oil, odors, sewage) samples will be collected and analyzed for indicator parameters within 24-48 hours of flow discovery. The IDEP investigation will be documented and stored at the DWSD SMG office.
5. Field observations will be conducted at all outfalls and points of discharge within the MS4. Due to the small size of the MS4, outfalls will not be prioritized.
6. Where appropriate, investigating upstream drainage area to look for possible cross-connections, sanitary sewer seepage, or other illicit connection sources.
7. DWSD will initiate a source investigation 30 days after receiving analytical results from samples that were collected during field screening. However, due to the small size of the MS4 area and the fact that there have been no illicit discharges in the MS4 area, DWSD feels that a procedure and schedule for illicit discharges not identified during field screening is warranted.
8. For procedures responding to illegal dumping or spills, once DWSD's SMG is notified, SMG will respond to the complaint within 48 hours and initiate field inspections, follow-up screening and source investigations as appropriate. The schedule will be accelerated based on the complaint and/or threat to stormwater and receiving waters.
9. Once DWSD's Stormwater Management Group (SMG) is notified, SMG group will address the illicit discharge within 48 hours and initiate response actions. The schedule will be accelerated based on the illicit discharge and/or threat to stormwater.
10. DWSD has a 24-hour emergency hotline to report releases of any polluting materials from the MS4. The emergency hotline number is (313) 267-7401 and posted on DWSD's website. The EGLE Warrant District office (586-753-3700) will also be added to the website for calls during office hours.
11. Taking corrective measures as appropriate to eliminate illicit connection sources. Due to the small area of the MS4 and that no illicit discharges have been found, the procedure will be to document and identify a root cause and corrective action. Depending on the root cause, corrective actions may include one or any of the following re-sampling, source investigation, increased inspections, and/or increased training.
12. DWSD personnel that conduct maintenance operations will receive IDEP training. A training module will be used that has been created by Wayne County (**Appendix I of SWMP**). Personalized DWSD updates of this module are scheduled for completion by June 2020. Training will be conducted for identified personnel once per permit cycle and within the first year of hire for new staff. Because much of the MS4 area includes parks, the training module will be supplied to park personnel outside of DWSD.
13. DWSD SMG personnel as well as DWSD catch basin inspectors participated in a SEMCOG IDEP and Good Housekeeping on training October 23rd, 2019 and 24th, 2019.

Results of dry weather stormwater outfall inspections and collected samples in May 2018 are presented in a report that is available for review at DWSD-SMG and included as **Appendix G**.

All catch basins draining to an MS4 outfall were checked for dry weather flow. No dry weather flow was found in any of the confirmed outfalls. Therefore, analytical testing was not needed.

3.1.4 BMP No. 4: Construction Stormwater Runoff Control

While there have been no construction projects in the MS4 area which have warranted issuance of a SESC Permit, construction projects disturbing one acre or more within areas tributary to the City-owned storm sewers are addressed through the City's BSEED site plan review process. The site plan review process also addresses projects less than one acre that are part of a larger common project that will disturb one acre or more. In addition, Wayne County continues to enforce its stormwater management program to any new and re-development projects within its jurisdiction of Detroit's storm sewer area. Wayne County is the current enforcing agency for Part 91 permits within the City of Detroit.

The supporting documentation for the Post-Construction Stormwater Management Plan Application requests a copy of all applicable state and federal permits related to erosion, water resource and stormwater management of the regulated project and therefore, if these permits are required by the landowner or recorded easement holder, they will be identified during the site plan review process and included along with other deficiencies in the correspondence with the applicant.

In addition, it should be noted that the Stormwater Management Design Manual directs applicants to Wayne County's SESC program and well as the EGLE's Permit-by-Rule requirements.

The BMPs for construction site stormwater runoff control include:

1. Continue existing site plan review process which ensure that site plans adequately allow for soil erosion and sedimentation controls, as applicable.
2. Immediately notify the local SESC agency and EGLE when soil and sediment are discharged to the MS4 from construction activity in violation of a soil erosion and sedimentation control permit. Also, immediately notify EGLE when other wastes are discharged from construction activity in violation of a permit. Refer to ERP.

3.1.5 BMP No. 5: Post-Construction Stormwater Runoff Control

In November 2018, the City of Detroit adopted a post-construction stormwater management regulation citywide referred to as the Stormwater Management Regulations. These regulations apply to any new development or redevelopment which creates or replaces 0.5 acres (21,780 square feet) or more of impervious surface. The applicant may apply for alternative compliance if they demonstrate and quantify the presence of extraordinarily difficult site conditions. Extraordinarily difficult site conditions consist of: 1) sub-surface conditions limiting the infiltration (soil contamination or high groundwater); 2) Unique conditions that would require

substantial re-grading; 3) Potential for off-site basement flooding; 4) conditions that require pumping of stormwater; and 4) other-department judgement. Options for alternative compliance include off-site migration and in-lieu fee. DWSD's Stormwater Management Regulation and Stormwater Management Design Manual are posted on DWSD's website and included as **Appendix J**.

In support of the Stormwater Management Regulations, DWSD developed a Stormwater Management Design Manual. The design manual serves as a resource for applicants to ensure compliance with the stormwater management regulation and addresses the permit requirements (Part I.A.15.d.9) pertaining to stormwater controls for projects requiring a Part 91 construction permit issued by EGLE. In addition to general green stormwater infrastructure design guidance, the manual provides information on the following:

- Applicability of the requirements for new development, redevelopment, and municipal projects including roadway improvements.
- Provides up-to-date precipitation data, as well as acceptable methods for calculating runoff volumes and peak discharge rates.
- Design criteria for site drainage, roadway and parking lots, and flow conveyance of sewers, culverts, and open channels that will address water quantity and quality considerations. Design standards are specified for both the combined sewer areas and the separate sewer (MS4) areas.
- Overview of drainage design methodologies and acceptable practices.
- Stormwater control measure design considerations for systems such as green roofs, water harvesting, bioretention, tree plantings, porous pavements, and detention and retention basins.
- Guidance on required long-term operations and maintenance of stormwater management controls.

As part of the City's permitting process for this regulation, DWSD permitting staff reviews development/redevelopment projects and has the authority to require site conditions for the management of stormwater. With the addition of the DWSD Stormwater Management Group (SMG), these projects are also now routed to DWSD's SMG and reviewed by this group specifically to address any stormwater concerns and to make sure stormwater management practices meet design criteria as outlined in the stormwater design manual.

The BMPs for the post-construction stormwater management program for new development and re-development projects include the following:

1. As part of the site plan review and approval process, ensure that appropriate post-construction stormwater management practices are incorporated into any new or redevelopment project located in the MS4 area. This includes the requirement that a long-term maintenance plan be prepared and approved for any required stormwater controls.
2. At the completion of construction of all new and re-development projects for which post-construction stormwater runoff controls are required, DWSD reviews the project to determine whether it conforms to the terms and conditions of the approved site plan and

maintenance plan, including proper maintenance of any structural stormwater controls, if applicable.

Since the establishment of the new Stormwater Design Manual, there have been no new or re-development projects initiated in the MS4 tributary area.

3.1.6 BMP No. 6: Pollution Prevention/Good Housekeeping Program

The pollution prevention/good housekeeping efforts focus on minimizing the discharge of pollutants through the City's MS4 which are attributable to municipal operations. As required by the permit, the municipal properties which include one or more MS4 outfalls are listed below. The only structural stormwater controls at these properties are catch basins. As such, these facilities are prioritized all the same and given a low priority as low due to limited operations and activities.

- Rouge Park
- Belle Isle Park
- Mt. Elliott Park
- Lakewood East Park
- Portions of several roadways

Some permit requirements are not applicable or have limited applicability as follows:

- The maintenance of structural controls is limited to catch basins since no other structural controls exist in the storm sewer area. There are 78 catch basins in the City's MS4 area. Catch basin locations are in DWSD's GIS system are stored at the DWSD SMG office at 6425 Huber, Detroit, Michigan, 48211. Inventory and maps will be updated within 30 days of removing or adding a catch basin. An inventory of catch basins is provided as **Appendix D**.
- The plan does not address the storage, handling and use of pesticides as none are stored or applied in the park's areas.
- There are no vehicle maintenance facilities in the City's MS4 storm sewer area. There is a service yard on Belle Isle, which is operated by the State of Michigan via the lease agreement in 2013. Since the 2013 lease agreement, MDOT is responsible for all road maintenance on Belle Isle, (including street sweeping and salting).

Detroit's Pollution Prevention/Good Housekeeping Measures for Municipal Operations include the following BMPs to control sediments, the main pollutant of concern:

1. Perform routine maintenance of all structural stormwater controls in the MS4 area which consist of catch basins located in the MS4 portion of the municipal properties listed above. The only structural controls currently in place on Detroit's MS4 system are catch basins. Catch basins within the MS4 area will be inspected at least once every three years and cleaned when no more than 50% full. DWSD will be using their Cityworks maintenance program to schedule inspections. The cleaning crew inspects each catch basin to determine if more that 50% full and answers assessment questions. If more than

50% full, maintenance crews use vactor trucks for the catch basin cleaning. If additional maintenance is needed, an additional work order is added for the maintenance crew. Any sediment and sludge collected is emptied into the pits at DWSD's Central Services Facility. The pits are dewatered and dried out and stockpiled until taken to a landfill. The catch basin inspection and cleaning program is felt to be adequate to assess the parks and residential homes in the MS4 area.

- a. As noted on the catch basin spreadsheet in **Appendix D**, catch basins were inspected in 2017. The priority is rated as high as catch basins in the MS4 area are a priority of the rest of the City. For 2020, if any of the catch basin is found to be more than 50% full, the inspection frequency will be re-evaluated as well as the rating for the Park in which they are located.
2. Perform street sweeping and application in the MS4 area. DPW conducts street sweeping on an 11-week cycle which starts approximately April 1. The goal is to do three cycles each year and includes all streets within the City, including the MS4 areas. Belle Isle is not swept as this is the responsibility of the State. **Appendix H** provides the current street sweeping schedule for the City of Detroit. Proper sweeping methods include operating sweeping equipment in accordance with the manufacturer's operating instructions and to protect water quality. Disposal of the material collected through street sweeping is done through an outside contractor who charges the City based on weight of disposed material. Perform application of salt/deicing materials in the MS4 area during winter months in selected streets within the MS4 area. Residential roads are never salted and the City does no salting or plowing at Belle Isle as that is the responsibility of the State. Salt is used on some of the roads in the MS4 area.
3. Perform routine grass mowing in the parks. Buffer zones exist between the grass areas and the waterways to minimize impact on these waterways. The parks are not used for the purpose of snow stockpiling during winter. DWSD will conduct training to City park personnel that conduct maintenance operations. Training will be part of the Illicit Discharge Elimination Program training. Training will be conducted for identified personnel once per permit cycle and within first year of hire for new staff. Schedule for completion June 2021. At this time, DWSD is not aware of any contractors conducting activities in the MS4 area. DWSD will review the boiler plate language for contractors working for DWSD, to ensure that it addresses stormwater management. Belle Isle is under long term contract with the State of Michigan and the State conducts the lawn mowing at Belle Isle. Schedule for completion June 2021.
4. For Right-of-Way activities other than catch basin cleaning or street sweeping, such as road repairs, catch basins are typically blocked off to minimize the potential for sediments and millings discharging to the catch basins and SESC controls are implemented as outlined in BMP #4 – Construction Stormwater Runoff Control.

3.1.7 Total Maximum Daily Load (TMDL) Implementation Plan

This section establishes the plan to comply with the Total Maximum Daily Load (TMDL) elements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit application questions 85 to 88. These requirements are as follows:

- Provide a procedure for identifying and prioritizing Best Management Practices (BMPs) to reduce the TMDL pollutants,
- Provide a list of BMPs that will be implemented to reduce the TMDL pollutants, and
- Provide a monitoring plan to assess the effectiveness of the BMPs.

Applicable TMDLs

The U.S. Environmental Protection Agency has approved the following TMDL assessments that are applicable to the City of Detroit:

- Statewide TMDL for *E. coli* (July 2019). This TMDL applies to the Rouge River and supersedes the previously approved *E. coli* TMDL specific to the Rouge River.
- *E. coli* TMDL assessment for the Detroit River (August 2008).
- Biota (sediment) TMDL assessment for the Rouge River (August 2007).

There are also two statewide TMDL assessments for mercury (June 2018) and PCB (August 2013). These TMDLs cover the inland water bodies in the state primarily impacted by atmospheric deposition of the pollutant of concern. An implementation plan to address the atmospheric deposition of these pollutants is not required under the NPDES MS4 permit program at this time.

Table 2 summarizes the water quality targets identified in the TMDL assessment documents.

Table 2: TMDL Targets

Parameter	Target
<i>E. coli</i>	<ul style="list-style-type: none"> • 130 <i>E. coli</i> per 100 mL as a 30-day geometric mean and 300 <i>E. coli</i> per 100 mL as a daily maximum to protect the total body contact use from May 1 through October 31, and • 1,000 <i>E. coli</i> per 100 mL as a daily maximum year-round to protect the partial body contact use
Biota (sediment)	<ul style="list-style-type: none"> • Primary numeric target is based on the Procedure 51 biological community assessment protocol. The target is Procedure 51 results in a consistent “acceptable” or “excellent” rating. • Secondary target is a mean annual in-stream Suspended Solids (SS) concentration of 80 mg/L for wet weather events. Achievement of the biological target will override this secondary target.

Pollutant Sources

The suspected sources and causes associated with each of the TMDL parameters are provided in Table 3. Only those sources regulated under the MS4 permit and applicable to the City of Detroit are included in these tables.

Table 3: Potential Pollutant Sources and Causes

Parameter	Potential Sources	Potential Causes
<i>E. coli</i>	Illicit sanitary connections to the MS4	<ul style="list-style-type: none"> • Undetected or uncorrected illicit discharges
	Contaminated runoff during storm events carrying waste from pets, feral animals and nuisance wildlife	<ul style="list-style-type: none"> • Lack of knowledge or caring about the importance of pet/animal waste management. • Loss of pervious areas thru urban development.
	Contaminated runoff during storm events carrying waste from improper garbage disposal	<ul style="list-style-type: none"> • Lack of knowledge or caring about the importance of proper garbage disposal.
Sediment	Municipal infrastructure (e.g. roads)	<ul style="list-style-type: none"> • Loss of pervious areas from urban development. • Insufficient stormwater infrastructure maintenance.
	Flashy hydrology from large development projects contributing to in-stream erosion.	<ul style="list-style-type: none"> • Insufficient stormwater management of large development projects.

BMP Prioritization

Suitable BMPs are identified and prioritized based on the following criteria:

- *Multiple parameters.* BMPs that can impact multiple TMDL requirements are weighted higher than those impacting a single parameter.
- *Human health.* The ability of the BMP to affect human health impacts caused by direct contact with the river.
- *Pollutant concentration.* The ability of the BMP to impact the concentration of the pollutants (*E. coli* and sediment) in the receiving stream or reduce the runoff flashiness (peak flow).
- *Impact and cost.* The anticipated level of impact of the BMP compared to the added cost to implement.
- *Prerequisites.* BMPs that have prerequisite projects that must be completed before the BMP can be implemented are ranked lower than BMPs without prerequisite projects.

Only BMPs that the City has the legal authority to implement are considered. The prioritization procedures may be reviewed and updated if needed by the City.

BMP Selection

BMPs that were identified for consideration are listed in Table 4 along with their associated ranking. The prioritization criteria were ranked using a high, moderate and low score. High scores were assigned a numeric value of 2, moderate a value of 1 and low scores were assigned a value of zero. The resultant score for the BMP is the sum of the assigned numeric values

assigned to each of the identified criteria. The last column identifies the BMPs selected for implementation at this time.

Table 4 BMPs Considered

BMP Description	Multiple Parameters	Human Health	Pollutant Concentration	Impact and cost	Prerequisites	Score	Implement
Illicit discharge source identification and abatement	2	2	2	2	2	10	✓
Implementation of the new stormwater regulation	2	2	2	2	2	10	✓
PEP: Train municipal O&M staff	2	1	1	1	2	7	✓
Good Housekeeping: Catch basin maintenance and street sweeping	1	1	1	1	2	6	✓
PEP: Education on IDEP complaint line	2	1	1	1	1	6	✓
Good Housekeeping: Riparian corridor/buffer strip to Parks staff	1	1	1	1	1	5	✓
PEP: Education on the impact of pet waste	0	1	1	1	1	4	✓
Implement additional stormwater control measures on public infrastructure improvement projects	1	1	1	0	0	3	(1)

(1) When municipal capital improvement projects are planned for municipal infrastructure in the MS4 areas, implementation of additional stormwater control measures will be considered and evaluated.

Evaluating Effectiveness

Various metrics will be tracked for evaluating the effectiveness of the BMPs implemented. Individual program metrics for illicit discharge source identification, public education and good housekeeping practices are discussed with information specific to those programs. In-stream monitoring of *E. coli* and sediment are not planned for either the Rouge River or the Detroit River since the City of Detroit MS4 area represents an insignificant fraction of the watershed areas for each of the rivers. That is to say that implementation of the BMPs by the City is not expected to have a measurable impact on the receiving streams by itself. It will take much more change within the river’s watersheds in order to see a net change in the river. In-stream monitoring in the Rouge River is periodically conducted by the Alliance of Rouge Communities and the State of Michigan. Publicly available in-stream monitoring results will be used to help guide the implementation plan when appropriate.

E. coli

For *E. coli*, monitoring the effectiveness is planned to utilize the monitoring efforts of the illicit discharge detection program. As a part of this program, the outfalls will be physically assessed

and dry weather flow monitored for flow rate, *E. coli* concentration and other water quality parameters at least once every five years. Measured *E. coli* concentrations will be compared against the target levels identified in Table 2.

DWSD will conduct wet weather sampling for *E. coli* on two outfalls within the City's MS4 area per permit cycle. Results of samples will be compared to the targets set in the *E. coli* TMDL. Results will be assessed and used to update the TMDL implementation plan as appropriate.

Sediment (biota)

Computer modeling will be performed when newly constructed stormwater control measures are implemented as a part of a municipal infrastructure improvement project. The modeling will document the expected sediment load reductions due to the implemented BMPs. The computer model for the pollutant load estimates will be selected based on the project specifics. Models such as STEPL, the National Stormwater Calculator, L-THIA, and P8 will be considered. These models estimate sediments loads following the same methodology used in the TMDL assessment document (August 2007). The sediment load will be assigned by land use, consistent with **Appendix B** of the TMDL assessment document (August 2007).

The assumed percent removal by BMP will be assigned based on literature values from the Center for Watershed Protection (Center for Watershed Protection, 2000; Center for Watershed Protection, 2007), the International Stormwater BMP Database (Water Research Foundation, U.S. Environmental Protection Agency; Federal Highway Administration; American Public Works Association; Environmental and Water Resources Institute of ASCE, 2019), or other similar research literature.

Development projects must comply with the new stormwater ordinance which includes provision for managing the peak flow, volume and sediment from the site. As an additional metric for managing the sediment, the number and area of development projects in the MS4 area complying with the stormwater ordinance will be reported.

DWSD will also investigate the feasibility of collaborating with the ARC on the Rouge macroinvertebrate sampling. If feasible, the ARC data will be used to assess the biota TMDL for the City's MS4 area. DWSD's concern is that it may be cost prohibitive for the small MS4 area.

References

Center for Watershed Protection. (2000, March). *National Pollutant Removal Performance Database for Stormwater Treatment Practices*. Ellicott City.

Center for Watershed Protection. (2007). *National Pollutant Removal Performance Database Version 3*. Center for Watershed Protection. Ellicott City: Center for Watershed Protection.

Water Research Foundation, U.S. Environmental Protection Agency; Federal Highway Administration; American Public Works Association; Environmental and Water Resources Institute of ASCE. (2019). Retrieved from International Stormwater BMP Database: www.bmpdatabase.org

4.0 IMPLEMENTATION EFFORTS FOR THE UPCOMING PERMIT CYCLE

4.1.1 Record Keeping/Schedule/Frequency/Responsible Agency

The following tables list the individual BMPs along with the City departments or agencies responsible for each activity. These tables also show the anticipated schedule for implementation of the BMPs, the measureable goals, record keeping requirements and the responsible party. In some cases, activities are listed to be undertaken on an “as needed” basis. For example, the investigation of storm sewer outfalls for potential suspicious or illicit connections will be necessary only if the initial field observation indicates that there is dry weather flow present, or there is some other evidence of an illicit or suspicious connection.

Table 5: BMP #1: PUBLIC PARTICIPATION/INVOLVEMENT PROGRAM

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
SWMP notification to City Departments	Prepare memo for City Departments informing them of SWMP	Throughout permit cycle	Memos informing of latest SWMP at City Departments	Memo	DWSD
SWMP notification to local Organizations	Prepare memo for City Departments informing them of SWMP	Throughout permit cycle	Memo informing of the latest SWMP to FoTR, SEMCOG, FORP, FODR, FOBI	Memo	DWSD
Drainage Charge Program	Finalize drainage charge credits	Complete	Drainage Charge Credits for Stormwater Practices	Tracking of properties within MS4 with stormwater practices	DWSD
Ongoing BMP Topics Implemented					
SWMP notification to the Public	Memo on SWMP prepared for local organizations will be posted on the DWSD Website	Ongoing	Link to memo on the DWSD website	NA	DWSD
Participate in Watershed Protection Groups and Neighborhood Organizations	Support ongoing work by the groups and organizations	Ongoing	Provide City of Detroit employee assistance at selected events	Information available on website	DWSD/Public Affairs

Table 6: BMP #2: PUBLIC EDUCATION PROGRAM (PEP)

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
Signage at MS4 Catch Basins	Signage/stenciling similar to the ones at the Rouge Park	2020	All MS4 catch basin signage	Photographs of signs at all MS4 catch basins	DWSD
Plan to upgrade SeeClickFix website and Improve Detroit app (both use the same software and are connected)	Include feature providing capability to report illegal discharges specifically into storm sewers and clogged catch basins	2021	Adding the feature to the software program	Maintaining a log of reports	DWSD
Ongoing BMP Topics Implemented					
Provide Stormwater Management Information to the Public	Post stormwater management information including DWSD's Stormwater Management Regulations on DWSD's website	Ongoing	Information on DWSD's website	NA	DWSD
Drainage Charge Program	Implement updated drainage charge program (including credit program) to all customers	Implemented & ongoing	Drainage Charge Credits for Stormwater Practices	Tracking of properties within MS4 with stormwater practices	DWSD
Post-Construction Stormwater Management Ordinance	Finalize and adopt the stormwater ordinance	Adopted Nov 13, 2018	Official ordinance adopted	Ordinance available on DWSD's website	DWSD
Provide Green Infrastructure (GI) Information to the Public	Issue GI annual progress reports for the Upper Rouge tributary areas and post on DWSD's website	Ongoing	Information on DWSD's website	NA	DWSD
Provide Technology Tools to Assist in Educating the Public	Make the "Improve Detroit" app available for download on DWSD's website	Ongoing	Information on City's website	NA	City of Detroit IT
Keep the Public Informed about Relevant Stormwater Management Issues	Issue press releases relevant to stormwater management	Throughout permit cycle	Information on DWSD's website	NA	DWSD
Provide Information about Watershed Protection Groups and Neighborhood Organizations	Provide DWSD website links to Friends of the Detroit River, Friends of the Rouge and similar neighborhood organizations	Ongoing	Links on DWSD's website	NA	DWSD
Collection and Disposal of Hazardous Waste	Provide collection and proper disposal of household hazardous waste	Ongoing	Information on City's website	N/A	GDRRA

Table 7: BMP #3: ILLICIT DISCHARGE ELIMINATION PROGRAM (IDEP)

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
Report Illegal Discharges to the Storm Sewers	ERP	As reported throughout permit cycle	Established mechanism for reporting	ERP Spill Notification and Report form	DWSD
Ongoing BMP Topics Implemented					
Drainage System Mapping	Mapping of the drainage system connected to the MS4 outfalls	Complete	All drainage structures inventoried	Map produced of drainage system connected to MS4	DWSD
Inspection of Outfalls	Re-inspect the outfalls and sample, if necessary	Completed May 2018 & once every permit cycle going forward	All MS4 outfalls re-inspected	Inspection report	DWSD

Table 8: BMP #4: CONSTRUCTION STORMWATER RUNOFF CONTROL PROGRAM

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
None					
Ongoing BMP Topics Implemented					
Review of Site Plans	DWSD to review site plans for stormwater management and provide input to BSEED	In process - Ongoing	Site plan reviews	List of site plans reviewed for stormwater management	DWSD/BSEED
Post-Construction Stormwater Management Ordinance	Finalize and issue the stormwater ordinance	Adopted November 2018	Ordinance enacted	Stormwater Management Regulations and Stormwater Design Manual available on DWSD's website	DWSD

Table 9: BMP #5: POST CONSTRUCTION STORMWATER RUNOFF PROGRAM

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
None					
Ongoing BMP Topics Implemented					
Review and Approval of Preliminary Site Plans	Continue current review process by BSEED with input from DWSD regarding stormwater management	Ongoing	Number of site plan reviews. Application requests applicable permits.	List of site plans reviewed for stormwater management	BSEED/DWSD
Post-Construction Stormwater Management Ordinance	Finalize and issue the stormwater ordinance	Adopted Nov 13, 2018	Ordinance enacted	Ordinance available on DWSD's website	DWSD
Review and Approval of Preliminary Site Plans	In addition to BSEED, DWSD will review the site plans to identify any applicable GI credits	In process - ongoing	Participation of DWSD in the review process	List of site plans reviewed for stormwater management	DWSD/BSEED

Table 10: BMP #6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING PROGRAM

Topic	Implementation BMP	Timeframe	Measurable Goal	Recordkeeping	Responsible Party
New BMP Topics Identified for Implementation					
Catch Basin Cleaning	Plan to add a feature in the SeeClickFix software (“Improve Detroit” App) to allow public to report catch basin clogging in MS4 areas	2021	SeeClickFix updated and public reports being submitted	Database for public reporting catch basin clogging	DPW
Catch Basin Cleaning Program	DWSD is establishing a program for catch basin cleaning. Cityworks maintenance program will be used to schedule	2020 and after that, at a minimum, once every 3 years. More frequently for catch basins that are found with more than 50% sediment	Every catch basin inspected & cleaned, if necessary, at a minimum every 3 years	DWSD GIS log of number of catch basins cleaned	DWSD
Ongoing BMP Topics Implemented					
Street Sweeping and Material Disposal	Continue current practices for street sweeping and material disposal in the MS4 areas	Continue following DPW’s current street sweeping schedule; request extra sweeping as needed throughout permit cycle	Periodical street sweeping with material disposal by an outside contractor	Maintain log of street sweeping and material disposal	GSD/DPW
Lawn Mowing	Continue current practices for lawn mowing in the MS4 areas with buffer zones between the lawns and water bodies	Ongoing	Periodic lawn mowing, as needed	Records of training DWSD personnel to GSD personnel who conduct lawn mowing	GSD/DPW
Catch Basin Cleaning	Continue current practice of catch basin cleaning	Ongoing – when sump is no more than 50% full	Number of catch basins cleaned during reporting period	DWSD GIS log of number of catch basins cleaned	DWSD
Right of Way Maintenance	Catch basin cleaning and street sweeping. Catch basin blocked off during road repair.	Ongoing	Catch basin cleaning and inspection program	DWSD GIS log of number of catch basins cleaned	DWSD/DPW

5.0 SUMMARY

The City of Detroit's Stormwater Management Plan has been developed through a coordinated multi-agency effort by representatives from several City Departments. Because stormwater is not the sole responsibility of any one Department, the SWMP activities involve many entities including the Water and Sewerage Department, the General Services Department, the Planning and Development Department, the Department of Public Works, the Buildings, Safety Engineering and Environmental Department, the Greater Detroit Resource Recovery Authority, and the Law Department.

Management and control of stormwater discharges will be achieved in a manner consistent with the efforts already underway by the City of Detroit to control wet weather discharges from its combined sewer system. However, due to the small size of the MS4, it is expected that the Long Term CSO Control Plan will have the most impact on the wet weather and stormwater runoff on the Detroit River and the Rouge River.