Watershed Inventory Report

Phase 1 of the Watershed Improvement Plan

Township of Mansfield
County of Warren

December 30, 2025

Permit Number: NJG0152633

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Acronyms & Definitions

1. *Acronyms*
    - i. *"BMP" – Best Management Practice*
    - ii. *"DO" – Dissolved Oxygen*
    - iii. *"EPA" – U.S. Environmental Protection Agency*
    - iv. *"GIS" – Geographic Information System*
    - v. *"HUC 14" – Hydrologic Unit Code 14*
    - vi. *"MS4" – Municipal Separate Storm Sewer System*
    - vii. *"MTD" – Manufactured Treatment Device*
    - viii. *"NJPDES" – New Jersey Pollutant Discharge Elimination System*
    - ix. *"NJ-WET" – New Jersey Watershed Evaluation Tool*
    - x. *"TDS" – Total Dissolved Solids*
    - xi. *"TMDL" – Total Maximum Daily Load*
    - xii. *"TSS" – Total Suspended Solids*
    - xiii. *"WIP" – Watershed Improvement Plan*
2. *Definitions*
    - i. *"HUC 14" or "hydrologic unit code 14" means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey. (N.J.A.C. 7:9B)*
    - ii. *"Municipal separate storm sewer" (or MS4 conveyance) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) as defined in more detail at N.J.A.C. 7:14A-1.2.*
    - iii. *"Outfall" means any point source which discharges directly to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.*
    - iv. *"Storm drain inlet" means the point of entry into the storm sewer system.*
    - v. *"Stormwater" means water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities or is conveyed by snow removal equipment.*
    - vi. *"Stormwater facility" means stormwater infrastructure including, but not limited to, catch basins, infiltration basins, detention basins, green infrastructure (GI), filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, Manufactured Treatment Devices (MTDs), and stormwater conveyances.*
    - vii. *"Stormwater management basin" means a stormwater management basin as defined in N.J.A.C. 7:8.*
    - viii. *"Stormwater management measure" means a stormwater management measure as defined in N.J.A.C. 7:8.*
    - ix. *"Stormwater runoff" means water flow on the surface of the ground or in storm sewers, resulting from precipitation.*
    - x. *"Total maximum daily load" or "TMDL" means a total maximum daily load formally established pursuant to Section 7 of the Water Quality Planning Act (N.J.S.A. 58:11A-7) and Section 303(d) of the Clean Water Act, 33 U.S.C. §§12512 et seq. A TMDL is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries or adjacent segments, and allocations to a reserve or margin of safety for an individual pollutant.*
    - xi. *"Waters of the State" means the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction" (see N.J.A.C. 7:9B-1.4).*

Data Requirements & Resources

Field work using Trimble Global Positioning System (GPS) TDC6 units to collect data for the Watershed Inventory Report was conducted by AQUALIS in 2025, with additional data retrieved from NJDEP-provided resources such as:

New Jersey Watershed Evaluation Tool (NJ-WET)

https://experience.arcgis.com/experience/f40f65d807bb4372bd92b48bb98f1972

NJDEP Open Data

https://gisdata-njdep.opendata.arcgis.com/

TMDL Lookup Tool

https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/tmdl/

New Jersey's Integrated Water Quality Assessment Reports – 303(d) List

https://dep.nj.gov/wms/bears/water-quality-assessment/

New Jersey Environmental Justice Mapping, Assessment, and Protection Tool (EJMAP)

https://experience.arcgis.com/experience/548632a2351b41b8a0443cfc3a9f4ef6

The New Jersey Hydrologic Modeling Database, or "H&H Database,"

https://hydro.rutgers.edu/about/

MS4 WIP Guidance Webpage

https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/watershed-improvement-...

Required Data	*Data Source*
1. All stormwater outfalls owned/operated by the permittee	MS4 Infrastructure Map
2. Drainage area for each permittee owned/operated outfall	Topography ArcGIS Solutions/ArcHydro
3. Receiving waterbodies of those outfalls	NJ-WET NJDEP Open Data
4. Water quality classification of all receiving waterbody segments	NJ-WET NJDEP Open Data
5. All stormwater interconnections from the permittee's MS4 system into another entities' storm or sanitary sewer system	MS4 to MS4 interconnections acquired in MS4 Infrastructure Map, private interconnection(s) needed
6. The drainage area for each interconnection into another entities' storm or sanitary sewer system	Topography ArcGIS Solutions/ArcHydro
7. All stormwater interconnections into the permittee's system from another entities' storm sewer system	MS4 to MS4 interconnections acquired in MS4 Infrastructure Map, private interconnection(s) needed
8. All storm drain inlets owned/operated by the permittee	MS4 Infrastructure Map
9. Area associated with each TMDL for waters that lie within or bordering the permittee's property(s)/jurisdiction	NJ-WET NJDEP Open Data
10. Area associated with each water quality impairment for waters that lie within or bordering the permittee's property(s)/jurisdiction	NJ-WET NJDEP Open Data

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Acknowledgements

The Township of Mansfield Watershed Inventory Report is a collaborative report prepared by AQUALIS, stormwater management consultant for the Township, with contributions from the Mansfield Township Stormwater Pollution Prevention Team, and data collected from the Rutgers Cooperative Extension (RCE) Water Resources Program through funding provided by the National Fish and Wildlife Foundation (NFWF) and the New Jersey Experiment Station. The Township appreciates the support of its environmental partners and looks forward to expanded collaboration as the Watershed Improvement Plan develops in the phases to follow.

Funding for this project has been provided in part by the New Jersey Department of Environmental Protection (NJDEP) 2023 Municipal Stormwater Assistance Grant, with funding allocated for stormwater management purposes by the Mansfield Township Committee in annual municipal budgets. Prior to completing the Watershed Inventory Report, it was necessary to complete the Municipal Separate Storm Sewer System (MS4) Infrastructure Map, a requirement under the 2023 NJDEP Tier A MS4 Municipal Stormwater Permit. The MS4 Infrastructure Map serves as a base map upon which Watershed Improvement Inventory features have been added. The MS4 Infrastructure Map was completed by AQUALIS and approved by the NJDEP on October 29, 2025. Funding for the MS4 Infrastructure Map was provided by the NJDEP Municipal Stormwater Assistance Grant and the 2023-2025 Mansfield Township Municipal Budgets.

Introduction – Watershed Improvement Plan

New Jersey municipalities operating Municipal Separate Storm Sewer Systems (MS4s) systems were introduced to new requirements in 2023 when the New Jersey Department of Environmental Protection Agency (NJDEP) issued a revised Tier A Municipal Stormwater General Permit (NJPDES: NJ0141852) for the period beginning January 1, 2023 through December 31, 2027. The 2023 Tier A permit acknowledges a changing climate by addressing stormwater quality issues relating to both new and existing development, increases preventative measures and inspection/reporting requirements, and expands community engagement to collectively reduce the discharge of pollutants into waterways. The 2023 permit – and amendments to the Stormwater Rules (N.J.A.C. 7:8) – address water quality and flooding issues in municipal stormwater systems to a greater extent than in prior versions in response to the increased frequency and intensity of severe storms that elevate flooding risks.

One major component of the 2023 Tier A MS4 Municipal Stormwater Permit is the development of a Watershed Improvement Plan (WIP) to inventory stormwater features in the permitted areas, evaluate data to identify potential improvement projects that will address water quality and quantity issues, and determine which projects can be implemented and on what schedule. The multi-year Watershed Improvement Plan project is designed to improve water quality by reducing the contribution of pollutant parameters for all receiving waters within and bordering the municipality that have percent reductions listed for stormwater in the Total Maximum Daily Loads (TMDLs) and water quality impairments, and reduce or eliminate flooding within the municipality by prioritizing areas of flooding for corrective actions based on human health and safety, environmental impacts, and frequency of occurrence. Since watersheds do not follow municipal boundaries, hydrological systems are interconnected, and stormwater (and pollutants) flow downstream, it is necessary to consider

subwatersheds and regions when planning water quality initiatives to determine cumulative benefits – and impacts.

The WIP is structured as a three-phase project with staggered completion dates due in years three, four, and five of the permit term. This report is known as the **Watershed Inventory Report (Phase I).** The three phases of the Watershed Improvement Plan and their corresponding deadlines are:

Watershed Inventory Report (Phase I) – The development of an electronic map that delineates stormwater features that affect subwatersheds by adding mapping layers to the MS4 Infrastructure Map.
Due by January 1, 2026

Watershed Assessment Report (Phase II) – An evaluation of data to identify potential projects (and necessary funding) that can address water quality and quantity issues.
Due by January 1, 2027

Watershed Improvement Plan (Phase III) – A summary of proposed projects, comments received from stakeholders, estimated costs, coordination of other programs (as appropriate), and planned implementation schedules.
Due by December 1, 2027

In its entirety, the Watershed Improvement Plan is a regional plan intended to improve water quality and quantity issues by focusing on the MS4 contribution of pollutants to waterbodies with listed impairments, Total Maximum Daily Loads (TMDLs) of pollutants that can enter a waterbody and maintain water quality standards. By identifying water quality and quantity issues that affect subwatersheds, a determination of the regional impact of the MS4 contributions to the issues can be analyzed and targeted for reduction.

Watershed Inventory Report

This Watershed Inventory Report adds the below listed features to the MS4 Infrastructure Map with data collected during from fieldwork conducted using Trimble TDC6 GIS units and by accessing data retrieved from NJDEP-provided resources in 2025. This report summarizes watershed characteristics, demographics, water quality conditions, and Total Maximum Daily Load (TMDL) requirements applicable to Mansfield Township. The pages to follow more fully describe the separate features of the mapping inventory, including how and when the data was collected to include:

- The drainage area for each outfall(s)
- The receiving waterbodies of those outfalls
- The water quality classification of all receiving waterbody segments
- All stormwater interconnections from the municipality into another entity's storm or sanitary sewer system
- The drainage area for each interconnection into another entity's storm or sanitary sewer system
- Stormwater connection points into Mansfield Township from another entities' storm sewer system
- Area associated with each TMDL for waters that lie within or bordering Mansfield Township

- Area associated with each water quality impairment for waters that lie within or bordering the Township
- Overburdened communities areas
- Impervious areas

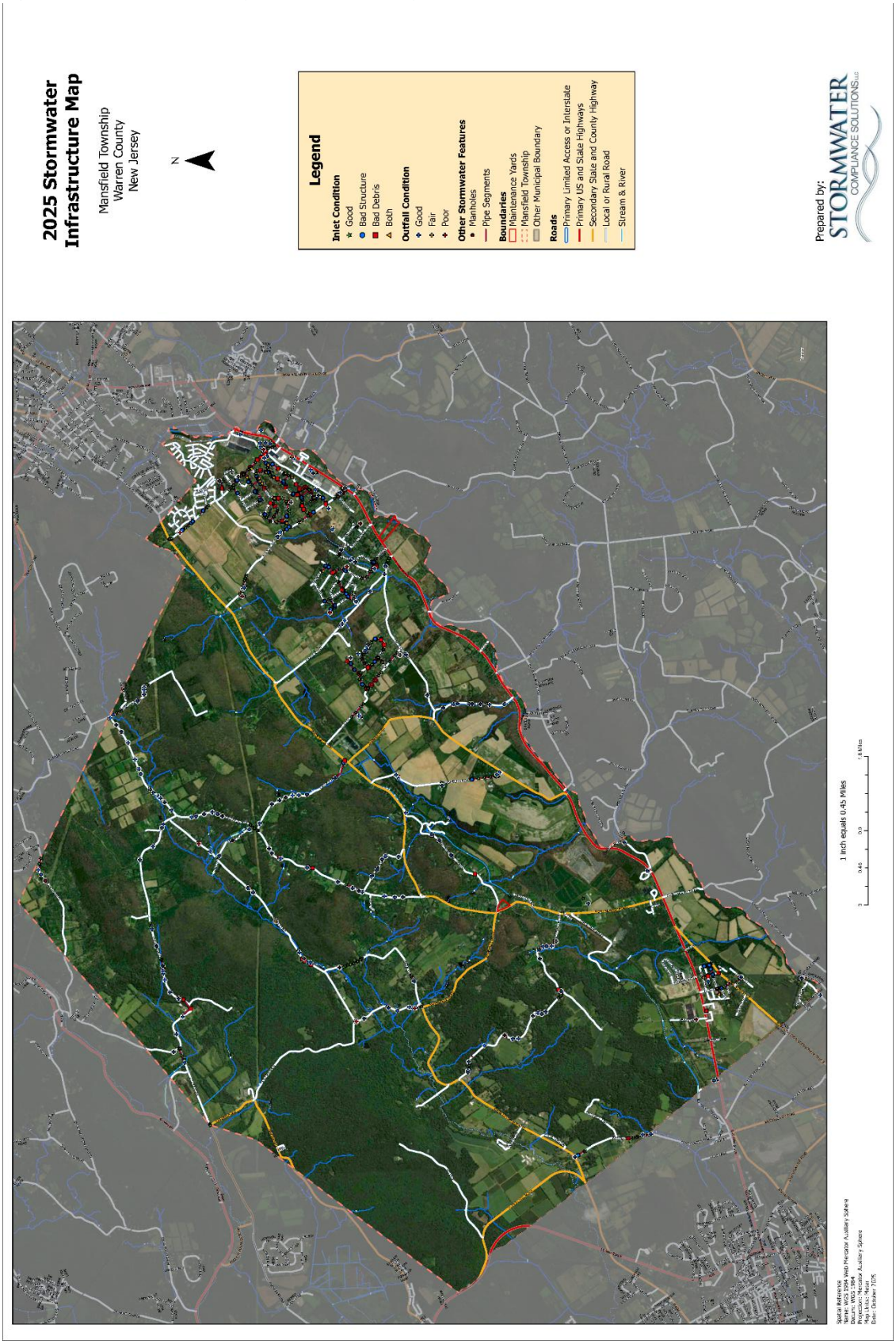
MS4 Infrastructure Map

Completion of the MS4 Infrastructure Map was a 2023 Tier A MS4 Permit prerequisite for preparing this Watershed Inventory Report. AQUALIS (known as Stormwater Compliance Solutions, LLC until April 2025) conducted fieldwork using Trimble TDC6 units in 2023-2025 and assembled the data in ESRI GIS for submission to the NJDEP, which was approved on October 30, 2025, containing the below listed features:

- MS4 outfalls (receiving surface water name, type of outfall)
- MS4 ground water discharge points (type)
- MS4 interconnections (type into/from, entity)
- Storm drain inlets (type, catch basin present, label present, retrofitted)
- MS4 manholes
- MS4 conveyance (type, direction of flow)
- Stormwater facilities (type)
- Property boundaries of maintenance yard(s) and other ancillary operations (type)

A PDF copy of the approved MS4 Infrastructure Map is posted on the Mansfield Township dedicated stormwater webpage at: https://www.mansfieldtownship-nj.gov/media/attachments/2025/11/04/mansfield-ms4-infrastructure-map-2025.pdf

Figure 1: Mansfield Township Infrastructure Map 2025



Mansfield Township General Demographic Information

Mansfield Township is in Warren County, New Jersey, encompassing 29.29 square miles. The Township is regulated for stormwater discharge under NJPDES Permit Number NJG0152633. It is within the Upper Delaware Watershed Management Area (WMA 01), with four subwatersheds: Furnace Brook, Musconetcong, Pequest River, and Pohatcong Creek. Stormwater in the Township drains to the Musconetcong River, Pohatcong Creek, and Pequest River, which ultimately flow to the Delaware River.

The Township of Mansfield contains portions of five (5) hydrologic Unit Code (HUC) areas. There are several Category 1 waterways within the Township, including Musconetcong River, Pequest River, Pohatcong Creek, Trout Brook, and Tunnel Brook. The Township's proximity to high-quality waterways accentuates the importance of an effective stormwater management program. Additionally, Mansfield Township is part of the New Jersey Highlands Region and is designated as a municipality with significant watershed and natural areas.

HUC-14	Sub-Watershed Name
02040105090020	Pequest R (Cemetary Road to Drag Strip)
02040105090030	Pequest R (Furnace Bk to Cemetary Road)
02040105090050	Furnace Brook
02040105140010	Pohatcong Creek (above Rt 31)
02040105140020	Pohatcong Ck (Brass Castle Ck to Rt 31)
02040105150100	Musconetcong R (Trout Bk to SaxtonFalls)
02040105160010	Musconetcong R (Hances Bk thru Trout Bk)
02040105160020	Musconetcong R (Changewater to HancesBk)
02040105160030	Musconetcong R (Rt 31 to Changewater)

Based on the 2020 U.S. Census, Mansfield Township has a population of 7,779. According to published data confirmed in December 2025, Mansfield Township has two (2) NJDEP-designated Overburdened Communities areas.

Land use type(s): https://www.nj.gov/njhighlands/planning/rmp/monitoring/files/factbook_2025.pdf?utm_source

Table 1: Land Use Category Percentage

Land Use Category	Percentage (%)
Agricultural Land	22.8%
Forest / Woodlands	52.0%
Developed / Urban	15.5%
Water Bodies	0.6%
Other (e.g., wetlands, barren)	9.2%

Public Participation

Public participation is a critical component of the Watershed Improvement Plan (WIP) for Mansfield Township, Warren County, New Jersey, and is essential to achieving the State's water quality objectives under the New Jersey Pollutant Discharge Elimination System (NJPDES) program. The Township's objectives for stormwater management are consistent with the State's; that is, to reduce stormwater pollution and the adverse effects of stormwater runoff. This Watershed Inventory Report lays the groundwork for community discussion for Phases II and III of the Watershed Inventory Plan that identify potential improvement projects and establish costs and timelines for approved watershed improvement projects.

By engaging with the public and community stakeholders, the Township ensures that watershed restoration strategies reflect local conditions, municipal priorities, and New Jersey Department of Environmental Protection (NJDEP) regulatory objectives. Stakeholder input offers valuable local knowledge regarding drainage patterns, recurring roadway and neighborhood flooding, streambank erosion, and potential sources of pollution, including illicit discharges, failing infrastructure, and nonpoint source runoff. Incorporating this local information improves the accuracy of watershed assessments and supports the identification and prioritization of targeted, cost-effective Best Management Practices (BMPs) consistent with NJDEP stormwater management standards and municipal planning initiatives. A record of public input received will be maintained and made part of the comprehensive Watershed Improvement Plan.

Stormwater Outfall(s)

Outfalls are a critical component to a stormwater infrastructure network. An outfall is a point source where the municipal separate storm sewer system discharges directly to Waters of the State, which can mean the ocean and its estuaries, all springs, streams, and bodies of surface or ground waters whether natural or artificial, within the boundaries of the State of New Jersey (or subject to its jurisdiction)." A "point source," refers to the discharge point from which pollutants are or may be discharged from the stormwater conveyance system. As final discharge points for stormwater runoff, outfalls are optimal sites for pollutant sampling, detecting illicit discharges, and assessing Total Maximum Daily Load (TMDL) requirements. Outfalls must be inspected and maintained to detect erosion, blockages, structural damage, identify pollutant sources, etc.

Stormwater Outfalls Owned/Operated by Permittee

Mansfield Township has identified 115 outfalls that are municipally owned and operated. A minimum of 20% of the total outfall number are visually inspected each year to determine if dry weather flow (flow occurring 72 hours after a rain event) or other evidence of illicit discharge is present. Reports containing outfall conditions and illicit discharge investigations are maintained in the office of the Director of Public Works.

The outfall inventory was initially determined in 2007 through field inspections and has been annually reviewed and updated as needed. Most recently, GIS data was collected in June 2025 using Trimble TDC6 GIS units capable of centimeter accuracy as part of the MS4 Infrastructure Map development. Field crews utilized existing stormwater infrastructure maps prepared by AQUALIS and/or Mansfield Township to locate and field verify data by navigating municipally owned roadways and properties. Visual analysis was performed to ensure that the observed conditions were accurately recorded, and each data parameter was captured pursuant to the Tier A Municipal Stormwater Permit, Section G1i.

The 115 outfalls that discharge to surface waterbodies and corresponding subwatersheds are identified in the chart below:

Table 2: Number of Outfalls That Discharge to Each Subwatershed

Subwatershed	**# of Outfalls**
Musconetcong R (Changewater to HancesBk)	36
Musconetcong R (Hances Bk thru Trout Bk)	21
Pequest R (Furnace Bk to Cemetary Road)	13
Pohatcong Ck (Brass Castle Ck to Rt 31)	1
Pohatcong Creek (above Rt 31)	34

Receiving Surface Waters

Under the **Clean Water Act (CWA),** receiving water is: "Any surface water body into which pollutants are, or may be, discharged." Discharges from outfalls are considered direct, and not indirect, such as from storm drains or ditches.

The identification of receiving surface waters was based on outfall data collected through fieldwork, combined with topographic analysis and GIS data. Fieldwork was conducted in June 2025 using GPS devices to record the coordinates and physical characteristics of visible and accessible outfall structures. These outfall locations were then analyzed alongside local topography and the Surface Water Quality Classification of New Jersey shapefiles to determine the receiving surface waters. The shapefiles were retrieved from the

NJDEP Open Data portal in June 2025 from the Division of Information Technology, NJDEP Bureau of GIS website: https://gisdata-njdep.opendata.arcgis.com/

The receiving surface waters within Mansfield Township jurisdiction include Hances Brook UNT, Hances Brook UNT, Morris Canal, Musconetcong River, Musconetcong River UNT, Pequest River, Pequest River UNT, Pohatcong Creek, Pohatcong Creek UNT, and Shabbacong Creek.

The receiving waters within Mansfield Township outfalls and the percentage of outfalls that discharge to them are listed below, as accessed from the NJ-WET and NJDEP Open Data resources in July 2025:

Table 3: Percent of Outfalls That Discharge to Each Receiving Surface Water

Receiving Surface Water	Percentage
Hances Brook	8.70%
Hances Brook UNT	8.70%
Morris Canal	4.35%
Musconetcong River	2.61%
Musconetcong River UNT	25.22%
Pequest River	2.61%
Pequest River UNT	8.70%
Pohatcong Creek	26.09%
Pohatcong Creek UNT	12.17%
Shabbecong Creek	0.87%

Water Quality Classifications

The State of New Jersey has established Surface Water Quality Standards (SWQS) under the New Jersey Administrative Code at N.J.A.C. 7:9B to set forth water quality criteria based on designated uses (e.g. drinking water supply, recreation, etc.) to protect the surface waters for those uses.

The SWQS rules and policies for protecting water quality include general, technical, antidegradation, nutrients, and mixing zones. The SWQS contains procedures for establishing and modifying water quality-based effluent limitations for New Jersey Pollutant Discharge Elimination System (NJPDES) point sources as well as Surface Water Quality Standards Variance and procedures for reclassifying specific stream segments. (https://dep.nj.gov/wms/bears/surface-water-quality-standards-swqs).

Antidegradation policies are established in the SWQS to require that all surface waters and designated uses are maintained and protected, and that impaired waters are restored to meet SWQS. There are also three (3) tiers of antidegradation designations: Outstanding Natural Resource Waters (ONRW), classified as FW1 or nondegradation waters, and PL waters (Pinelands), which must be maintained in their natural state, Category One (C1) Waters that have exceptional ecological, recreational, water supply, or fisheries resources significance, and Category Two (C2), which are all surface waters not designated as ONRW or C1. While C2 waters may have a lower existing water quality than ONRW or C1, all existing and designated uses must be maintained in accordance with SWQS standards.

Surface water quality classifications are based on the type of waterbody, its designated use, and if saline or fresh. Within the freshwater category, there are three (3) trout classifications in surface water classification categories based on their ability to support trout production (FW2-TP), trout maintenance (FW2-TM), and non-trout (FW2-NT). The applicable water quality classifications for the freshwaters of Mansfield Township

include FW2-NT, FW2-NTC1, FW2-TMC1, and FW2-TPC1.

The chart below lists the percentage of outfalls that discharge to each water quality classification within the jurisdiction of Mansfield Township. The information contained in the chart was collected in June 2025 from the NJDEP resources at NJWET (https://experience.arcgis.com/experience/f40f65d807bb4372bd92b48bb98f1972/page/Home/)

Table 4: Percent of Outfalls That Discharge to Each Water Quality Classification

Water Quality Classification	**Percentage**
FW2-NT	4.35%
FW2-NTC1	2.61%
FW2-TMC1	12.17%
FW2-TPC1	80.87%

Table 5: Outfalls Receiving Surface Water Bodies & Water Quality Classifications

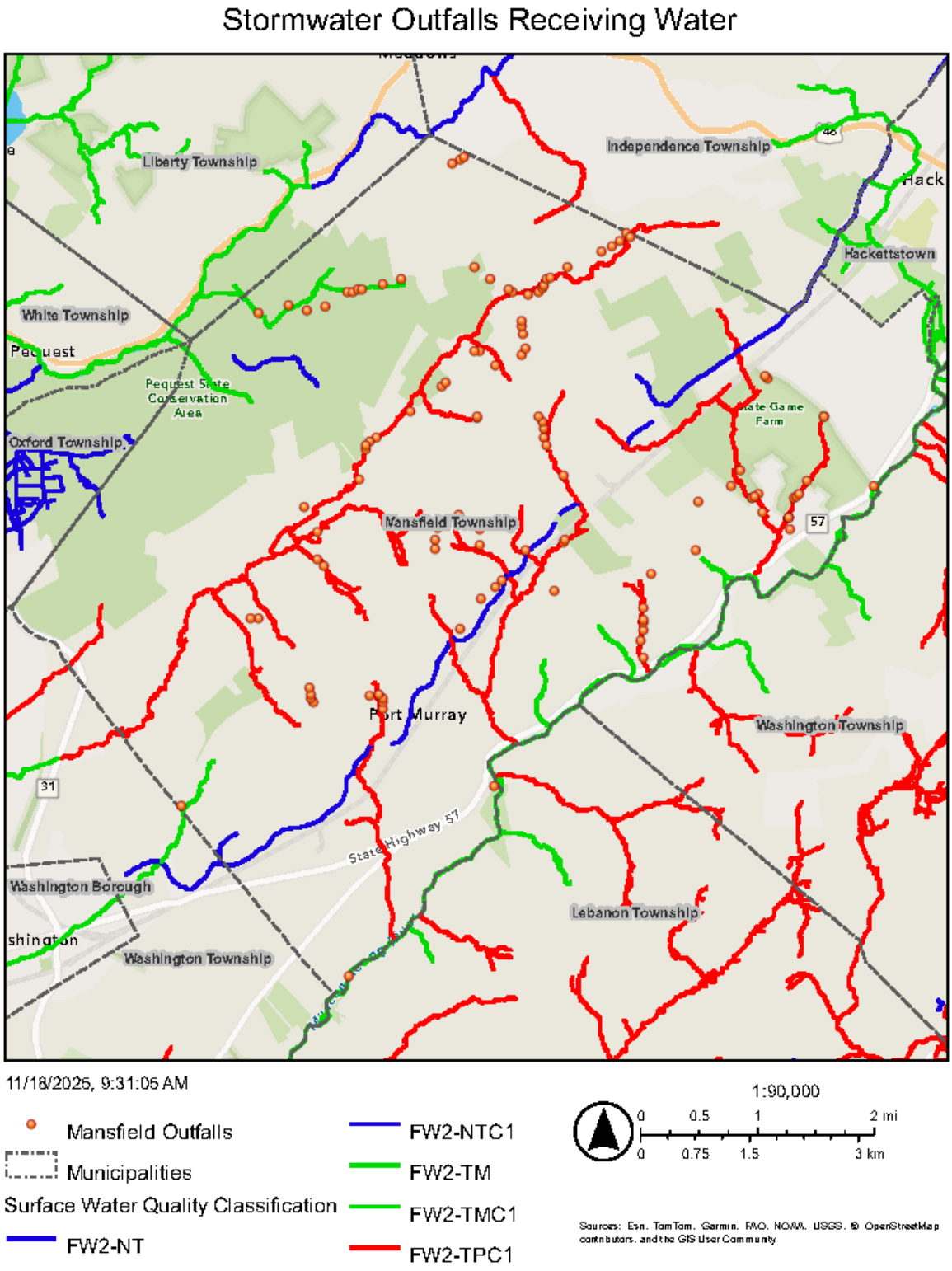
OUTFALL_ID	Receiving Surface Water	Water Quality Classification
AP-OF1	Hances Brook UNT	FW2-TPC1
AP-OF2	Hances Brook UNT	FW2-TPC1
AP-OF5	Hances Brook	FW2-TPC1
AP-OF6	Hances Brook	FW2-TPC1
AP-OF7	Musconetcong River	FW2-TMC1
BE-OF1	Musconetcong River UNT	FW2-TPC1
BE-OF2	Musconetcong River UNT	FW2-TPC1
BS-OF1	Hances Brook	FW2-TPC1
BS-OF3	Musconetcong River UNT	FW2-TPC1
BS-OF4	Musconetcong River UNT	FW2-TPC1
CTB-OF1	Morris Canal	FW2-NT
CTB-OF2	Morris Canal	FW2-NT
CTB-OF3	Morris Canal	FW2-NT
CTB-OF4	Morris Canal	FW2-NT
EW-OF1	Hances Brook UNT	FW2-TPC1
HE-OF3	Musconetcong River UNT	FW2-TPC1
HE-OF4	Musconetcong River UNT	FW2-TPC1
HE-OF5	Musconetcong River UNT	FW2-TPC1
HE-OF6	Musconetcong River UNT	FW2-TPC1

HE-OF7	Musconetcong River UNT	FW2-TPC1
HE-OF8	Musconetcong River UNT	FW2-TPC1
HF OF 4A	Pohatcong Creek UNT	FW2-TPC1
HF OF 5A	Pohatcong Creek UNT	FW2-TPC1
HF-OF1	Pohatcong Creek UNT	FW2-TPC1
HF-OF10	Musconetcong River UNT	FW2-TPC1
HF-OF11	Musconetcong River UNT	FW2-TPC1
HF-OF2	Pohatcong Creek UNT	FW2-TPC1
HF-OF4	Pohatcong Creek UNT	FW2-TPC1
HF-OF5	Pohatcong Creek UNT	FW2-TPC1
HF-OF7	Musconetcong River UNT	FW2-TPC1
HF-OF8	Musconetcong River UNT	FW2-TPC1
HF-OF9	Musconetcong River UNT	FW2-TPC1
HL-OF1	Hances Brook UNT	FW2-TPC1
HL-OF2	Hances Brook UNT	FW2-TPC1
HL-OF2	Hances Brook UNT	FW2-TPC1
HT-OF1	Hances Brook UNT	FW2-TPC1
HZ OF1	Hances Brook UNT	FW2-TPC1
HZ-OF2	Hances Brook UNT	FW2-TPC1
JC-OF10	Pequest River UNT	FW2-TMC1
JC-OF11	Pequest River UNT	FW2-TMC1
JC-OF12	Pohatcong Creek	FW2-TPC1
JC-OF13	Pohatcong Creek	FW2-TPC1
JC-OF14	Pohatcong Creek	FW2-TPC1
JC-OF15	Pohatcong Creek	FW2-TPC1
JC-OF2	Pequest River UNT	FW2-TMC1
JC-OF3	Pequest River UNT	FW2-TMC1
JC-OF4	Pequest River UNT	FW2-TMC1
JC-OF6	Pequest River UNT	FW2-TMC1
JC-OF7	Pequest River UNT	FW2-TMC1
JC-OF8	Pequest River UNT	FW2-TMC1
JC-OF9	Pequest River UNT	FW2-TMC1
JK-OF1	Pohatcong Creek UNT	FW2-TPC1
MB9A	Pohatcong Creek	FW2-TPC1
MB-OF1	Pohatcong Creek	FW2-TPC1
MB-OF11	Pohatcong Creek	FW2-TPC1
MB-OF12	Pohatcong Creek	FW2-TPC1

MB-OF13	Pohatcong Creek	FW2-TPC1
MB-OF14	Pohatcong Creek	FW2-TPC1
MB-OF15	Pohatcong Creek	FW2-TPC1
MB-OF17	Pohatcong Creek	FW2-TPC1
MB-OF18	Pohatcong Creek	FW2-TPC1
MB-OF2	Pohatcong Creek	FW2-TPC1
MB-OF21	Pohatcong Creek UNT	FW2-TPC1
MB-OF22	Pohatcong Creek UNT	FW2-TPC1
MB-OF28	Musconetcong River UNT	FW2-TPC1
MB-OF29	Musconetcong River UNT	FW2-TPC1
MB-OF3	Pohatcong Creek	FW2-TPC1
MB-OF30	Musconetcong River UNT	FW2-TPC1
MB-OF4	Pohatcong Creek	FW2-TPC1
MB-OF7	Pohatcong Creek	FW2-TPC1
MB-OF8	Pohatcong Creek	FW2-TPC1
MB-OF9	Pohatcong Creek	FW2-TPC1
MD-OF1	Hances Brook	FW2-TPC1
MD-OF2	Hances Brook	FW2-TPC1
MD-OF5	Hances Brook	FW2-TPC1
MD-OF6	Hances Brook	FW2-TPC1
MD-OF6A	Hances Brook	FW2-TPC1
MN-OF10	Pohatcong Creek	FW2-TPC1
MT-OF1	Pohatcong Creek	FW2-TPC1
OB-OF5	Pohatcong Creek	FW2-TPC1
PK OF2	Pohatcong Creek UNT	FW2-TPC1
PKOF3	Pohatcong Creek UNT	FW2-TPC1
PKOF3	Pohatcong Creek UNT	FW2-TPC1
PQ-OF1	Pequest River UNT	FW2-TMC1
PW-OF1	Musconetcong River	FW2-TMC1
RGW-OF1	Hances Brook	FW2-TPC1
RV-OF2	Musconetcong River	FW2-TMC1
SN-OF3	Musconetcong River UNT	FW2-TPC1
SN-OF4	Musconetcong River UNT	FW2-TPC1
SN-OF5	Musconetcong River UNT	FW2-TPC1
SN-OF6	Musconetcong River UNT	FW2-TPC1
SN-OF7	Musconetcong River UNT	FW2-TPC1

SN-OF8	Musconetcong River UNT	FW2-TPC1
TB-OF2	Pequest River	FW2-NTC1
TB-OF3	Pequest River	FW2-NTC1
TB-OF4	Pequest River	FW2-NTC1
VY-OF-10	Pohatcong Creek	FW2-TPC1
VY-OF-1A	Pohatcong Creek UNT	FW2-TPC1
VY-OF5	Pohatcong Creek UNT	FW2-TPC1
VY-OF6	Pohatcong Creek	FW2-TPC1
VY-OF8	Pohatcong Creek	FW2-TPC1
VY-OF8A	Pohatcong Creek	FW2-TPC1
VY-OF-8B	Pohatcong Creek	FW2-TPC1
VY-OF-8B	Pohatcong Creek	FW2-TPC1
VY-OF-8C	Pohatcong Creek	FW2-TPC1
VY-OF9	Pohatcong Creek	FW2-TPC1
WB-OF1	Musconetcong River UNT	FW2-TPC1
WB-OF2	Musconetcong River UNT	FW2-TPC1
WB-OF3	Musconetcong River UNT	FW2-TPC1
WT-OF1	Hances Brook	FW2-TPC1
WT-OF2	Musconetcong River UNT	FW2-TPC1
WT-OF3	Musconetcong River UNT	FW2-TPC1
WV-OF-3	Shabbecong Creek	FW2-TMC1
OUTFALL	Hances Brook UNT	FW2-TPC1
OUTFALL	Morris Canal	FW2-NT

Figure 2: Mansfield Township Owned/Operated Stormwater Outfalls Receiving Surface Waterbodies



Stormwater Interconnection(s)

Interconnections are points where the MS4 system connects to or receives stormwater from another entity's stormwater conveyance system such as adjacent municipal MS4s, county or state-owned drainage systems, public authorities, and private stormwater systems. Identifying the interconnections defines jurisdictional boundaries, clarifies ownership and maintenance responsibility, and supports watershed and TMDL stormwater management efforts.

The MS4 Infrastructure Mapping project identified interconnections between the Township and public entities. The Watershed Inventory Report extends that identification effort to include private systems.

- Number of interconnections from Mansfield Township's MS4 into another entity's stormwater, sanitary, or combined sewer collection system: 1

Interconnections from the permittee's MS4 into another entity

Stormwater interconnections were identified using data collected during fieldwork conducted in June 2025. Utilizing existing publicly available road maps that differentiate local, county, state, and private roads, field crews identified MS4 conveyance systems that intersected at these crossroads. Additionally, the field crew field-verified county and state roads by locating the blue pentagon-shaped shield with yellow lettering, and white shield with black numbers and letters, respectively. GIS staff also verified roadway ownership under the guidance of the Municipality and publicly available roadway data. Finally, any MS4 conveyance system that intersected a municipal boundary, as defined by publicly available data, is an MS4 interconnection. All data was collected using a mapping grade Trimble GPS capable of centimeter accuracy, and each data parameter was captured pursuant to the Tier A Municipal Stormwater, Section G1iii.

Table 6: Other Systems (MS4s, Sanitary Sewers, Combined Sewers) Receiving Stormwater Flow from Mansfield Township

From Mansfield	To Other Systems	Type
Mansfield	Warren County	Pipe
Mansfield	Warren County	Pipe
Mansfield	Warren County	Pipe
Mansfield	Private	Pipe
Mansfield	Private	Pipe
Mansfield	Private	Pipe
Mansfield	Private	Pipe
Mansfield	Warren County	Pipe
Mansfield	Washington Twp	Pipe
Mansfield	Warren County	Pipe
Mansfield	Warren County	Pipe

Interconnection(s) into the Mansfield Township MS4 from another entity

Stormwater interconnections were identified using data collected during fieldwork conducted in June 2025. Utilizing existing publicly available road maps that differentiate local, county, state, and private roads, field crews identified MS4 conveyance systems that intersected at these crossroads. Additionally, the field crew field-verified county and state roads by locating the blue pentagon-shaped shield with yellow lettering, and white shield with black numbers and letters, respectively. GIS staff also verified roadway ownership under the guidance of the municipality and publicly available roadway data. Finally, any MS4 conveyance system that intersected a municipal boundary, as defined by publicly available data, is an MS4 interconnection. All

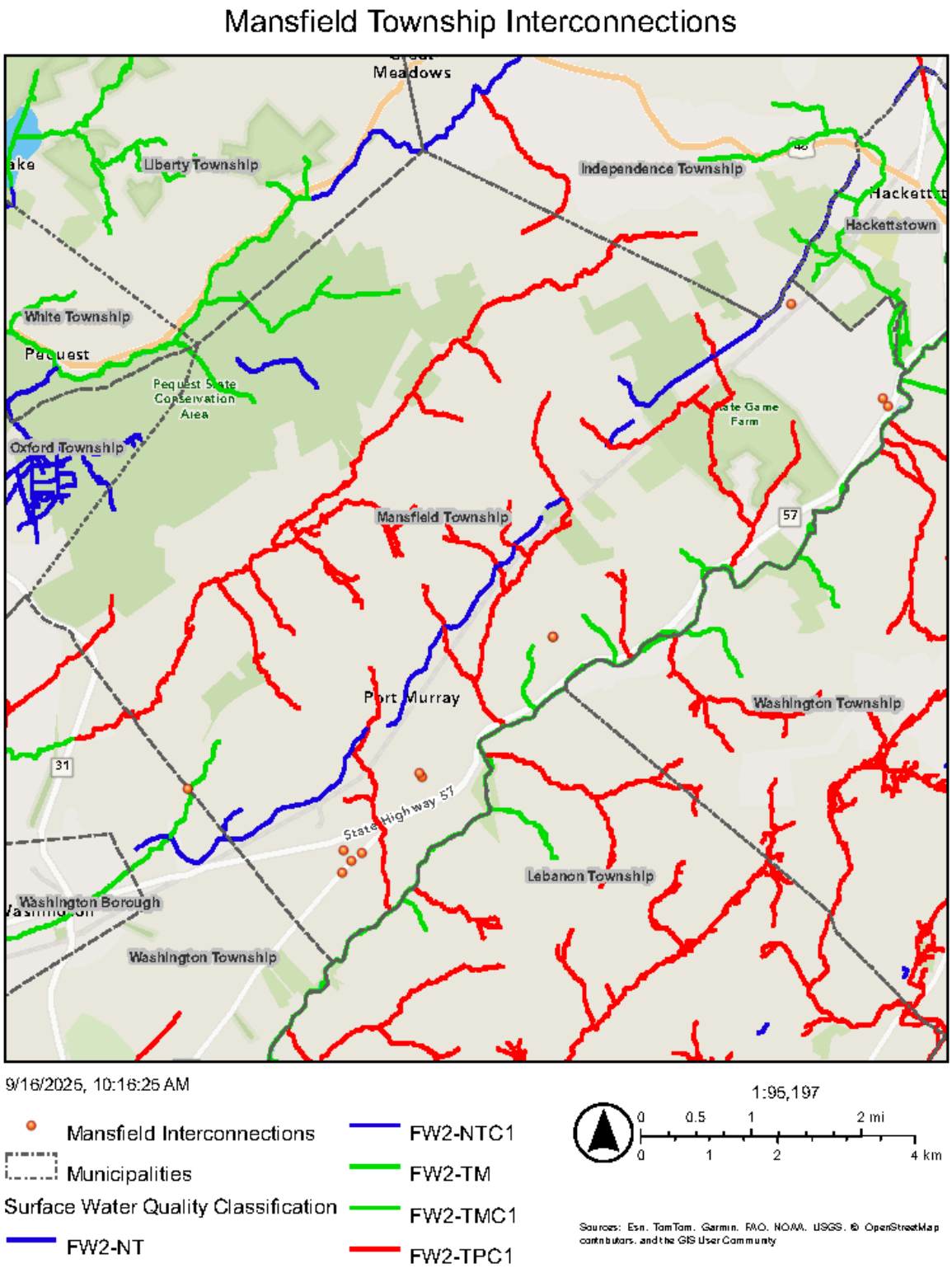
data was collected using a mapping grade Trimble GPS capable of centimeter accuracy, and each data parameter was captured pursuant to the Tier A Municipal Stormwater, Section G1iii.

- Indicate the number of interconnections from other entities into Mansfield Township: **1**

Table 7: Other Systems (MS4s, Sanitary Sewers, Combined Sewers) Discharging into Mansfield Township

From Other Systems	**To Mansfield**	**Type**
Private	Mansfield	Pipe

Figure 3: Interconnections into and from Mansfield Township MS4



Drainage Area(s) for Stormwater Outfalls and Stormwater Interconnections

Stormwater runoff is conveyed through a combination of natural drainage features and engineered stormwater infrastructure that collectively direct stormwater to receiving surface waters through outfalls or groundwater discharge locations. Drainage areas contributing to individual outfalls were determined based on topographic mapping, land use data, and field observations. The drainage boundaries provided reflect flow patterns influenced by watershed topography and locations of stormwater conveyance systems. The proportion of impervious and pervious cover within each drainage area is an important factor influencing runoff volume, pollutant loading, and downstream water quality conditions. Stormwater interconnections convey runoff through shared storm sewer infrastructure prior to discharge and may cross property boundaries, roadway corridors, or municipal jurisdictions. These interconnections can consolidate runoff, and associated pollutant loads at downstream outfalls.

Storm Drain Inlets

The data for storm drain inlets was collected through fieldwork conducted in June 2025. Utilizing existing stormwater infrastructure maps prepared by our firm and/or the Permittee, field crews navigated municipally owned roadways and properties to locate, and field verify each storm drain inlet. Visual analysis was performed to ensure that the observed conditions were accurately recorded, and each data parameter was captured pursuant to the Tier A Municipal Stormwater, Section G1iv. There are 563 storm drain inlets installed in the Township of Mansfield.

MS4 Outfall Drainage Areas

The data used to delineate MS4 outfall drainage areas was collected during fieldwork conducted in June 2025. GPS devices were used to locate and document the positions of all visible and accessible outfalls. Using this outfall data, drainage areas were delineated in QGIS by analyzing surface topography with digital elevation model (DEM) data to determine flow direction and contributing areas for each outfall.

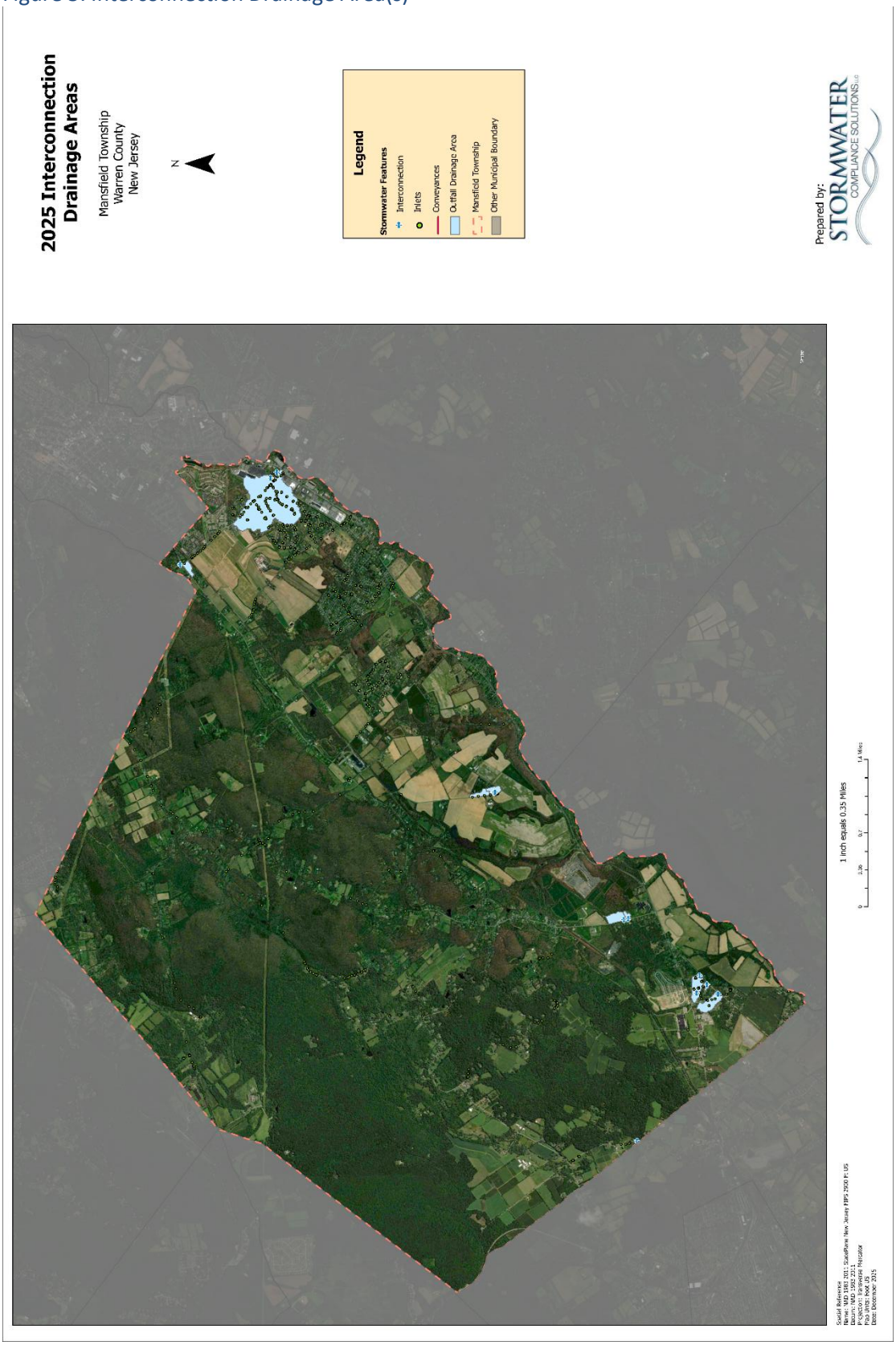
Drainage area of interconnection(s) from Mansfield Township to another entity

The data used to delineate the drainage area of interconnection(s) from Mansfield Township to another entity was collected during fieldwork conducted in June 2025. GPS devices were used to locate and document the positions of all visible and accessible interconnection points. Using this data, drainage areas were delineated in QGIS by analyzing surface topography with digital elevation model (DEM) data to determine flow direction and contributing areas for each interconnection.

Figure 4:Outfall Drainage Area(s)

Digital Map: https://arcg.is/1XvbCL2

Figure 5: Interconnection Drainage Area(s)



Digital Map: https://arcg.is/1XvbCL2

TMDLs and Water Quality Impairments

The identification of TMDLs and water quality impairments was based on outfall data collected through fieldwork collected in 2024, combined with GIS data from the NJDEP Open Data. These outfall locations were then overlayed with the 'Total Maximum Daily Loads (TMDL) for Streamsheds in New Jersey' and 'Total Maximum Daily Loads (TMDL) Historic (Pre-2008) for Streamsheds in New Jersey' shapefiles to determine the TMDLs and any applicable impairments. The shapefiles were retrieved from the NJDEP Open Data portal in July 7, 2025 from the Division of Information Technology, NJDEP Bureau of GIS website: https://gisdata-njdep.opendata.arcgis.com/.

Table 8: TMDL Summary Table

Waterbody	HUC14 Subwatershed	Pollutant	TMDL Status	Typical Load Reduction Target
Musconetcong River Tributaries	Musconetcong River HUC14	Total Phosphorus	Approved TMDL	20–40%
Musconetcong River Tributaries	Musconetcong River HUC14	Total Suspended Solids	Approved TMDL	30–50%
Musconetcong River Tributaries	Musconetcong River HUC14	Bacteria (E. coli)	Approved TMDL	85–95%
Local Village Tributaries	Musconetcong River HUC14	Biological Impairment	Assessment-based	Narrative reduction

Polychlorinated Biphenyls (PCBs)

The term 'PCBs' (Polychlorinated Biphenyls) represents a broad class of toxic industrial chemicals first discovered and synthesized in the late 19th century. Their novel chemical properties led to widespread industrial production and usage peaking between the 1930's and late-1960's. Some products may continue to contain PCBs, including electrical equipment, motor and hydraulic oils, oil-based paint, and some plastics. The recognition of PCB associated health hazards were first noted in the 1960's and their production finally banned in 1979. PCBs can accumulate in the leaves and above-ground parts of plants and food crops. They are also taken up into the bodies of small organisms and fish. As a result, people who ingest fish may be exposed to PCBs that have bioaccumulated in the fish they are ingesting. Their oily nature allows them to accumulate in fatty animal tissues and bioaccumulate up the global food chain where they contribute to organ damage and carcinogenesis in higher-tiered species.

PCBs are easily carried away as TSS by stormwater runoff from products containing the compounds which are exposed to stormwater and known and unknown contaminated areas. PCBs have a moderate level of volatility, which means that their vapors are also readily carried aloft by the wind. They are then deposited on exposed surfaces via air deposition.

MS4 permit conditions that regulate this parameter:

- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Roadside Vegetative Waste Management
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Illicit Discharge Detection and Elimination Program

Temperature

The concentration of dissolved oxygen in the receiving waters is also affected by the temperature of the water. Cold water holds more dissolved oxygen than warm water, so in New Jersey during winter and early spring, the dissolved oxygen concentration in the surface waters is relatively high. However, in summer and fall, the dissolved oxygen concentration is often lower and therefore can pose a risk to designated uses associated with aquatic life. Deeper water also tends to be colder and hold more dissolved oxygen than shallower waters. Yet, turbid waters will absorb more heat. The elevated temperatures are especially harmful to cold water fish, such as trout.

Temperature impairments in the receiving waters can be due to heating of stormwater runoff as it runs across hot paved areas, such as roadways and parking lots, overflow of heated stormwater ponded in basins, stream bank erosion that widens the stream and creates more shallow stream beds, and increased solar incidence in areas where shading vegetation is lacking in the riparian buffer. In addition to the other Tier A permit conditions noted below, the increased temperature impacts associated with stormwater runoff can also be mitigated by implementing green infrastructure measures to manage stormwater runoff at the source rather than direct it into the MS4 and receiving waterbodies, providing proper stormwater management practices, and conducting streambank restoration projects where needed.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

Total Suspended Solids (TSS)

Stormwater runoff can pick up particulates, also known as Total Suspended Solids (TSS), from the land surface and carry the particulates into the receiving waterbodies. TSS is one of the most common pollutants found in stormwater runoff. TSS originates from many sources including areas such as roadways, parking lots and developments, erosion of pervious surfaces such as construction sites and dust, litter and other particles deposited on impervious surfaces from human activities. TSS can be made up of particles from pavement (from wear), vehicle exhaust emissions, vehicle parts, building and construction material, road salt, road paint, pedestrian debris, soil material, plant and leaf litter, and may contain heavy metals as well as atmospheric deposition of particles that may be transported from outside of the municipality (Hopke et al., 1980; Taylor and Owens, 2009; Total Suspended Solids (TSS) in stormwater - Minnesota Stormwater Manual (state.mn.us)).

High concentrations of TSS in the receiving waters can cause problems and negatively impact multiple designated uses, including those related to human health and aquatic life. Excessive TSS can bury benthic organisms and affect the viability of organisms that reside in the water column. These materials can easily

become suspended due to stormwater runoff, erosion, and resuspension from seasonal water flow. TSS can impact not only aquatic organisms but drinking water as well. Organic TSS, such as decomposing matter or sewage effluent from illicit connections and/or SSOs include high levels of microorganisms such as protozoa, bacteria, and viruses. Such pathogens contribute to waterborne diseases like cryptosporidiosis, cholera, and giardiasis. Turbid water, whether due to organic or inorganic material, cannot be easily disinfected at potable water treatment facilities, as the suspended particles will "hide" these microorganisms. Turbidity may also reduce visibility of underwater structures such as logs or large boulders, negatively affecting a water body's recreational use.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

Phosphorous/Total Phosphorous

Phosphorus is a key nutrient for plant growth and is often the limiting nutrient in a freshwater setting. Total phosphorous is the sum of particulate and dissolved phosphorous which includes the total amount of phosphorous in both organic and inorganic forms. High concentrations of phosphorus in receiving waters may result from stormwater runoff due to poor agricultural practices, urban areas, leaking septic systems, illicit discharges or SSOs. Additional stormwater runoff sources of phosphorous include the breakdown of plant and leaf litter (including grass clippings), soil particles, pet and animal waste, fertilizer from lawns, and atmospheric deposition of phosphorus particles. Contribution from runoff from lawns and roads accounts for the greatest loading in many receiving waters. An excess of phosphorus into a water body can have a detrimental effect on designated uses related to both public health and aquatic health. For instance, too much phosphorus in a surface water can cause increased growth of algae and large aquatic plants (a process called eutrophication) causing significant swings in pH and dissolved oxygen, which can in turn result in the violation of surface water quality criteria for these parameters and adversely affect the aquatic community.

Additionally, high levels of phosphorus can also lead to HABs, that produce toxins which can be harmful to human and animal health. The presence of excessive plant biomass can also interfere with other designated uses, such as swimming or boating. When algae are present in large amounts, drinking water purveyors must also increase the use of disinfectants and oxidants to treat the algae, which can lead to an increase in disinfection byproducts such as trihalomethanes, listed as likely carcinogens by EPA.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance

- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

pH

pH (scientifically referred to as the Potential of Hydrogen) measures the concentration of hydrogen ions in a solution and is the indicator of the acidity or alkalinity of a substance, representing its ability to donate or accept hydrogen ions. pH values can range from 0 to 14, with 0 representing the most acidic and 14 representing the most basic. Fluctuations in pH and pH levels outside of the typical levels for a waterbody can negatively impact aquatic life, including reduced biodiversity if those values exceed critical thresholds. These impacts happen when the receiving waters experience even slight changes in pH levels that negatively impact reproduction, growth, and the ability to sustain life for species that live within them.

Pure water has a neutral pH equal to 7 but when chemicals or pollutants are mixed with stormwater runoff, the mixture can become either acidic or basic. Such is the case when stormwater comes into contact with ammonia, sulfur, battery acids, lime, cement, wet or fresh concrete, fertilizers, compost, and other pollutants. This mixing can happen on the ground with runoff, or can happen in the atmosphere with air pollutants causing “acid rain.” When acid rain or pH impacted storm water runoff collect in streams and ponds, the pH of that water body is changed. Microsoft Word - Rain Events Newsletter - June 2010 - CA (wgr-sw.com)

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

Pathogens (Enterococcus, E. coli, Fecal Coliform, Total Coliform)

Pathogens, including enterococcus, E. Coli, fecal coliform, and total coliform, enter the receiving waters when stormwater comes into contact with sources of these pathogens, such as pet waste, animal waste from geese and other wildlife, some farming activities, illicit discharges, failing sewage conveyance

systems and septic systems, combined sewage overflows, and sanitary sewer overflows (SSOs). While sewage treatment plants contribute a steady input of treated sewage to their receiving waters, stormwater runoff is the primary contributor to pathogen loads in the surface waters of the state.

Many of these pathogens affect the designated uses of the receiving waters and are harmful to human or animal health when ingested causing intestinal disease. Pathogens can attack the immune system and cause infections that may result in abdominal issues, respiratory problems, fever, headache, skin rashes, etc. (Water Quality Topics: Pathogens | US EPA).

When receiving surface waters include shellfish harvesting as a designated use, pathogens also pose additional concerns. Proximity to potential sources such as marinas, development served by septic systems and concentrated stormwater outfall locations warrant precautionary closures of shellfish waters on a seasonal or full-time basis. The National Shellfish Sanitation Program has established criteria for pathogens that are used to determine support of the shell fishing use.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

The identification of TMDLs and water quality impairments was based on outfall data collected through fieldwork, combined with GIS data from the NJDEP Open Data. These outfall locations were then overlayed with the 'Total Maximum Daily Loads (TMDL) for Streamsheds in New Jersey' and 'Total Maximum Daily Loads (TMDL) Historic (Pre-2008) for Streamsheds in New Jersey' shapefiles to determine the TMDLs and any applicable impairments. The shapefiles were retrieved from the NJDEP Open Data portal in July 7, 2025 from the Division of Information Technology, NJDEP Bureau of GIS website: https://gisdata-njdep.opendata.arcgis.com/.

The table below lists HUC 14 within or bordering Mansfield Township:

Table 9: TMDLs and Impairments for Subwatershed Within or Bordering Mansfield Township

HUC 14	Subwatershed Name	TMDL(s)	Impairment(s)
02040105090020	Pequest R (Cemetery Road to Drag Strip)	Streamshed Total Phosphorus Streamshed 2008 Fecal Coliform	None
02040105090030	Pequest R (Furnace Bk to Cemetery Road)	Streamshed Total Phosphorus	None

		Streamshed 2008 Fecal Coliform	
02040105090050	Furnace Brook	Streamshed Total Phosphorus Streamshed 2008 Fecal Coliform	PCBS IN FISH TISSUE, PH
02040105140010	Pohatcong Creek (above Rt 31)	Streamshed 2008 Fecal Coliform	TEMPERATURE
02040105140020	Pohatcong Ck (Brass Castle Ck to Rt 31)	Streamshed 2008 Fecal Coliform	PHOSPHORUS, TOTAL, TOTAL SUSPENDED SOLIDS (TSS)
02040105150100	Musconetcong R (Trout Bk to Saxton Falls)	Streamshed 2008 Fecal Coliform	None
02040105160010	Musconetcong R (Hances Bk thru Trout Bk)	Streamshed 2008 Fecal Coliform	TEMPERATURE
02040105160020	Musconetcong R (Changewater to HancesBk)	Streamshed 2008 Fecal Coliform	PH
02040105160030	Musconetcong R (Rt 31 to Changewater)	Streamshed 2008 Fecal Coliform	None

Figure 6: Subwatersheds Within or Bordering Mansfield Township

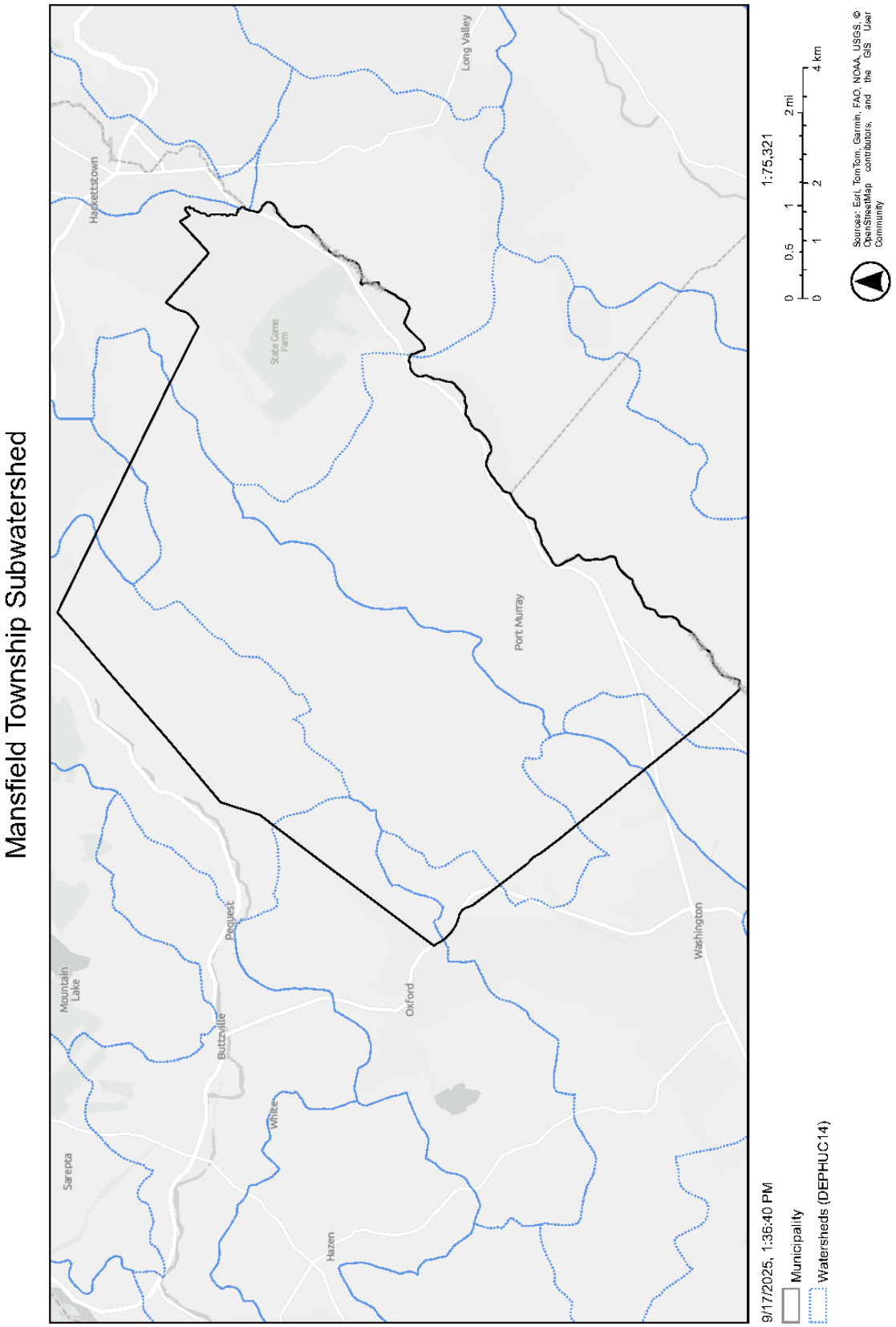


Figure 7: TMDL Streamshed Within or Bordering Mansfield Township

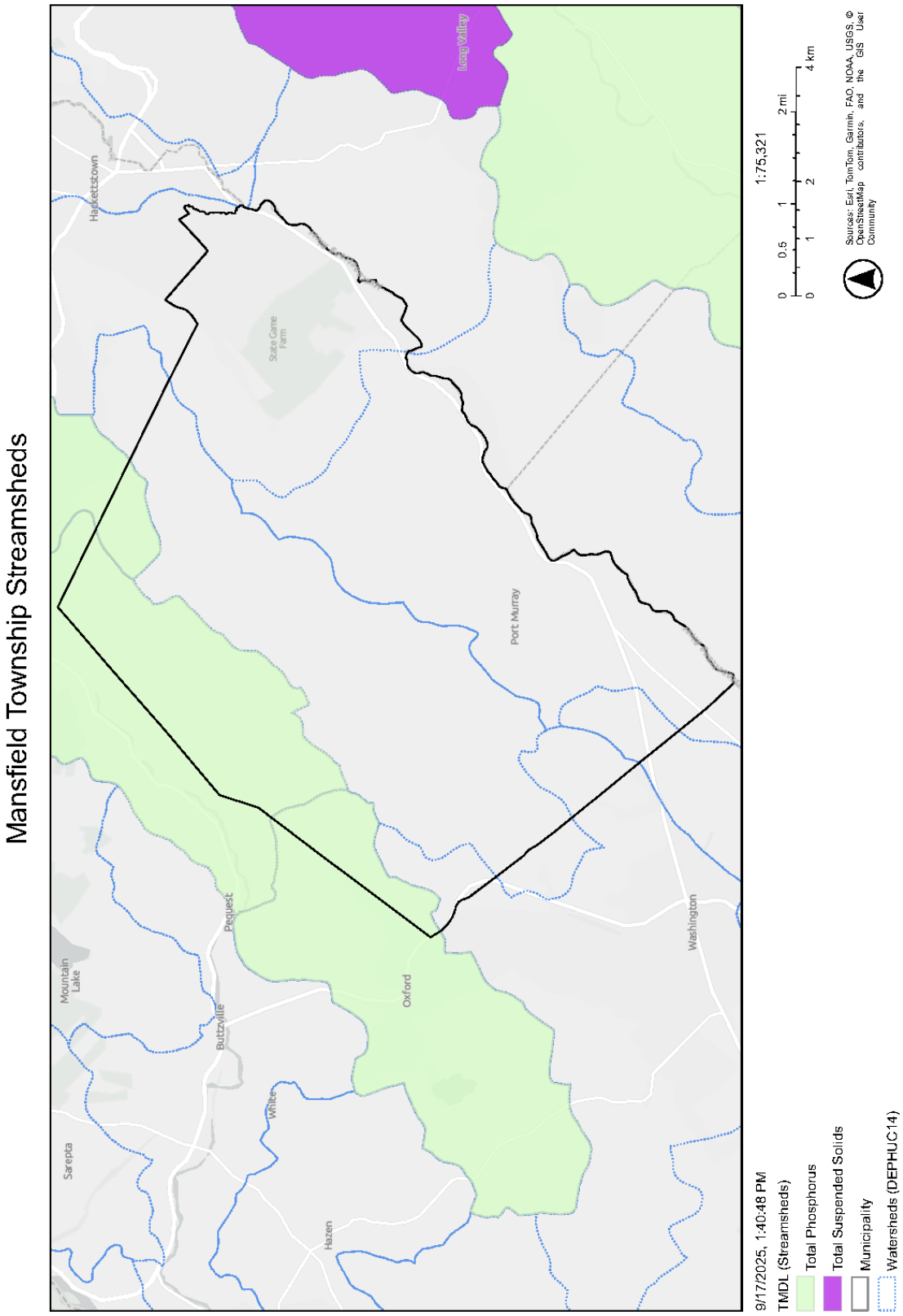
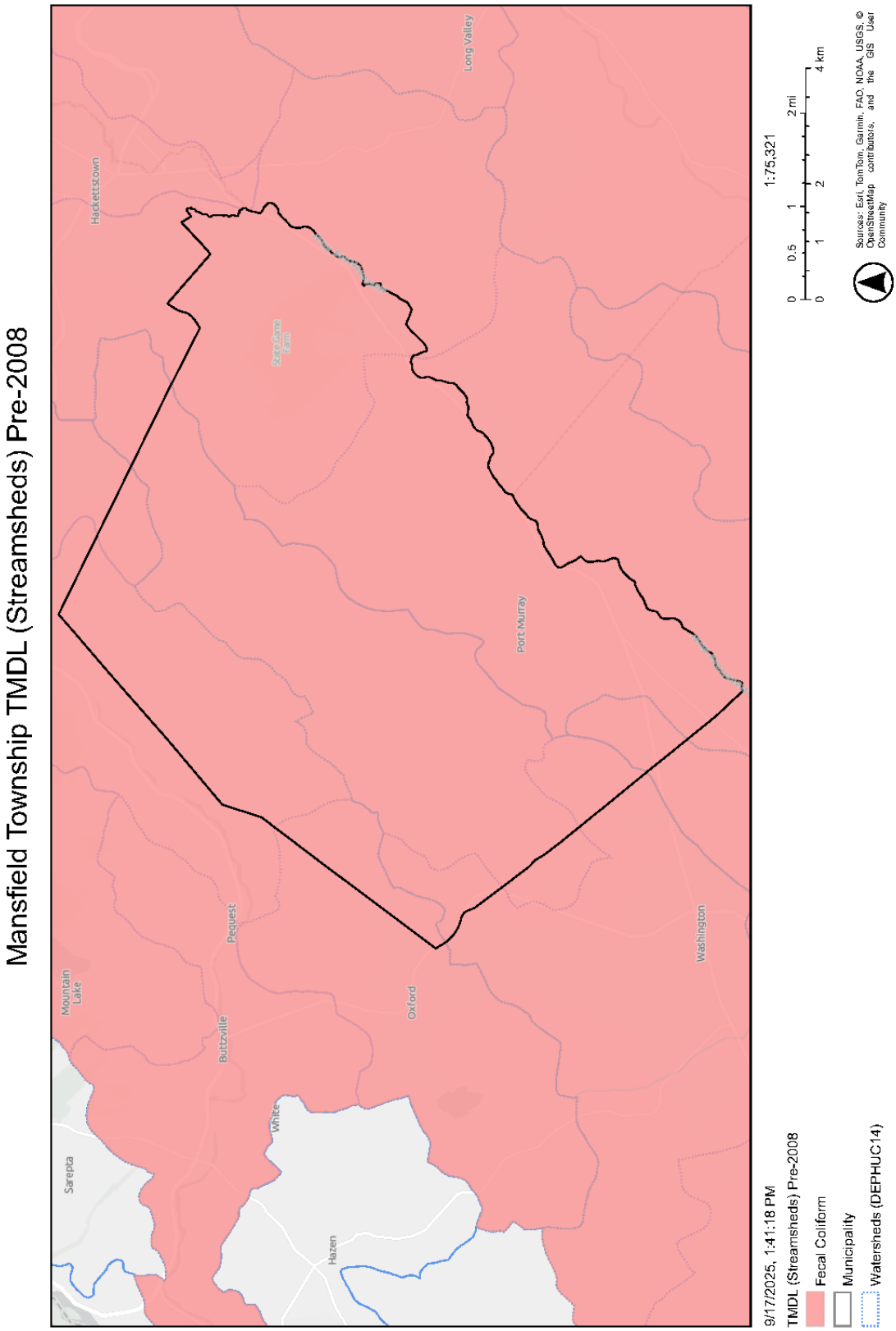


Figure 8: TMDL Streamsheds Pre-2008 Within or Bordering Mansfield Township



Overburdened Communities

The Environmental Justice (EJ) Law (N.J.S.A. 13:1D-157 through 13:1D-165) requires that the NJDEP develop a list of Overburdened Communities (OBCs), to notify municipalities of the block groups that met the criteria, and to develop corresponding dataset mapping. As defined in the EJ law, "overburdened community" means any census block group, as determined in accordance with the most recent United States Census, in which at least: (1) 35 percent of the households qualify as low-income households; (2) 40 percent of the residents identify as minority or as members of a State recognized tribal community; or (3) 40 percent of the households have limited English proficiency.

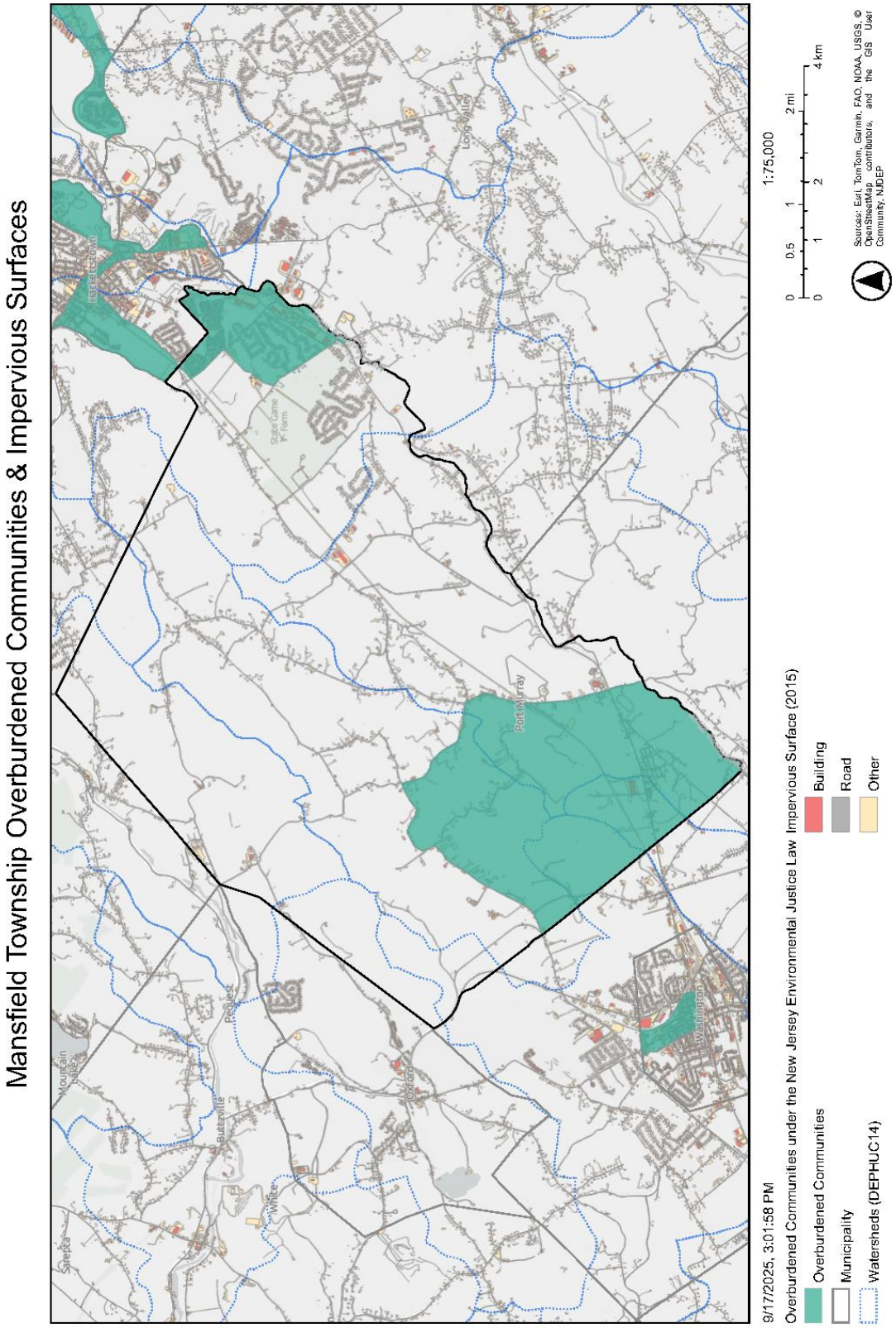
Under the EJ Rules, the Department is required to assess a facility's contributions to relevant environmental and public health stressors affecting an overburdened community and to deny or condition permits where the facility cannot avoid a disproportionate impact. There are eight (8) facility types that may be subject to the EJ rules:

1. Major sources of air pollution/Title V facilities
2. Resource recovery facilities or incinerators
3. Sludge processing facilities, combustors, or incinerators
4. Sewage treatment plants with a capacity of more than 50 million gallons per day
5. Transfer stations or other solid waste facilities, or recycling facilities intending to receive at least 100 tons of recyclable material per day
6. Scrap metal facilities
7. Landfills, including, but not limited to, a landfill that accepts ash, construction or demolition debris, or solid waste
8. Medical waste incinerators, except those that accept regulated medical waste for disposal, or are attendant to a hospital or university and intended to process self-generated regulated medical waste.

Development applications for facilities subject to the EJ Rules that are in (in whole or in part) Overburdened Communities areas (or applications for a permit for a new or expanded facility, or any application for the renewal of an existing facility's major source permit) are required to prepare and submit an environmental justice impact statement to the NJDEP, to the municipal clerk and the municipal governing body, and meet the public notice requirements set forth in the law. Under the EJ Rules, the Department is required to assess a facility's contributions to relevant environmental and public health stressors affecting an overburdened community and to deny or condition permits where the facility cannot avoid a disproportionate impact.

Based on the NJDEP published EJMAP, NJ-WET, and confirmed in December 2025, it is determined that there are two (2) Overburdened Communities areas within the Township of Mansfield.

Figure 9: Overburdened Communities and Impervious Surfaces within Mansfield Township



Impervious Area

Impervious surfaces - including roadways, driveways, parking areas, rooftops, sidewalks, and other paved or compacted surfaces—alter the natural hydrology of the watershed and contribute to stormwater-related water quality impacts. As development increases and impervious coverage expands, the result is an increase in stormwater runoff volumes, elevated peak discharge rates, and greater pollutant transport to receiving waters.

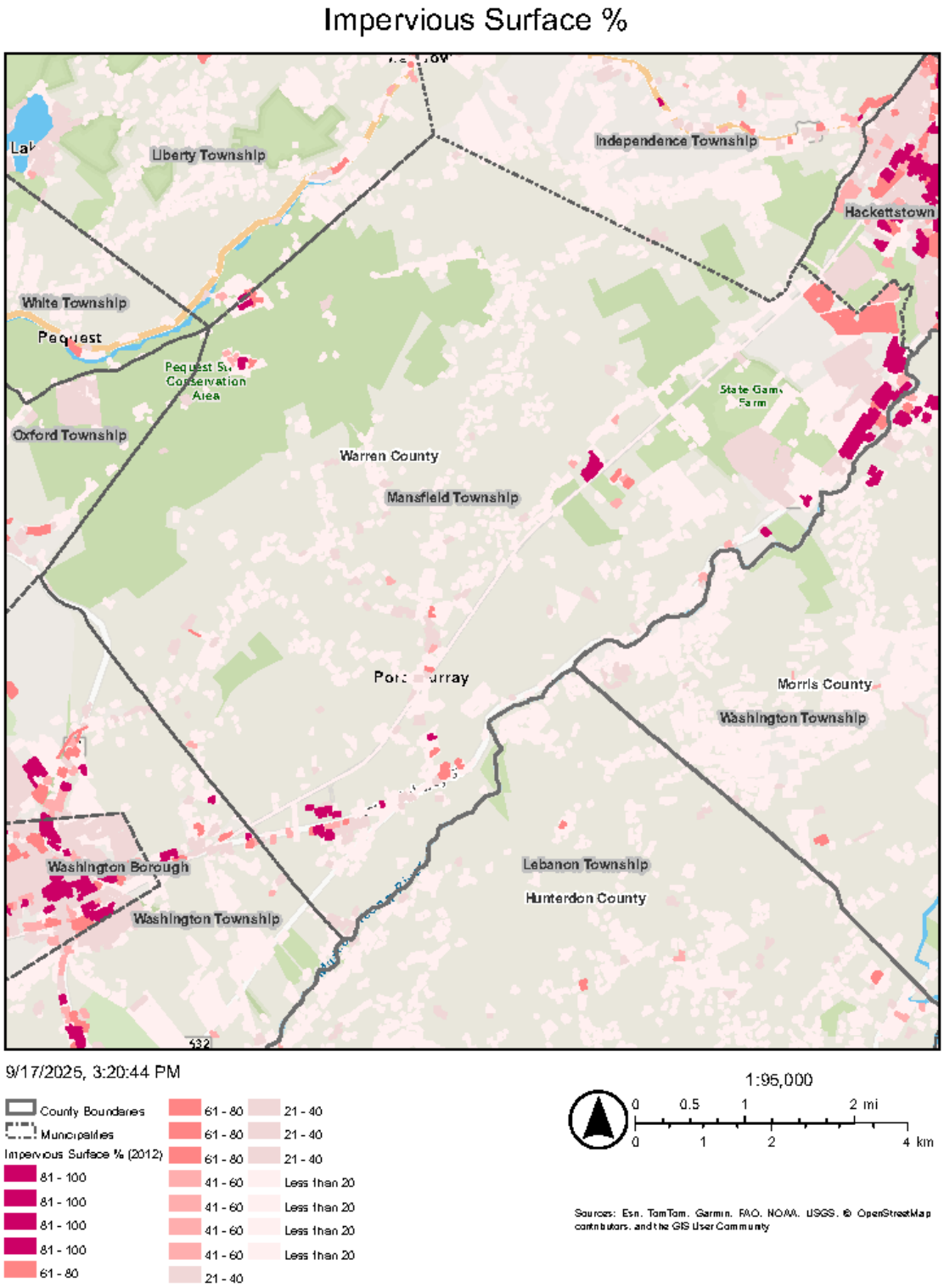
The identification of impervious areas was based on GIS analysis using publicly available data. The dataset used was from the New Jersey Watershed Evaluation Tool (NJ-WET) and was retrieved on July 7, 2025, from the Division of Watershed and Land Management, Bureau of NJPDES Stormwater Permitting & Water Quality Management website: https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/watershed-improvement-plan-guidance/. Additional information was obtained and is available from an August 2021 Impervious Cover Assessment Report prepared by the Rutgers Cooperative Extension Water Resources Program funded by the New Jersey Highlands Water Protection and Planning Council. The table below identifies the percentage of impervious cover in each subwatershed within Mansfield Township jurisdiction.

Table 10: Subwatershed Percent Impervious Cover within Mansfield Township Jurisdiction

Subwatershed	**Percent Impervious**
Pequest R (Cemetery Road to Drag Strip)	0.1%
Pequest R (Furnace Bk to Cemetary Road)	2.4%
Furnace Brook	0.8%
Pohatcong Creek (above Rt 31)	3.4%
Pohatcong Ck (Brass Castle Ck to Rt 31)	2.0%
Musconetcong R (Trout Bk to SaxtonFalls)	17.8%
Musconetcong R (Hances Bk thru Trout Bk)	12.4%
Musconetcong R (Changewater to HancesBk)	5.9%
Musconetcong R (Rt 31 to Changewater)	9.9%

Impervious surfaces limit infiltration and increase the volume and rate of stormwater runoff, thereby significantly impacting watershed hydrology and stream condition. Increases to stormwater rates and volume can result in stream bed erosion, diminish bank integrity, adversely affect habitat and aquatic communities, and accelerate the transport of pollutants, sediment, nutrients, metals, hydrocarbons, and fecal bacteria, to surface waters. Runoff from paved surfaces can also elevate stream temperatures and reduce dissolved oxygen, which, in turn, diminishes stream conditions and aquatic ecosystems.

Figure 10:Mansfield Township Impervious Surface %



Non-Municipally Owned or Operated Stormwater Facilities

Privately-owned stormwater systems are an important part of a comprehensive municipal stormwater management system. The identification of these facilities helps to accurately assess watershed conditions, quantify pollutant sources, and identify TMDL improvement strategies in a watershed improvement plan. The private systems discharge to the same municipal conveyances as the public systems, so including them strengthens the consistency of long-term planning efforts, while also helping to identify issues (erosion, sedimentation, illicit discharges, etc.) that may arise. Examples of structural privately-owned stormwater systems can include:

- Bioretention Systems (large-scale)
- Blue Roofs
- Cisterns
- Dry Wells
- Extended Detention Basins
- Grass Swales
- Green Roofs
- Infiltration Basins (large-scale)
- Manufactured Treatment Devices (MTDs)
- Pervious Paving Systems
- Sand Filters (large-scale)
- Small-scale Bioretention Systems
- Small-scale Infiltration Basins
- Small-scale Sand Filters
- Standard Constructed Wetlands
- Stormwater Outfalls
- Subsurface Gravel Wetlands
- Vegetative Filter Strips
- Wet Ponds

Non-municipally owned or operated stormwater facilities were identified through fieldwork in June 2025, supplemented by publicly available data and input from Mansfield Township. Field crews verified site conditions and recorded required parameters per Tier A Permit Section G1viii.The New Jersey Hydrologic Modeling (H&H) Database was also used to support identification. The dataset used was from the New Jersey Hydrologic Modeling Database (H&H Database) and was retrieved on July 7, 2025, from the Rutgers University HydroLab website: https://hydro.rutgers.edu/about/.

Table 11: Subwatersheds That Have Non-Municipally Owned or Operated Stormwater Infrastructure

HUC-14	**Sub-Watershed Name**
02040105090030	Pequest R (Furnace Bk to Cemetery Road)
02040105160010	Musconetcong R (Hances Bk thru Trout Bk)
02040105160020	Musconetcong R (Changewater to HancesBk)
02040105160030	Musconetcong R (Rt 31 to Changewater)

Table 12: Type, Quantity, Block and Lot, and Owner of the Infrastructure Within Each Subwatershed

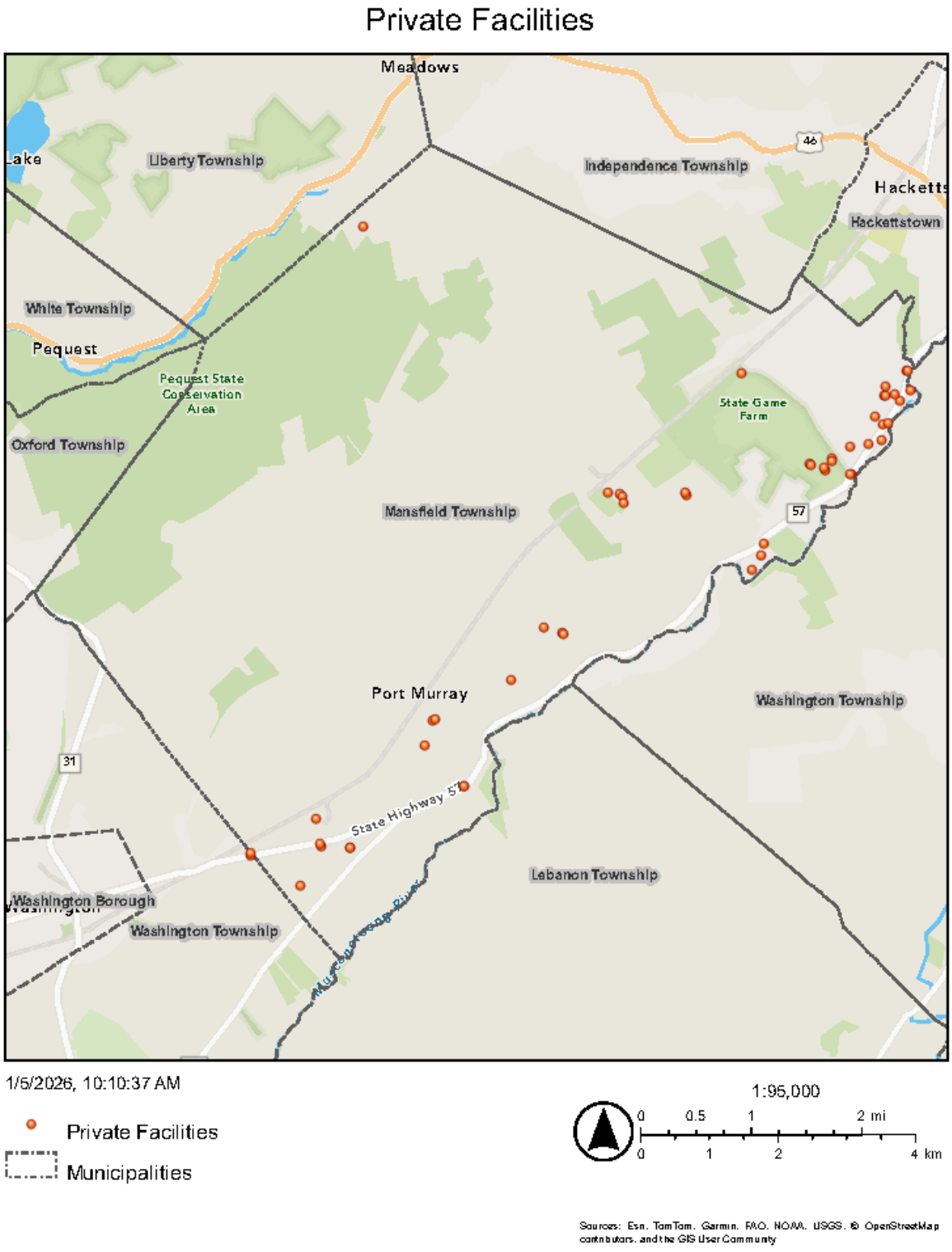
Owner	Block	Lot	Type	HUC_14	Subwatershed
	1201	22.08	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1201	22.08	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1201	22.08	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Airport Road Estates	1201	22.08	Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1201	22	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Airport Road Estates Major Subdivision	1201	22	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1403	1	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Castle Creek Estates	1403	1	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
	1301	3.15	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Church of the Covenant	1301	3.15	Outfall	2040105160020	Musconetcong R (Changewater to HancesBk)
Commercial Site Plan	1202	3, 5	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Connelly Site Plan	1103	3	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
COVENANT CHURCH OF1	2705	7-12	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Edhard Site Plan	1301	6	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Fast Moving Site Plan	1301	13.16	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)

First Baptist Church of Anderson	2705	7-12	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Fujiyama Restaurant	1104	7	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1402	23	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
Golden Hills	1402	23	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
	1204	1	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Grandview Estates	1204	1	Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Harvest Meadow	1509	8	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
	1105	11.07	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
JNC Enterprises & Realty	1105	11.07	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1105	43	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Kensington Estates II	1105	43	Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Major Subdivision	1202	3	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1105	12	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1105	12	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Mansfield Commons Shopping Center	1105	12	Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Mansfield Emergency Medical Service	1201	23	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)

Mansfield Mall	1104	10, 11	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1402	5	Infiltration	2040105160020	Musconetcong R (Changewater to HancesBk)
Mansfield Park IA	1402	5	Outfall	2040105160020	Musconetcong R (Changewater to HancesBk)
Mansfield Village Square	1102	9	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1501	1	Detention	2040105160030	Musconetcong R (Rt 31 to Changewater)
MARKAN GLOBAL	1501	1	Outfall	2040105160030	Musconetcong R (Rt 31 to Changewater)
Mayberry Sales & Service	1402	6	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
	1509	6	Detention	2040105160030	Musconetcong R (Rt 31 to Changewater)
NATIONAL ARMORY	1509	6	Outfall	2040105160030	Musconetcong R (Rt 31 to Changewater)
NYK Logistics	1501	7	Infiltration \ Detention	2040105160030	Musconetcong R (Rt 31 to Changewater)
	1102	4.01, 4.03	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
PNC Bank	1102	4.01, 4.03	Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Route 57 Associates	1202	4	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
	1502	2.01	Detention	2040105160020	Musconetcong R (Changewater to HancesBk)
St. Theodore RC Church	1502	2.01	Detention Outfall	2040105160020	Musconetcong R (Changewater to HancesBk)
VILLAGE SQUARE 2	1105	19	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)

	1105	12.01, 12.02	Detention	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Weis Markets #145	1105	12.01, 12.02	Detention Outfall	2040105160010	Musconetcong R (Hances Bk thru Trout Bk)
Windsor Estates	101	34	Infiltration	2040105090030	Pequest R (Furnace Bk to Cemetery Road)

Figure 11: Non-municipally Owned/Operated Stormwater Infrastructure in Mansfield Township



Conclusion

The Watershed Inventory Report, Phase 1 of the Watershed Improvement Plan, identifies stormwater infrastructure, as required in the NJDEP Tier A MS4 permit. As the Township continues its work in collaboration with the stakeholders, environmental partners, municipal neighbors, and the residents of Mansfield Township during Phases II & III, it will develop an actionable plan to address areas of concern and reduce stormwater-driven water quality impairments.

The implementation of watershed improvement projects and supplemental actions that are identified and prioritized will be coordinated with stormwater planning and secured funding. Progress will be tracked through stormwater management records, inspections, and reporting in NJDEP MS4 Annual Reports. The Township of Mansfield will continue its focus on best management practices and sustained public engagement as it works to protect and enhance critical local waterways and reduce local flooding risks.