Stormwater Pollution Prevention Plan and Compliance Folder for Maplewood Township

Prepared by: The RBA Group

Stormwater Pollution Plan Update

May 2022

Paul J. Kittner Jr, PE, PP, CME

Township Engineer

Township of Maplewood, Essex County, New Jersey

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Section 1

Stormwater Pollution Prevention Team

Tier A Municipal Stormwater Regulation Program

Stormwater Pollution Prevention Team Members

Number of team members may vary.

Completed by: *Paul J. Kittner Jr, PE, PP, CME*
Title: *Township Engineer*
Date: *05/27/22*
Municipality: *Maplewood Township*
County: *Essex*
NJPDES #: NJG*0154687*
PI ID #: *203744*

Stormwater Program Coordinator: *Paul J. Kittner Jr., P.E, P.P., C.M.E.*
Title: *Township Engineer*
Office Phone #: *973-762-8120*
Emergency Phone #: *201-452-9603*

Public Notice Coordinator: *Elizabeth J. Fritzen*
Title: *Township Clerk*
Office Phone #: *973-762-8120 x2100*
Emergency Phone #: *973-467-0210*

Post-Construction Stormwater Management Coordinator: *Paul J. Kittner Jr, P.E, P.P., C.M.E.*
Title: *Township Engineer*
Office Phone #: *973-762-8120*
Emergency Phone #: *201-452-9603*

Local Public Education Coordinator: *Candice Davenport*
Title: *Health Officer*
Office Phone #: *973-762-8120 x4400*
Emergency Phone #: *973-479-8520*

Ordinance Coordinator: *Elizabeth J. Fritzen*
Title: *Township Clerk*
Office Phone #: *973-762-8120 x2100*
Emergency Phone #: *973-467-0210*

Public Works Coordinator: *Paul J. Kittner Jr. PE, PP, CME*
Title: *Director of Public Works*
Office Phone #: *973-762-1175*
Emergency Phone #: *201-452-9603*

Employee Training Coordinator: *Paul J. Kittner Jr. PE, PP, CME*
Title: *Director of Public Works*
Office Phone #: *973-762-1175*
Emergency Phone #: *201-452-9603*

Other: *Paul J. Kittner Jr. PE, PP, CME*
Title: *DPW Sewer Supervisor*
Office Phone #: *973-762-1175*
Emergency Phone #: *201-452-9603*

Section 2

Public Notice

SPPP Form 2 - Public Notice

Municipality Information

Municipality: *Maplewood Township* County: *Essex*

NJPDES # : NJG*0154687* PI ID #:*203744*

Team Member/Title:*Elizabeth J. Fritzen / Township Clerk*

Effective Date of Permit Authorization (EDPA):*April 4, 2004*

Date of Completion: *March 1, 2005* Date of most recent update: *May 27, 2022*

Briefly outline the principal ways in which you comply with applicable State and local public notice requirements when providing for public participation in the development and implementation of your stormwater program.

For meetings where public notice is required under the Open Public Meetings Act ("Sunshine Law," N.J.S.A. 10:4-6 et seq.), Maplewood Township provides public notice in a manner that complies with the requirements of that Act. Also, in regard to the passage of ordinances, Maplewood Township provides public notice in a manner that complies with the requirements of N.J.S.A. 40:49-1 et seq. In addition, for municipal actions (e.g., adoption of the municipal stormwater management plan) subject to public notice requirements in the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.), Maplewood Township complies with those requirements.

Section 3

Post Construction Stormwater Management in New Development and Redevelopment

SPPP Form 3 – New Development and Redevelopment Program

Municipality Information

Municipality: *Maplewood Township* County: *Essex*

NJPDES # : NJG*0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P. Township Engineer*

Effective Date of Permit Authorization (EDPA): *April 1, 2004*

Date of Completion: *April 1, 2005* Date of most recent update: *May 27, 2022*

Describe in general terms your post-construction stormwater management in new development and redevelopment program (post-construction program), and how it complies with the Tier A Permit minimum standard. This description must address compliance with the Residential Site Improvement Standards for stormwater management; ensuring adequate long-term operation and maintenance of BMPs (including BMPs on property that you own or operate); design of storm drain inlets (including inlets that you install); and preparation, adoption, approval, and implementation of a municipal stormwater management plan and municipal stormwater control ordinance(s). Attach additional pages as necessary. Some additional specific information (mainly about that plan and ordinance(s)) will be provided in your annual reports.

To control stormwater from new development and redevelopment projects throughout Maplewood Township (including projects we operate) we will do the following:

We are already ensuring that all new residential development and redevelopment projects that are subject to the Residential Site Improvement Standards for stormwater mangement (including the NJDEP Stormwater Management rules, N.J.A.C. 7:8, referened in those standards) are in compliance with those standards. Our planning and zoning boards under the guidance of their respective Board Engineers ensure such compliance before issuing preliminary or final subdivision or site plan approvals under the Municipal Land Use Law.

The approved Municipal Stormwater Management Plan (MSWMP) and Stormwater Management & Control ordinance have been adopted. The ordinances will be adminstered by our planning and zoning boards under the guidance of the Board Engineer and code enforcement officer. The new provisons will allow for control of stormwater from non-residential development and redevelopment projects. Where it is necessary to implement the municipal stormwater management plan, the approved ordinance will also control aspects of residential development and redevelopment projects that are not subject to the Residential Site Improvement Standards. Any new development or redevelopment on property owned by the Township of Maplewood will comply with the ordinance requirements also.

Maplewood has also passed revised Stormwater Ordinances, which are in accordance with the latest njdep BMP's.

Section 4

Local Public Education

SPPP Form 4- Local Public Education Program

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Candic Davenport/ Health Officer*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *03/01/05* Date of most recent update: *May 27, 2022*

Local Public Education Program

Describe your Local Public Education Program. Be specific on how you will distribute your educational information, and how you will conduct your annual event. Attach additional pages with the date(s) of your annual mailing and the date and location of your annual event. *In accordance with Attachment E and the new approved activities, Maplewood Township will meet the minimum required activity points. The qualifying activities will vary on annual basis. Maplewood Township will continue to publish the NJDEP literature in the Spring edition of our newsletter that is mailed to all residents. The Township also participates in Spring River Cleanups inviting residents to educate them on the importance of our waterways. Educational material is also available on our updated website. The Township also participates in Leaflet pamphlets, advertising good stormwater practices*

Attachment E

Local Public Education Approved Activities and Point Totals

A. Tier A Municipalities shall conduct educational activities that total a minimum of 10 points annually. Each approved activity is listed below with an assigned point value.

1. **School Presentations** - Present educational classes/assemblies to local elementary, middle, and/or high school classes. (1 point per visit / maximum of 5 points per year)

2. **Website** – Maintain a stormwater related page on the municipal website and include a link to www.cleanwaternj.org. (1 point)

3. **Stormwater Display** – Present a stormwater related display and materials at any municipal event (e.g., Earth Day, town picnic) or maintain a display at the municipal building (2 points)

4. **Giveaway** – Distribute an item with a stormwater related message (e.g., refrigerator magnets, temporary tattoos, bookmarks, coloring books, and pens or pencils). Municipality must purchase a minimum number of the item equal to 10% of the municipal population. (2 points)

5. **Citizen Stormwater Advisory Committee** – Establish a subcommittee to the Environmental Commission to identify, coordinate and implement stormwater related programs. (2 points)

6. **Utilize Department Materials** - Use Department created stormwater education materials, which can be found on www.cleanwaternj.org to publish an ad in a newspaper that serves the municipality; broadcast a radio or television commercial on a local radio or municipal public service channel; produce a billboard or sign which can be displayed on a bus, bus stop shelter, or at a recreation field (outfield sign). (2 points each / maximum of 4 points per year)

7. **Poster Contest** – Organize a poster contest with a local school district. Poster themes shall have an appropriate stormwater message. Posters are to be displayed at buildings within the municipality such as at the town hall, library, or school. (2 points)

8. **Stormwater Training for Elected Municipal Officials** – Conduct a program for all elected municipal officials which educates them on the Stormwater Management Rules (N.J.A.C. 7:8), Tier A Permit and what steps the municipality has already taken to minimize stormwater pollution. (3 points)

9. **Mural** – Facilitate the planning and painting of a stormwater pollution themed mural at a local downtown/commercial area. (3 points)

10. **Mailing** – Distribute any of the Department's educational brochures, tip cards, or a municipally produced equivalent (e.g, calendar, recycling schedule), to every resident and business in the municipality. (3 points)

11. **Partnership Agreement / Local Event** - Identify and enter into a partnership

Township website

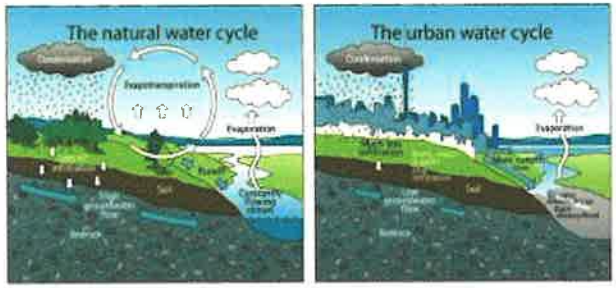
Stormwater Management Regulations

Prepared by the Township of Maplewood Engineering Department

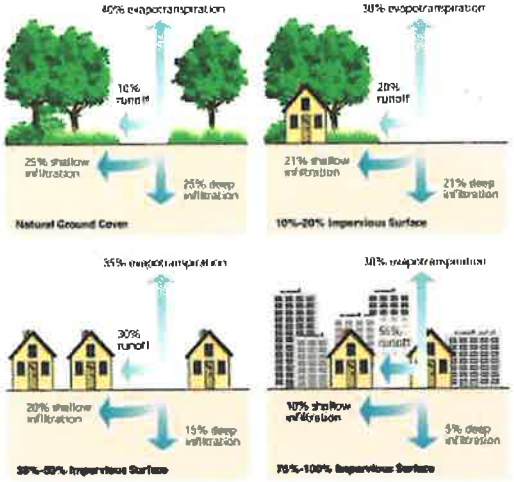
Stormwater Requirement Objectives

- Stormwater Quantity – Rates and volumes of stormwater runoff from a development site
  - Reduce peak post-development runoff rates
- Stormwater Quality – Accumulation of pollutants that stormwater runoff transports to waterways
  - Remove Total Suspended Solids (TSS)
  - Maximize nutrient removal from post-development runoff
- Groundwater Recharge – Downward movement of water replenishing subsurface groundwater supplies
  - Prevent the loss of groundwater recharge from pre- to post-development conditions

Effect of Development on the Water Cycle



Effects of Development on Runoff and Infiltration



Low Impact Development (LID)

An innovative stormwater management approach that uses Best Management Practices (BMPs) that work with nature to manage stormwater as close to its source as possible.

Structural BMPs

- Bioretention System
- Constructed Stormwater Wetlands
- Dry Wells
- Extended Detention Basins
- Infiltration Basins
- Manufactured Treatment Devices
- Pervious Paving Systems
- Rooftop Vegetation
- Sand Filters
- Vegetative Filters
- Wet Ponds

Nonstructural BMPs

- Preservation of Natural Areas
- Native Ground Cover
- Vegetative Buffers
- Minimization of Land Disturbance
- Impervious Area Management
- Surface Roughness Changes
- Land Slope Reduction
- Utilization of Natural Flow Pathways
- Vegetated Conveyance
- Enhancement of Riparian Areas
- Utilization of Cluster Development Design

Stormwater Inlet Retrofit with Eco-Safe Bar and Bicycle Safe Grate

Solids and Floatable Control

- Street Sweeping
- Storm Drain Inlet Retrofitting
  - NJDOT Bicycle Safe Grate
  - Curb Inlet Openings
- Stormwater Facility Maintenance
- Road Erosion Control
- Outfall Pipe Stream Scouring Remediation

Improper Disposal of Waste

- Pet Waste Collection and Proper Disposal
- Litter Collection and Proper Disposal
- No Dumping into Storm Sewers
- Wildlife Feeding Prohibited
- Outfall Pipe Mapping and Inspections
- Illicit Connections Prohibited

Maintenance of Yard Operations

Areas of focus for preventing spillage of harmful chemicals containing pollutants from washing into the storm sewer systems and eventually discharging into surface waters:

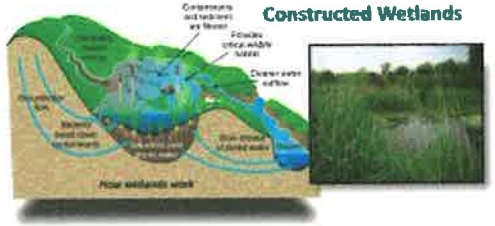
- De-Icing Material and Sand Storage
- Fueling Operations
- Vehicle Maintenance
- Good Housekeeping

Best Management Practices (BMPs)

Pervious Pavement

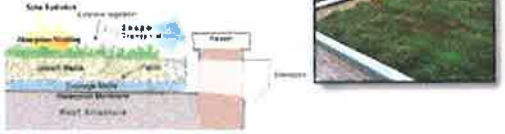
Dry Well

Constructed Wetlands



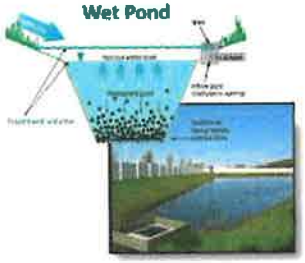
Rain Garden / Bioretention Basin

Rooftop Vegetation



Manufactured Treatment Device

Wet Pond



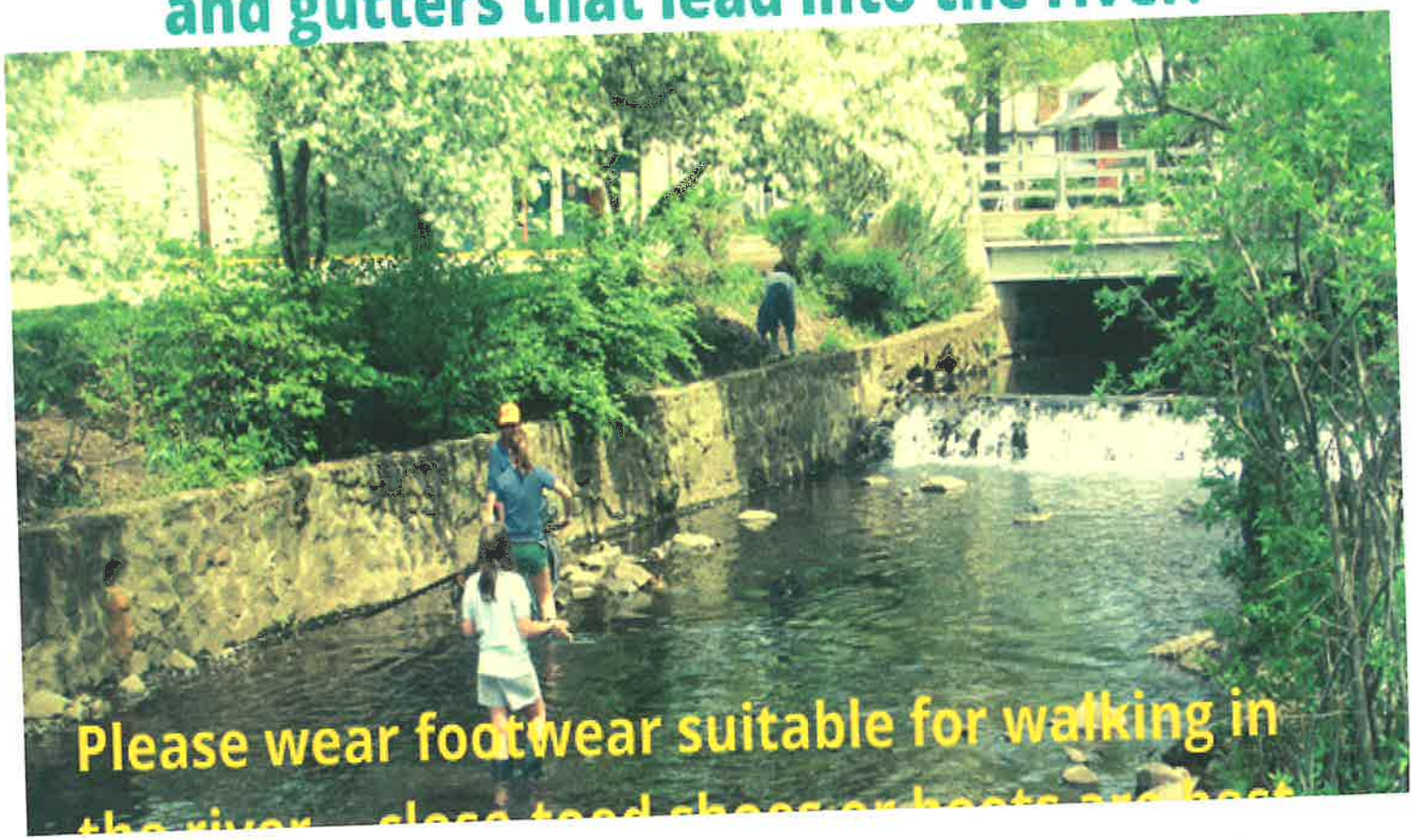
Maplewood Rahway River Cleanup

Saturday, April 23, 2022

10 am -2 pm

Check-in table at the bridge near the Civic House (124 Dunnell Road) and in the high school parking lot near Parker Avenue.

Don't feel like going into the river?
You can help clean up the park, the parking lot, and gutters that lead into the river.



SPRING 2022
Leaflet

Stormwater Management:

The Department of Engineering and Public Works would like this opportunity to discuss stormwater management, specifically stormwater pollution. Per New Jersey Department of Environmental Protection (NJDEP), stormwater pollution is defined as the following:

> Water from rain and melting snow that flows over lawns, parking lots and streets is known as stormwater runoff. This water, which travels along gutters, into catch basins and through storm drain pipes and ditches, usually is not treated, but then flows or is discharged into local waterbodies. Along the way, the stormwater picks up trash (fast-food wrappers, cigarette butts, styrofoam cups, etc.) and toxins and other pollutants (gas, motor oil, antifreeze, fertilizers, pesticides and pet droppings). This polluted stormwater can kill fish and other wildlife, destroy wildlife habitat, contaminate drinking water sources and force the closing of beaches because of health threats to swimmers.

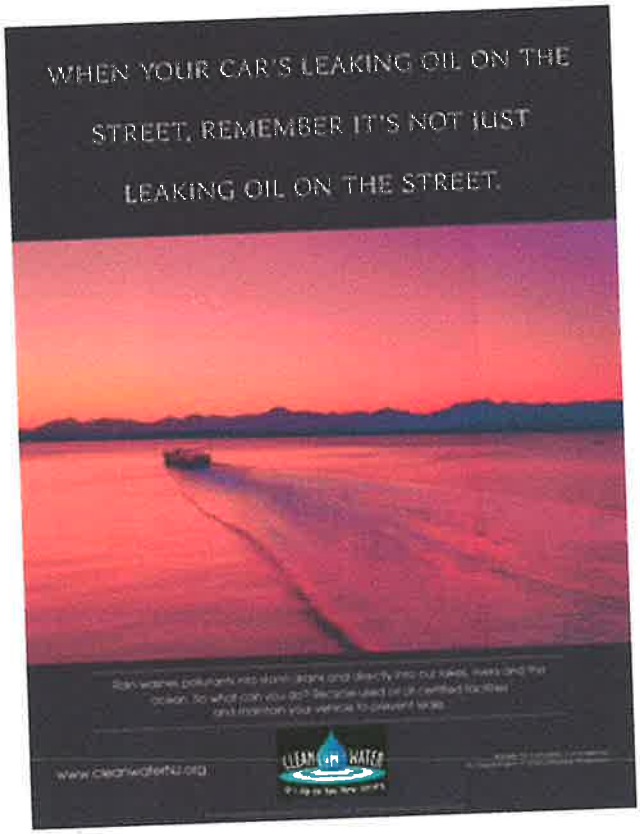
Human activity is mostly responsible for the pollution. Anything discarded inappropriately can make its way in our stormwater management system and can lead to pollution. Fortunately, we as a community, are able to do something about it. Here are a few tips from NJDEP to keep in mind:

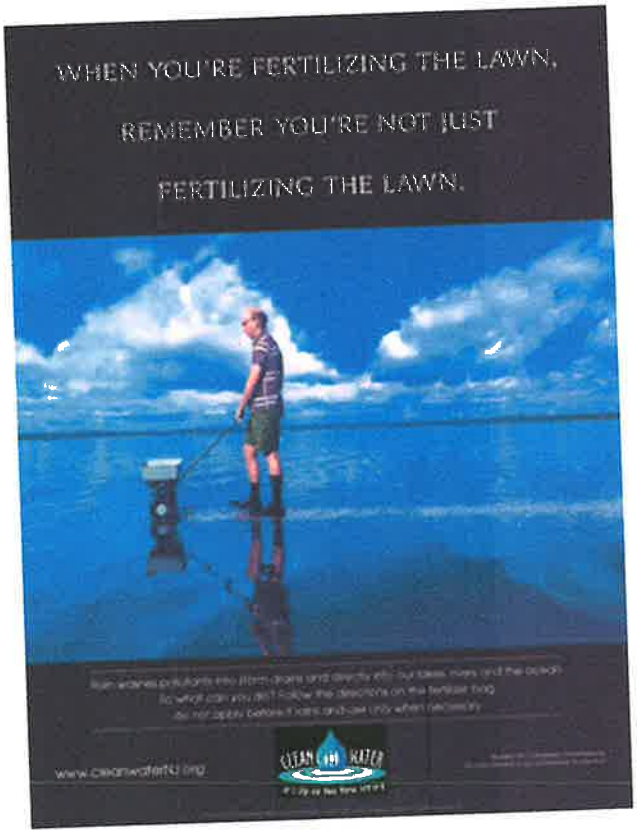
1. Gardening:
    a. Conserve water by watering during cooler times of the day.
    b. Use natural pesticides such as milky spore.
    c. Test your lawn to check if you need to fertilize or not.
    d. Use mulch on flower beds and gardens to prevent weeds and to help absorb water.

2. Pets:
    a. Pick up after your pet. Ensure proper disposal of waste into the trash or toilet.
    b. Carry a newspaper or plastic back to pick up waste when you walk your pet.
    c. Do not feed wildlife such as geese as this results in more pollution from their wastes.

3. At Home:
    a. Shop for nonhazardous, biodegradable and phosphorous-free cleaning products.
    b. Keep trash cans closes to prevent trash from scattering.
    c. If you use hazardous substances such as paints and cleaners, use them sparingly and store them properly to avoid spills

For more information and tips, please visit NJDEP's Clean Water NJ website at www.cleanwaternj.org.





Paul Kittner

From: Paul Kittner
Sent: Friday, May 27, 2022 3:46 PM
To: Paul Kittner
Subject: FW: Maplewood Weekly Update - April 22

Paul J. Kittner, Jr., PE, PP, CME
Director of Public Works/Township Engineer

Township of Maplewood
574 Valley Street
Maplewood, NJ 07040
Tel #: 201-452-9603
Fax #: 973-762-2894

From: Township of Maplewood, New Jersey [mailto:MaplewoodNJ@public.govdelivery.com]
Sent: Monday, April 25, 2022 4:23 PM
To: Paul Kittner <engineer@twp.maplewood.nj.us>
Subject: Maplewood Weekly Update - April 22

Maplewood Weekly Update - April 22

Post Date: 04/22/2022 4:00 PM

Welcome to the Weekly Update, where we provide a brief overview of the week's announcements from Maplewood Township. In honor of Earth Day, this week we're starting off with a highlight of environmentally-friendly events happening this weekend:

FREE Tree Seedlings for Maplewood Residents Free tree seedlings will be available to Maplewood residents as part of the New Jersey Forest Service's New Jersey Tree Recovery Campaign.

Maplewood Green Day Maplewood will be hosting our 11th Green Day fair, demonstrating simple ways that every person can make more planet-friendly, sustainable choices in their lives.

Maplewood Rahway River Cleanup ALL are welcome and individuals who do not wish to enter the water are encouraged to attend and assist with cleanup in the park, parking lot, and nearby gutters.

Here's what else is going on:

Ideas Festival 2022 Continues The Maplewood Library Ideas Festival, which celebrates the talent and creativity of the Maplewood Community, continues next week with several special guests.

Health Insurance 101 Webinar 4/26 The Maplewood Health Department and Horizon Blue Cross Blue Shield of New Jersey are hosting "Health Insurance 101," a lunch and learn covering basic health insurance inquiries.

Free Youth Mental Health First Aid Training Family Connections' ADAPT Coalition invites you to attend a FREE Youth Mental Health First Aid Training in Essex County.

Prescription Drug Take Back Day April 30 The Maplewood Health Department will be hosting a Prescription Drug Take Back day at the Maplewood Police Headquarters. Attendees will be able to safely dispose of unused or expired medication as well as vape pens and e-cigarettes without batteries.

We're Hiring - Age-Friendly Coordinator The coordinator will perform a wide range of community outreach, planning, program assessment, program design and management functions to advance the goals of the SOMA Two Towns for All Ages initiative.

Virtual Narcan Training 5/3 Essex County, Family Connections' ADAPT Coalition, and Rutgers University invite you to a virtual Narcan training. Attendees will learn how to recognize and respond to an opioid overdose using Narcan nasal spray.

Applications for Community Board on Police Open Through 5/6 The Maplewood Community Board on Police (MCBoP) is now accepting applications for two community-at-large members.

Free Wellness Screenings from Maplewood and Braven Health The Maplewood Health Department has partnered with Braven Health to offer FREE wellness screenings to all residents ages 18+.

That's all for now. Have a great weekend!
Click here for more information

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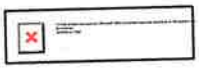
This email was sent to engineer@twp.maplewood.nj.us using govDelivery Communications Cloud on behalf of: Township of Maplewood, New Jersey · 574 Valley St., Maplewood Township, NJ 07040



Township website

CONTACT

Public Works

359 Boyden Avenue

Maplewood Township, NJ 07040

(973) 762-1175

Stormwater Management

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  - Test your lawn to check if you need to fertilize or not.
  - Use mulch on flower beds and gardens to prevent weeds and to help absorb water.

- Pets:
  - Do not feed wildlife such as geese as this results in more pollution from their wastes.
  - Pick up after your pet. Ensure proper disposal of waste into the trash or toilet.
  - Carry a newspaper or plastic back to pick up waste when you walk your pet.

- At Home:
  - Shop for non-hazardous, biodegradable and phosphorous-free cleaning products.

- Keep trash cans closes to prevent trash from scattering.
- If you use hazardous substances such as paints and cleaners, use them sparingly and store them properly to avoid spills

For more information and tips, please visit NJDEP's Clean Water NJ website at www.cleanwaternj.org.

Township website

RESOURCES

Americans with Disabilities Act

FEMA Flood Maps

NJDEP Flood Plain Rules

Residential Site Improvement Standards

Stormwater Management

Stormwater Pollution Prevention Plan

Maplewood Zoning Map

Engineering Division

Responsibilities

The Engineering Department of Maplewood Township is responsible for a broad spectrum of duties. These duties include, among other things, design and implementation of road improvements, storm and sanitary sewer maintenance and upgrades, traffic calming and any other engineering tasks that arise. The Department utilizes the services of outside consulting engineers as needed to complete design tasks.

The Engineering department works with a consulting engineer, and an attorney that service both the Planning and Zoning Boards and two administrative personnel including the secretary of the two boards. Together the personnel function as a team to address a multitude of issues that arise daily.

Capital Improvements

Capital improvements are the main focus of the department. The improvements include:

- Budgeting, planning, tax map maintenance, and grant writing
- Improving and reconstructing roads, sewer, parks, ball fields, buildings, and traffic systems
- Remediate environmental hazards
- Surveying, inspecting construction, designing capital projects, and reviewing site plans

Pet Waste Pollutes Our Waters

What You Can Do To Help Protect Our Water

Clean and plentiful water is important to our families, our environment, our economy and our quality of life.

Did you know that animal waste from pets can pollute our waters? When left on the ground, pet waste is washed by rain and melting snow and ice into storm drains that carry it to our rivers, lakes, the ocean and drinking water.

Animal waste contains a high concentration of nutrients as well as bacteria and disease-causing microorganisms that can cause problems.

What you can do

Pet owners or anyone who takes your pet for walks must properly dispose of the waste by picking it up, wrapping it and either placing it in the trash or flushing it unwrapped down the toilet.

Your municipality is required to adopt and enforce local pet-waste laws. At a minimum, your community must require that pet owners or their keepers **immediately** and **properly** dispose of their pet's solid waste deposited on **any public or private property not owned or possessed by that person.** People with assistance animals such as Seeing Eye dogs are exempt.

Make sure you know what your municipality requires – and follow it.

Thank you for doing your part to keep New Jersey's waters clean.

For more information, please contact the following:

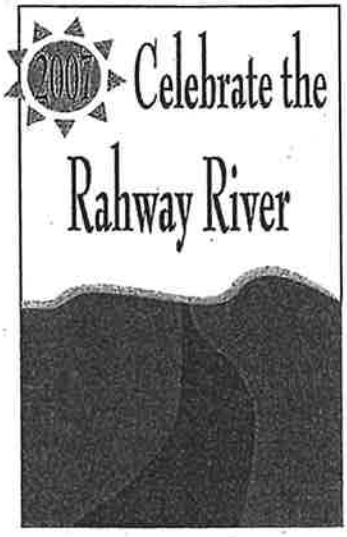
New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021

Visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites www.epa.gov/npdes/stormwater or www.epa.gov/nps

Volunteers Needed!
River Cleanup

Earth Day
April 21



Civic House in Memorial Park
10am - 12pm

Interested?
Please contact:
Robert Roe
Maplewood Municipal Health Officer
(973) 762-8120, ext. 4400

Why volunteer?
The Rahway River is an important part of our community. From drinking water to drainage to open spaces and parks, its health is vital for the continued success of our region. By helping to preserve this natural resource you will have a direct and positive impact on the future of the river and its ecosystem.

Arrived from the Welsh

TOWNSHIP OF MAPLEWOOD

ASSOCIATION OF NEW JERSEY ENVIRONMENTAL COMMISSIONS

PREPARED BY:
EDGEWATER DESIGN LLC.

JUNE 2010

RAHWAY RIVER CORRIDOR STUDY

Source: BING maps

CREDITS:

EDGEWATER DESIGN, LLC:
Jan Saltiel Rafel, CLA, LEED AP - Principal
Michael S. Lipko, CLA, PDC

321 Millburn Avenue
Millburn, New Jersey. 07041
tel 973-921-9211 | www.edgewaterdesign.com

SUB CONSULTANTS:

AMY S. GREENE ENVIRONMENTAL CONSULTANTS, INC.
Curtis W. Helm, Environmental Scientist
Sean J. Ronan, GIS / IT Manager

4 Walter Foran Blvd.
Suite 209
Flemington, New Jersey, 08822
tel 908-788-9676 | www.amygreene.com

FRANK H. LEHR ASSOCIATES:
Richard Adelsohn, PE

101 South Harrison Street
East Orange, NJ 07018
tel 973-673-2520 | www.fhlehr.com

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1.9 Infrastructure and Engineering Evaluations pp. 15

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SITE ANALYSIS SUMMARY

The area for the Rahway River Corridor Srudy resides within a vibrant community setting consisting of traditional neighborhood homes and the Valley Street commercial district of Maplewood, New Jersey. The Rahway River is mostly hidden in this area behind homes, commercial buildings, parking lots and playfields and is directly bisected by the NJ Transit rail line. In many places their are opportunistic and invasive plant species and degraded river banks, steep slopes and overall ecological imbalance. Surface stormwater drains directly from nearby roofs and parking lots into the river without proper treatment.

A one block stretch between Oakland Road and Jefferson Avenue is mostly cut off from public use do to private property abutting the river. However, there are also a few under-utillized spaces directly adjacent to the river with direct public access including Chyzowych Field and the Board of Education parking lots and bus parking lots. This current condition creates a discontuous path or link between Maplewood's Memorial Park to the south and South Orange Waterlands Park and down-town district to the north.

PART 1 - SITE ANALYSIS

1.1 STUDY AREA DESCRIPTION

The Rahway River Corridor Study Area is roughly 38 acres in size. it is borded by Valley Street on the east and the NJ Transit Line and Dunnell Road to the west. To the north is the border with South Orange and to the south is Oakland Road and Memorial Park.

LEGEND

- Area of Study
- River
- Town Border
- NJ Transit Station
- NJ Transit Rail

1.2 HISTORY and CONTEXT

BEFORE MEMORIAL PARK, THERE WAS THE 'GLEN"

Long before the marshy pastureland that became Memorial Park was set apart by the town fathers as a suburban park, designed by Olmstead Brothers, there was another place of extraordinary beauty, to which Maplewood citizens gravitated for recreation and renewal. The locals called it "the Glen." It was a place to swim, fish, boat, paint or simply enjoy the solitude of nature.

A "glen" is a long valley between mountains formed by a waterway. Where was Maplewood's "Glen"? What did it look like?. The area is now changed beyond recognition. The heart of what was "the Glen" is the low point on Parker Avenue to the west of Valley Street through which the East Branch of the Rahway River flows south. Today this is the location of the Columbia High School parking lots and Gleason's Laundry. The mill ponds have long been drained. The river's volume has been reduced and its banks strewn with concrete. The stately trees are gone.

In the anecdotal history "Maplewood Past and Present" early Maplewood resident Daniel Nelson Beach (b. 1848) vividly describes this beloved local natural feature as it appeared in its full glory in the mid-19th century:

"The bases for the beauty of the Glen (was) first, the ...Rahway River which paralleled Valley Street, drawing rather near to it on the west as we reached Parker Avenue... (T)oward the west were ridge and mountains, with the mountain's picturesque termination, while on our side east of the river there rose a very considerable abrupt ridge.... which made our skyline to the east.

To complete the perfection of the scene, only a few feet north of Parker Avenue the river was dammed and a picturesque bridge was just below the apron of the dam. The water thus impounded was led by a race-way, skillfully engineered, for perhaps a third of a mile along the roadway which it turned and paralleled, around an abrupt hill, and then to what in our time was a paper mill....

This race-way left the pond perhaps fifty feet to the west and it also had a bridge, below which there was a small pond with only slightly sloping banks where wagons could be driven for wetting their felloes (wagon wheel rims) and watering their horses. To this smaller pond were brought, particularly in the summer time, appreciable herds of cattle which were found in the neighborhood.

It was the larger pond which gave an indescribable grace to the whole landscape. There would be low water and high, but the stream was sufficient always to leave a good amount of water in the pond and race-way, and in freshets huge volumes of water would pour thundering over its dam; and the substantial bridge just below it, with its heavy timber railing, was a glorious spot from which to see the rush of the waters and to listen to their great roar. In this pond there was a bit of island with huge trees upon it, and beyond this toward the north the pond stretched on and on again, bending off soon toward the left and extending under the railroad bridge far to the north, partly pond, partly wooded islands. (NOW PROBABLY WATERLANDS PARK) It was a veritable voyage of discovery to pass under the railroad bridge in a boat and pick one's way through the rambling and often partly divided courses of the pond.)

This pond was of no great depth, not much of it over the head of a reasonably tall man, but it was the center of no end of pleasure for children and for grown-ups as well. There in summer one could swim, or fish, or "bob" for eels; and as for boating on it, it was superlative. Below the bridge there was a considerable stretch of land once used as a pasture through which the stream had wandered, and perhaps five hundred feet farther south there were the remains of a somewhat extended earlier dam that now existed only as broken hillocks. One wondered about the builders of that ancient dam, and to what purpose its powers had been applied. (Note: Probably a grist mill)....

Parker Avenue crossed the bridge, and the second and smaller bridge, and then, turning south, it skirted the race-way for a considerable distance, till the race-way turned to the left to be engineered around a hill which the road skirted to its right. Just beyond the pond was the old Stone House (22 Jefferson Avenue). This was an ancient structure and at the front of it was a platform constructed of masonry and earth, at which trains of the Morris and Essex Rail Road stopped in the earlier days.

....The whole Glen seemed ensphered within the sky above, the river beneath, and the scene of natural beauty always enthralled me....To the east was the ridge. Over it would rise the sun, and the great full moon. North and south was the beauty of farm and wooded pond, and when the foliage disappeared, in the winter time with the sun toward Turkey Mountain running very low, there was an indescribable splendor about the old home.[1]

[1] Courtesy of Maplewood Historic Preservation Commission

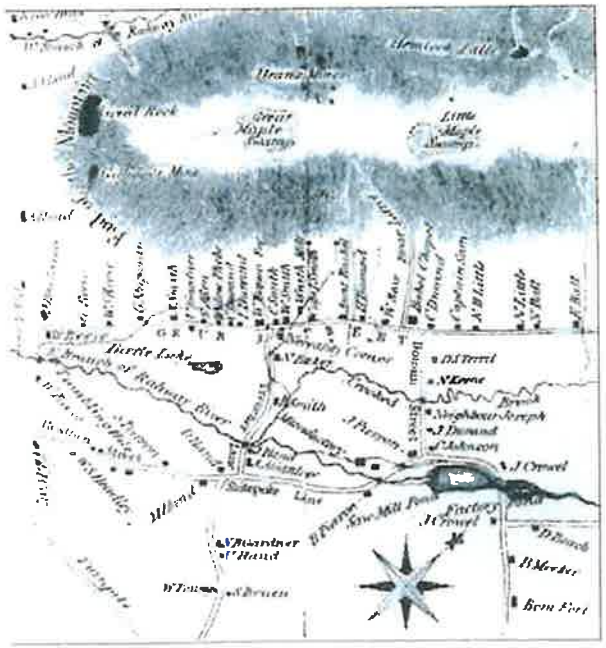


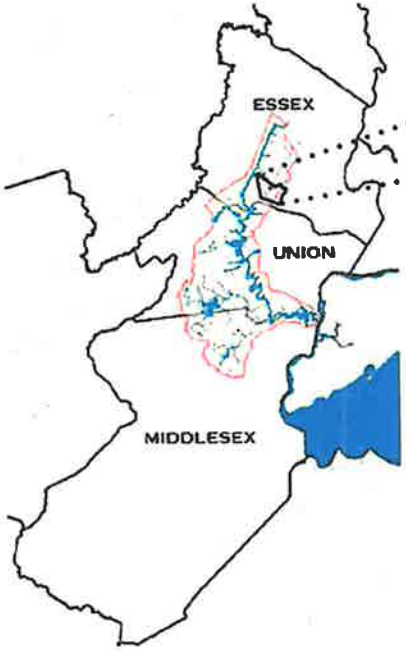
Image courtesy of Maplewood Historic Preservation Commission

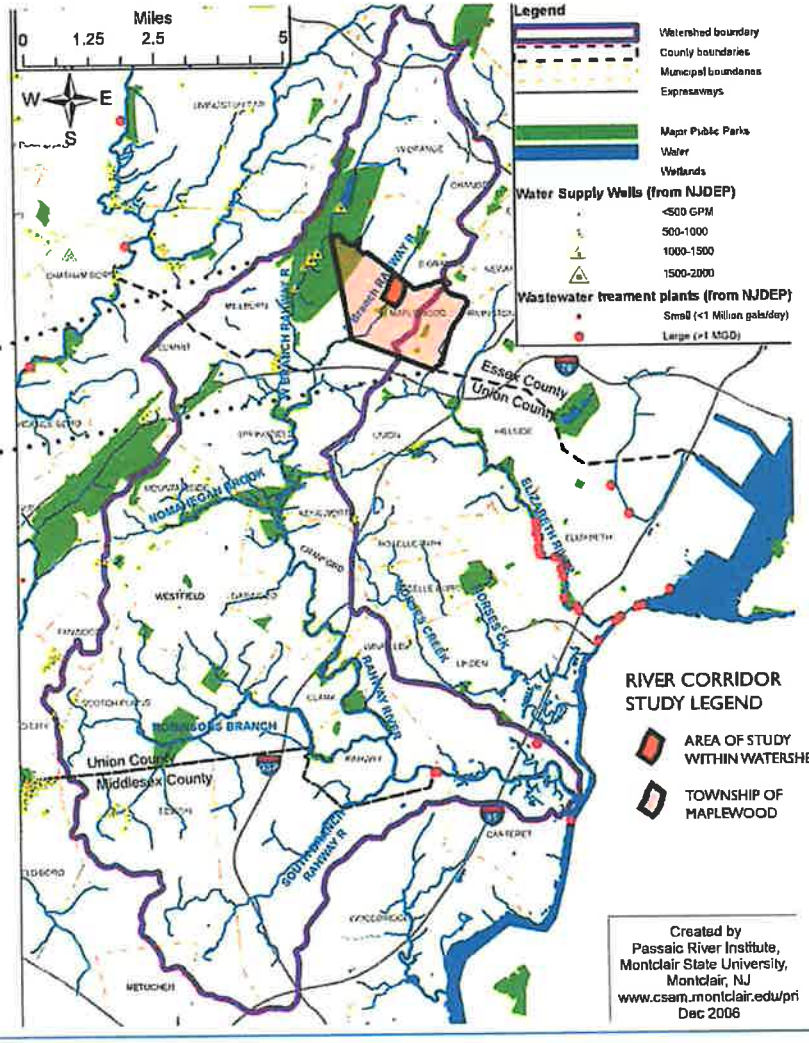
1.3 RAHWAY RIVER WATERSHED - ESSEX, UNION and MIDDLESEX, NJ

ABOUT THE RAHWAY RIVER WATERSHED

The land within the watershed is predominantly residential with concentrations of commercial, industrial and brownfields and greyfields interspersed, all of which offer both opportunities and obstacles of their own in creating one unified greenway along the Rahway River. Even though the Rahway River suffers from the effects of its past industrial use and neglect, the River and its watershed are still home to an abundance of flora and fauna, with habitats that support all types of wildlife. While invasive species and over-population of select species continue to be a problem, there is still time to act to bring the watershed back to a more natural state with a cooperative effort of community stakeholders across the watershed.

Many challenges exist as well in bringing this vision into fruition. The watershed is home to many contaminated sites and the River itself is severely polluted in several stretches – a consequence of its industrial past and present neglect. In addition, the River is prone to destructive flooding, a result of over-development within its watershed and a lack of green space within its watershed boundary to absorb storm runoff. [2]





[2] Courtesy of Rahway River Greenway Plan prepared by Rutgers Edward J. Bloustein School of Planning and Public Policy, Fall 2008.

1.4 RAHWAY RIVER WATERSHED

OVER DEVELOPMENT OF THE WATERSHED

"The watershed is home to many contaminated sites and the River itself is severely polluted in several stretches – a consequence of its industrial past and present neglect. In addition, the River is prone to destructive flooding, a result of over-development within its watershed and a lack of green space within its watershed boundary to absorb storm runoff."[3]

The river corridor is degraded as a result of channelization, filling and the construction of stone retaining walls. The riparian zone is degraded due to the loss of vegetation and proximity of structures, including buildings and asphalt surfaces, some of which are at the top of bank.

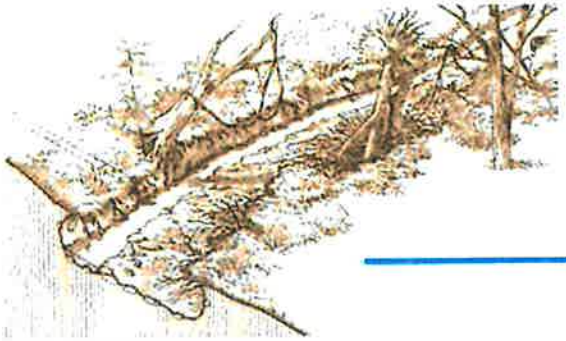
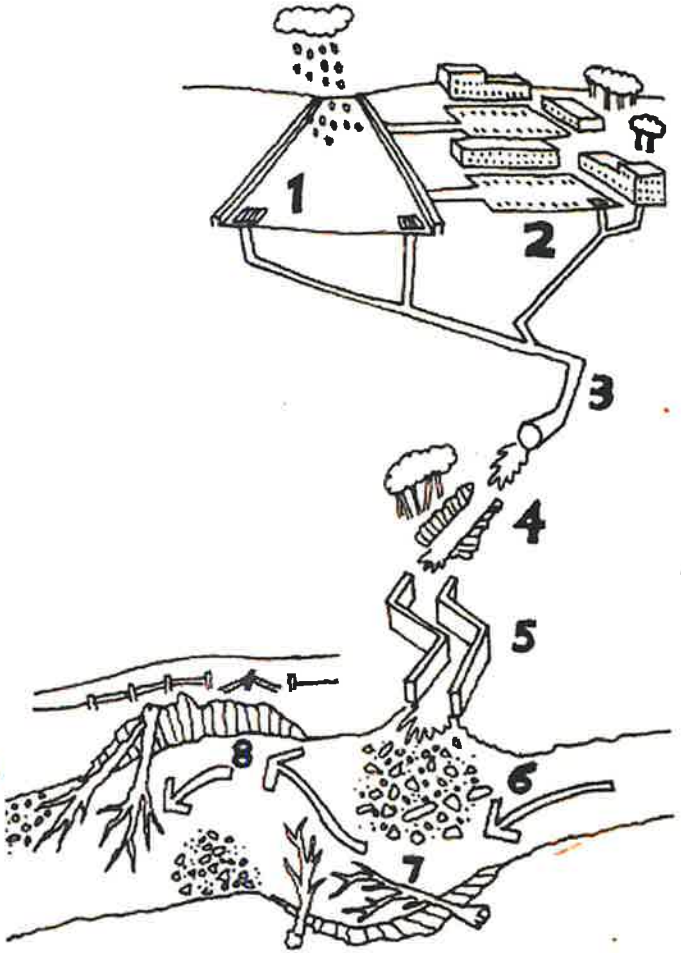


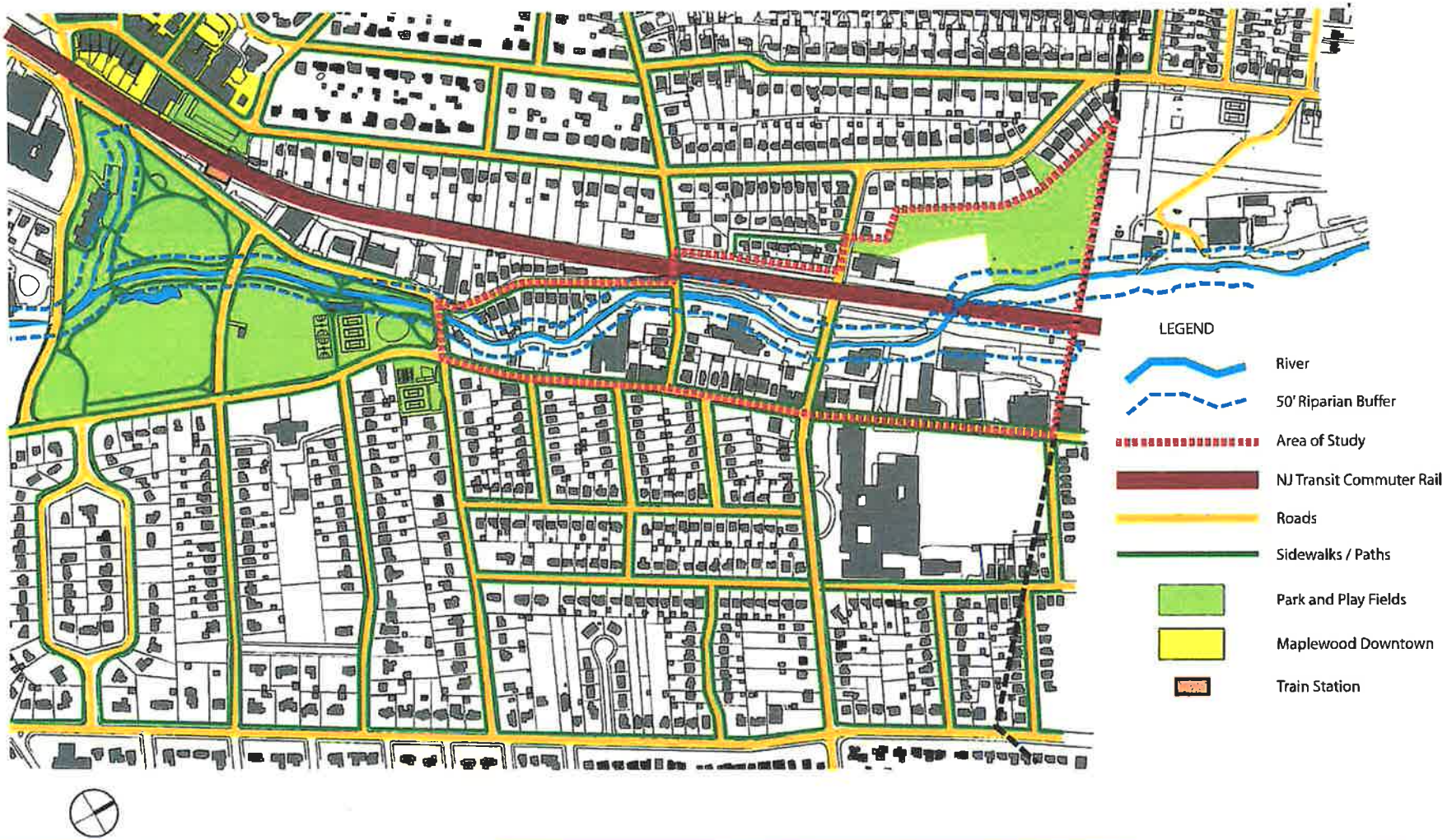
IMAGE OF DEGRADED WATERWAY



[3] Courtesy of Rahway River Greenway Plan prepared by Rutgers Edward J. Bloustein School of Planning and Public Policy, Fall

1.4 LAND USE and CONTEXT

1.5 CIRCULATION and ACCESS



1.4 LAND USE and CONTEXT

1.7 GROUND PLANE

1.8 FLOOD ZONES

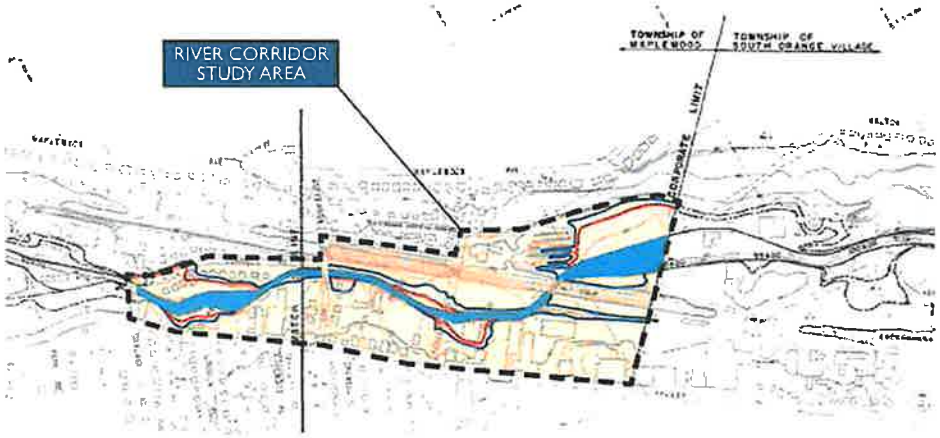
FLOOD HAZARD AREA CONTROL ACT RULES (NJAC 7:13)

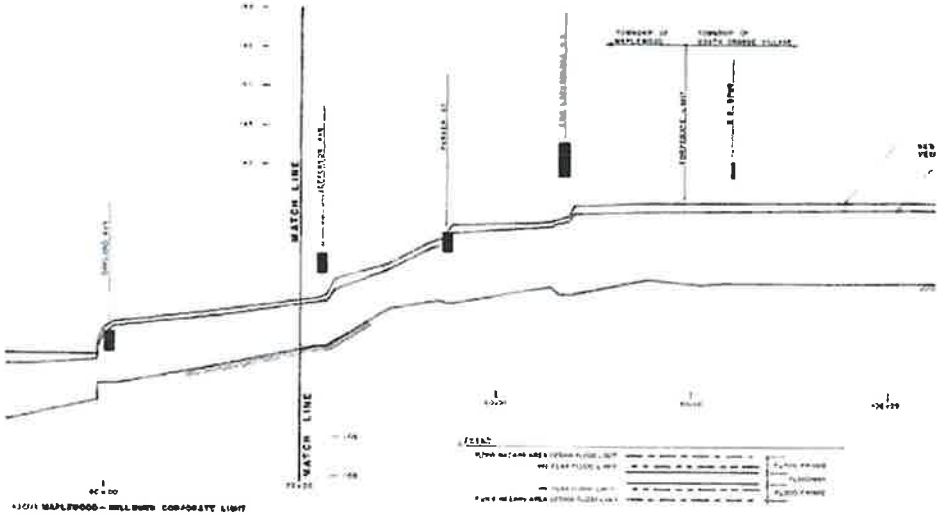
The Flood Hazard Area Control Act (FHACA) rules at N.J.A.C. 7:13 include a number of provisions that protect existing flood hazard areas (flood fringe and floodway) and the adjacent riparian zone. A regulated flood hazard area exists along all waters with a drainage area of 50 acres or more. In addition, a riparian zone exists along every regulated water. The Rahway River within Maplewood will include both a regulated flood hazard area and a regulated riparian zone.

The riparian zone along the Rahway River will be measured from the top of bank. Based on our field investigation, the top of bank is either the water ward edge of the retaining wall or the top of the steep, filled slopes. In accordance with N.J.A.C. 7:13 the Flood Hazard Area Control Act (FHACA) rules, the Rahway River will include a regulated riparian zone. Based on our best professional judgment, the riparian zone should be 50 feet along the Rahway River in Maplewood in accord with the following:

- The waters are not classified as Category-1 (C-1)
- The waters are not identified as trout-production or trout-maintenance
- The waters do not flow through areas of acid-producing soils
- The waters are not flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the regulated water for survival*

*Courtesy of ASGEC





LEGEND

Flood Hazard Area Design Flood Limit

100 Year Flood Limit

Floodway

1.9 INFRASTRUCTURE and ENGINEERING EVALUATIONS

A. The river banks on the southern end of the project consist of hand-laid stone rubble retaining walls, that appear to date back to the 1930s. These walls are approximately 6 to 8 feet in height and exhibit varying degrees of distress. Of significant concern along the walled sections is the cutting of the riverbed along the wall resulting in undermining of the foundations. In some areas, development, including structures, extend up to these walls.

In 1974, Frank H. Lehr Associates prepared plans for limited repairs to address foundation undermining. Based on these plans, it appears that the original stone wall construction extended approximately 18" below the bottom of the river. The 1974 project included an underpinning like placement of concrete at the toe of the rubble wall, to restore support to the masonry structure. Limited sections of wall, primarily in Memorial Park were totally replaced. Here, concrete footings extending to a depth of 3' below the river bottom were placed and a new stone rubble wall, including wall drainage, was constructed. *

B. The river transitions to a steep natural bank near Jefferson Street. From Jefferson to Parker Avenue West, cracking along the top of bank indicates a global slope stability problem along the westerly bank. There is evidence that this section of stream was previously walled, and the walls have completely failed. Banks in this area are "stabilized" with rip rap from remnants of the old wall, natural stone, and broken sidewalk panels. In this area, it will likely be necessary to cut back the slope and restabilize with natural materials, such as wattling, bio-logs, and living stakes.

The east bank of the river in this section is significantly steeper than the west bank through this area. Here, development along the top of bank (Maplewood YMCA) will prevent flattening of the slope. Similar to the west side, it appears that the stream was previously walled, and the walls have completely failed. Banks in this area are "stabilized" with rip rap from remnants of the old wall, natural stone, broken sidewalk panels, and dumped asphalt. In this area, some form of structural stabilization will likely be necessary. *

C Beyond Parker Avenue West and extending up to Chyzowych Park, the river transitions to a flatter, natural bank. In this area primarily natural bank cutting was observed. Here, work will likely be limited to a desnagging program to removed dead vegetation and debris blocking the channel. In some areas, natural bank stabilization methods may be used to supplement areas of sparse vegetation.

Throughout corridor, stabilization and repairs should be anticipated at storm water discharge points such as headwalls and drainage ditches.*

* Courtesy of Frank H. Lehr Associates

1.10 VEGETATIVE SPECIES and SITE ASSESSMENT

STUDY AREA CHARACTERISTICS

The study area includes the river and adjacent properties. The banks of the river have been reinforced through the historic construction of vertical hand-laid stone retaining walls (Photo A) or from the placement of fill and debris such as rip rap, concrete slabs, and timbers. The filled banks exhibit vertical or very steep slopes. Adjacent properties are residential, commercial and municipal development. Very little natural or undisturbed riparian area exists within the study area. The river bed consists of bedrock with a stone/cobble substrate and includes occasional pools and riffles. Due to channelization and filling, the river has largely been disconnected from the (former) floodplain. This has disrupted the natural ability of the river to dissipate energy during flooding. However, because the banks are hardened/reinforced and the river bed consists of bedrock there is little evidence of bank or bed erosion, although some undermining of the hand laid stone walls was noted. Some deposition of cobbles and sand was observed on the inside bends of meanders.

Although the river traverses a highly developed landscape, a variety of mature native and non-native trees are found growing along the steep banks or at the top of bank (Photo B). Typical native trees identified include white ash (Fraxinus Americana), black cherry (Prunus serotina), red maple (Acer rubrum), silver maple (Acer saccharinum) and American elm (Ulmus Americana). Common non-native trees identified included Norway maple (Acer platinoides) and tree of heaven (Ailanthus altissima). Norway maple was the most common tree noted throughout the study area. Some of the trees are large diameter, greater than 20" diameter at breast height, and their extensive root systems help to reinforce the river banks. Because the banks consist largely of debris and fill, very few shrubs or tree seedlings were noted in the understory or along the bank. Because the river is scoured during storm events, no significant vegetation was noted within the channel between the banks. There was also a notable lack of instream habitat such as large woody debris, heterogeneous substrate, overhanging vegetation, root mats, undercut banks, etc. This lack of physical structure results in reduced value to fish and wildlife. The non-native, invasive herbaceous plant Japanese knotweed (Polygonum cuspidatum) was found growing in dense colonies at a few locations within the study area. In particular, it was found growing along the western banks north of Jefferson Ave. and north of West Parker Ave. A brief description of this species is provided below:

Japanese Knotweed (Polygonum cuspidatum)
Japanese knotweed is a non native, invasive herbaceous plant. This plant was introduced in the 1800's as an ornamental and for erosion control. It tolerates a wide range of soil, shade, moisture and temperature conditions. It is most commonly found in riparian areas along rivers and in floodplains. Once established it is extremely persistent and difficult to eradicate. This perennial grows to about 10 feet in height during summer and dies back to below ground rhizomes during winter. Japanese knotweed spreads via the stout rhizomes which can extend 45 to 60 feet from the plant, or via seed. It prefers full sun but tolerates shade. The plant can be managed through repeated pulling of stems, 3 or more times a growing season which will exhaust the rhizome; however, this may take up to ten years. Cutting the plant in early summer and spraying the resprouts in late summer/early fall provides effective control.

Due to the historic filling that has occurred, and loss of natural floodplains, there were no areas of wetland noted within the study area during the field investigation. The river within the study area should therefore be regulated as a State open water. State open waters are regulated under the Freshwater Wetlands Protection Act rules at NJAC 7:7A; however, because there do not appear to be any wetlands, there will not be any associated wetland transition areas.

IMPERVIOUS SURFACES

Large expanses of impervious surfaces, primarily parking lots, occur adjacent to the river.

Block 16.03; Lot 11
A parking lot is located on the east side of the river, between Oakland Road and Jefferson Ave. (Photo C). This parking lot is pitched toward the river and discharges untreated stormwater directly to the top of bank. An erosional channel has developed at the low point along the edge of the parking lot and the river, which will continue to enlarge and undermine the parking lot edge and destabilize the river bank. This parking lot was empty at the time of the field investigation. A small stormwater management structure might be considered at the base of this lot, paralleling the river, to improve water quality and reduce future erosion. This would require the displacement of a number of parking spaces.

Block 50; Lot 51
An abandoned road and a Board of Education parking lot abut the western side of the river between Jefferson Avenue and West Parker Ave. (Photo D). The paved areas abutting the river can be redeveloped with a pedestrian pathway, riparian plantings and stormwater management facilities. This would require the displacement of a number of parking spaces.

Block 50; Lot 41
A Board of Education parking lot abuts the river north of West Parker Avenue (Photo E). The paved areas abutting the river can be redeveloped with riparian plantings and stormwater management facilities. This would require the displacement of a number of parking spaces.

Block 15.07; Lots 419 & 343
A disturbed early successional field dominated by invasive plant species, is located north of the Board of Education Maintenance yard parking lot and south of a playing field (Photo F). This field has been used for dumping and includes earthen fill and debris. This area could be excavated and planted to create additional floodplain storage or regraded and replanted with native upland vegetation in order to enhance the riparian zone.

Note that a sewer easement/ROW underlies portions of the study area and could interfere with proposed construction and restoration activities.

1.10 VEGETATIVE SPECIES and SITE ASSESSMENT

A. View north of river corridor between Oakland Rd and Jefferson Ave. with hand laid vertical stone retaining walls. Study area is characterized by State open waters and no areas of wetland. River bed appears to be scoured to bedrock with some cobbles on surface.

B. View facing north of east bank of river between Oakland Rd and Jefferson Ave. Note that large diameter trees, such as white ash and black cherry, have colonized the river bank and provide shading and habitat.

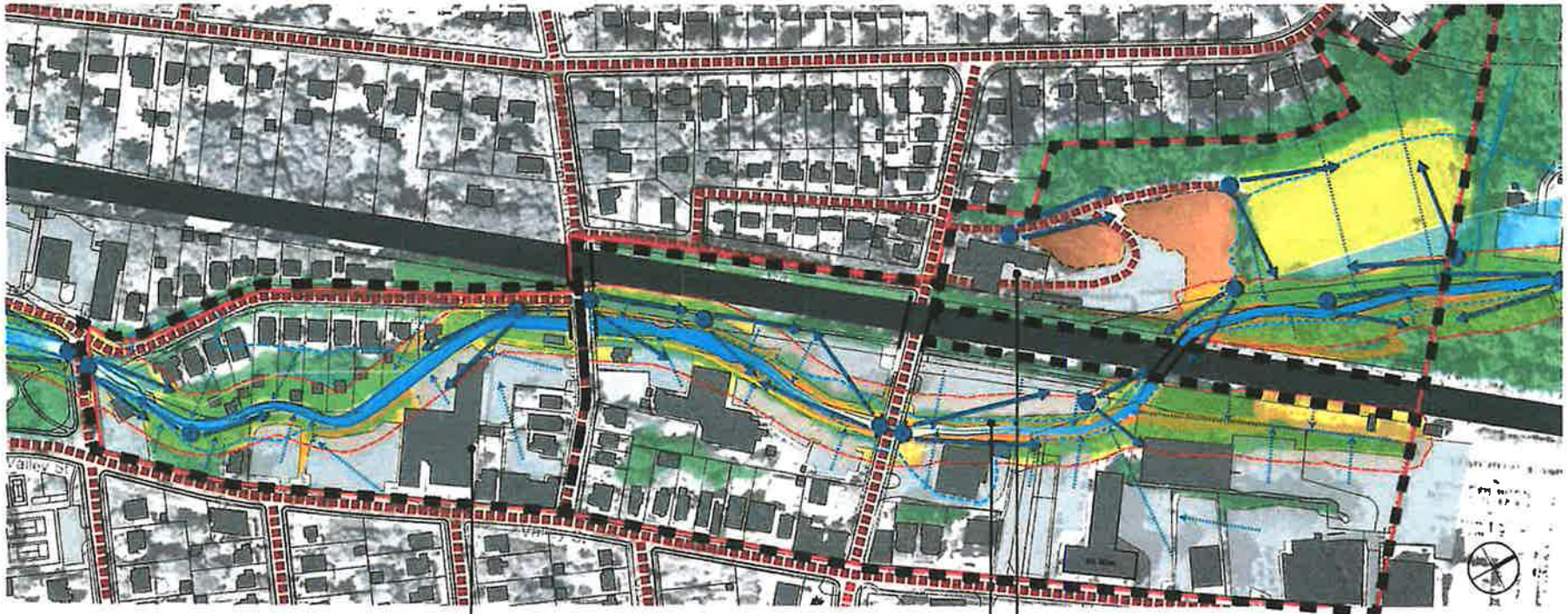
C. View north of parking lot (Block 16.03; Lot 11) adjacent to top of river bank. This area could be utilized to provide stormwater treatment; however, some parking spaces would be displaced.

D. View north from intersection with Jefferson Ave. showing abandoned road. RR ballast on left is colonized by the invasive plant Japanese knotweed and river bank on right includes Japanese knotweed and Norway maple and tree of heaven saplings and small trees.

E. View facing south of Board of Education parking lot (Block 50; Lot 14) north of West Parker Ave. This area provides excellent opportunities for riparian zone restoration and construction of stormwater management facilities.

F. View facing north of area of early successional field (Block 15.07; Lots 419 & 343) north of the Board of Educaiton parking lot. This degraded area has the potential to provide addition riparian zone restoration.

1.11 AESTHETIC and VISUAL ASSESSMENT - AREA OF STUDY ZONES



ZONE 1 - OAKLAND ROAD TO JEFFERESON AVE.

Consists of commercial & residential building lots with extensive impervious surface on the east side and landscaped residential lots on the west with driveways and garages in the backyards. The river is channelized in this zone with hand built stone walls and has limited physical and visual access due to the privately owned land. It appears most surface drainage drains directly into the river and adjacent streets via below grade storm-water conveyance systems.

ZONE 2 - JEFFERSON AVE. TO WEST PARKER AVENUE

Is bordered by the elevated NJ Transit rail line and BOE parking lots on the west and a mixture of commercial, residential and the YMCA on the east side. The river banks are steep and degraded and strewn with debris including concrete, stone and timber. It appears most surface drainage drains directly into the river and adjacent streets via below grade storm-water conveyance systems. A small river tributary drains from the north behind the commercial district along Valley Street.

ZONE 3 - BOARD OF EDUCATION & CHYZOWYCH FIELD

Is bordered by the elevated NJ Transit rail line on the east and the Rahway River crosses underneath the rail behind the BOE Maintenance parking area. There appears to be a large abandoned area between the BOE parking and Chyzowych Field which is composed of mounds and invasive plant species. A sewer easement also parallels the river on it's western bank. An access road also leads back from West Parker Ave. to the field area. The South Orange town border is just to the north of the open field.

LEGEND:

- Area of Study
- River
- Mixed Vegetation
- Steep Slopes with erosion invasive species
- Parking Lots / flat plantes
- Buildings
- Abandoned Area
- Play Field
- Floodway
- 50' Riparian Buffer
- Railroad / Barrier
- Bridge Abutment
- Stone River Walls
- Views
- Surface Drainage
- Fence
- 100 Year Flood line

1.11 AESTHETIC and VISUAL ASSESSMENT - AERIAL VIEW

Greenways Revive Neglected Stream corridor

By **Kerry Miller**, ANJEC Assistant

Maplewood's Rahway River corridor

A branch of the Rahway River runs through Maplewood, open and accessible to residents as it traverses the town's Memorial Park. But just upstream of the park, it flows through a commercial district abutted by parking lots, institutional uses and an elevated NJ Transit rail line. The river is something of a back lot feature there, where trees and invasive weeds tend to obscure the view. Retaining walls and fill or rip rap of varying types line the river, which receives runoff from adjacent parking surfaces and stormwater discharge pipes.

The Maplewood Environmental Advisory Committee wanted to investigate opportunities to bring this section of the Rahway back as a community resource. They selected Edgewater Design, a landscape/architectural firm, to assess the area and help them develop recommendations for environmental, recreational, visual and transportation enhancements. The consultants researched and mapped the area in detail, showing structures and impervious surfaces, land uses and owner-ship, the 50-foot riparian buffer zone, infrastructure, paths/sidewalks, the condition of the river banks and vegetation, crossings and viewsheds.

Privately owned adjacent land is a constraint to creating a continuous public walking path, but properties along the river that are within the public domain could provide access and amenities to enhance the river experience. The study, which included stakeholder participation and outreach, resulted in a 50-page *Rahway River Corridor Study* that made recommendations to:

- establish a biking/walking path through the river corridor;
- put vegetated swales along parking lots to absorb runoff and increase safety;
- test and remove fill from an old dumping area to convert it to usable open space and river access;
- prune trees and plant native vegetation;
- stabilize slopes and restore the riparian corridor;
- install seating and signage at overlooks; and
- coordinate with neighboring South Orange to create a continuation of the greenway between the towns.

Soon after the *Study* and recommendations were adopted by the Planning Board, Maplewood's Township Committee adopted an ordinance establishing a seven-member task force to prepare a schedule and determine costs, funding sources and mechanisms to work with property owners to implement both the Rahway River corridor plan and the town's new bikeway network plan.

Available from TWP. website

olutions to Stormwater Pollution

Easy Things You Can Do Every Day To Protect Our Water

A Guide to Healthy Habits for Cleaner Water

Pollution on streets, parking lots and lawns is washed by rain into storm drains, then directly to our drinking water supplies and the ocean and lakes our children play in. Fertilizer, oil, pesticides, detergents, pet waste, grass clippings: You name it and it ends up in our water.

Stormwater pollution is one of New Jersey's greatest threats to clean and plentiful water, and that's why we're all doing something about it.

By sharing the responsibility and making small, easy changes in our daily lives, we can keep common pollutants out of stormwater. It all adds up to cleaner water, and it saves the high cost of cleaning up once it's dirty.

As part of New Jersey's initiative to keep our water clean and plentiful and to meet federal requirements, many municipalities and other public agencies including colleges and military bases must adopt ordinances or other rules prohibiting various activities that contribute to stormwater pollution. Breaking these rules can result in fines or other penalties.

As a resident, business, or other member of the New Jersey community, it is important to know these easy things you can do every day to protect our water.

Limit your use of fertilizers and pesticides

- Do a soil test to see if you need a fertilizer.
- Do not apply fertilizers if heavy rain is predicted.
- Look into alternatives for pesticides.
- Maintain a small lawn and keep the rest of your property or yard in a natural state with trees and other native vegetation that requires little or no fertilizer.
- If you use fertilizers and pesticides, follow the instructions on the label on how to correctly apply it. Make sure you properly store or discard any unused portions.

Properly use and dispose of hazardous products

- Hazardous products include some household or commercial cleaning products, lawn and garden care products, motor oil, antifreeze, and paints.
- Do not pour any hazardous products down a storm drain because storm drains are usually connected to local waterbodies and the water is not treated.

- If you have hazardous products in your home or workplace, make sure you store or dispose of them properly. Read the label for guidance.
- Use natural or less toxic alternatives when possible.
- Recycle used motor oil.
- Contact your municipality, county or facility management office for the locations of hazardous-waste disposal facilities.

Keep pollution out of storm drains

- Municipalities and many other public agencies are required to mark certain storm drain inlets with messages reminding people that storm drains are connected to local waterbodies.
- Do not let sewage or other wastes flow into a stormwater system.

Clean up after your pet

- Many municipalities and public agencies must enact and enforce local pet-waste rules.
- An example is requiring pet owners or their keepers to pick up and properly dispose of pet waste dropped on public or other people's property.
- Make sure you know your town's or agency's requirements and comply with them. It's the law. And remember to:
  - Use newspaper, bags or pooper-scoopers to pick up wastes.
  - Dispose of the wrapped pet waste in the trash or un-wrapped in a toilet.
  - Never discard pet waste in a storm drain.

Don't feed wildlife

- Do not feed wildlife, such as ducks and geese, in public areas.
- Many municipalities and other public agencies must enact and enforce a rule that prohibits wildlife feeding in these areas.

Don't litter

- Place litter in trash receptacles.
- Recycle. Recycle. Recycle.
- Participate in community cleanups.

Dispose of yard waste properly

- Keep leaves and grass out of storm drains.
- If your municipality or agency has yard waste collection rules, follow them.
- Use leaves and grass clippings as a resource for compost.
- Use a mulching mower that recycles grass clippings into the lawn.

Contact information

For more information on stormwater related topics, visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites www.epa.gov/npdes/stormwater or www.epa.gov/nps

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS COOPERATIVE EXTENSION
New Jersey Agricultural Experiment Station
www.rce.rutgers.edu

FS074

Fact sheet

Backyard Leaf Composting

Franklin Flower, Extension Specialist Emeritus in Environmental Science
Peter Strom, Assistant Professor in Environmental Science

Many New Jersey homeowners have an excessive quantity of leaves in the fall. One alternative for deal-ing with leaves is backyard composting. This process involves primarily the microbial decomposition of organic matter. Compost - the end result - is a dark, friable, partially decomposed substance similar to natural organic matter found in the soil.

The Composting Process

Composting speeds natural decomposition under semi-controlled conditions. Raw organic materials can be converted into compost by microorganisms. As microorganisms decompose organic matter, temperatures within the pile increase, sometimes approaching 150 degrees F. at the center. These inside-pile temperatures speed the process, and kill many weed and disease organisms.

Leaves may be composted by piling them in a heap. Locate the pile where drainage is adequate and there is no standing water. The composting pile should be damp enough that when a sample taken from the interior is squeezed by hand a few drops of water will appear. A shaded area will reduce moisture evaporation from the surface, but tree roots may grow into the pile. If the surface of the pile becomes excessively dry, it will not compost, and those leaves may blow away.

The leaf pile should be at least 4 feet in diameter and 3 feet in height. If it is too small, it is difficult to maintain adequate temperatures for rapid decomposition. The maximum size should be about 5 feet in height and 10 feet in diameter. If the pile is too large, the interior will not obtain the oxygen needed for adequate, odor-free decomposition. If more material is available, lengthen the pile into a rectangular shape while keeping it 10 feet wide and 5 feet high. If there is sufficient space and material, two or three piles will provide greater flexibility. One pile can contain compost for immediate use; the second is actively composting; and the third receives newly fallen leaves. If there is space for only one pile, new material may be added gradually to the top while removing the decomposed product from the bottom.

Containing the Pile

Composting may be done in a loose pile. However, for the most efficient use of space, it can be contained in a bin or other enclosure. The sides of this bin should be loose enough to permit air movement. One side should be open, or easily opened, for turning the pile and for removing the finished compost.

Woven wire or wooden slat fencing, or cement blocks on their sides have been used successfully. Wood gradually decomposes, and wire fencing may rust, so these materials will need periodic replacement. Wooden stakes driven into the ground may attract termites, so lumber treated with wood preservative or metal snow-fence posts may be better.

Constructing the Pile

Many instruction sheets advocate constructing the pile in layers that may include grass clippings, fertilizer, limestone, manure, soil, and leaves. However, we have found this practice to be unnecessary. The pile can be constructed of leaves only. A small amount of grass clippings may be added to the leaves as the pile is being constructed. However, because of its high demand for oxygen, too much grass tends to cause an anaerobic (without oxygen) condition. This greatly reduces the composting rate, and can produce unpleasant odors. Fresh vegetable peelings may be included, but do not add meat or grease because they may cause odors or attract pests.

Unless leaves are collected in a very wet condition, add water while placing them in the pile. Without moisture, the microorganisms will not function. Moist-en to the point

where it is possible to squeeze droplets of water from a hand-held mass of leaves.

Dead leaves lack adequate nitrogen for rapid decomposition. Therefore, a high-nitrogen fertilizer added to the pile may speed up decomposition. However, since leaves fall only for about 2 months a year, there are 10 months for decomposition before space is needed for the next batch. So, while it is generally unnecessary to add fertilizer, for more rapid decomposition and a product with a higher nutritive content, 5 ounces (about 1/2 cup) of 10% nitrogen fertilizer per 20-gallon can of hand-compacted leaves could be added. Fresh manure could be substituted, but it may cause odor problems.

Ordinarily it is unnecessary to add ground limestone because the pile seldom becomes too acidic. If fertilizer has been added, an equivalent quantity of limestone will counteract any acidity. Little or no limestone should be added if the compost is to be used on acid-loving plants.

Some guides on leaf composting recommend adding layers of soil periodically to the piles to supply the microorganisms needed for decomposition. We have not found this practice to be necessary, because leaves, themselves, contain a multitude of microorganisms. Available commercial activators or starters definitely are not needed.

Avoid packing the materials too tightly. Too much compaction will limit movement of air through the pile. Shredding the leaves generally speeds up composting.

To reduce weed germination, weeds in flower or with seeds should not be composted. Also, it is best to avoid composting diseased plants, or herbicide-treated lawn clippings until after at least three mowings.

Care of the Pile

The composting pile must be kept moist, but not soggy, for proper decomposition. Inadequate moisture reduces microbial activity, while excessive water may cause anaerobic conditions. A thin outer layer of dry leaves is unavoidable.

The pile should be periodically turned or mixed. The main objectives of turning are to shift materials from the outer parts of the pile closer to the center for better decomposition, and to incorporate oxygen. During warm weather, turn the pile once a month. In cool weather frequent turning is not recommended because it allows too much heat to escape. Piles should be turned immediately if ammonia or other offensive odors are detected. If space is available, turning may be accomplished by shifting the entire pile to an adjacent area or bin.

Within a few weeks after starting, the pile should be hot in the center. Heating generally indicates that the pile is decomposing properly. Failure to heat may be caused by too little or too much water, improper aeration, packing too tightly, or a pile that is too small. As leaves decompose, they should shrink to less than one-half of their original volume. During dry weather it may be necessary to add more water. The moisture content of the interior of the pile should be observed while turning.

Using Leaf Compost

Finished compost should be dark and crumbly with much of the original appearance no longer visible. It should have an earthy odor. Normally, compost will be ready in 4-9 months.

The major horticultural use for leaf compost is to improve the organic content of soil. Most New Jersey soils need an increase of 1/2 to 1% in organic content, particularly to improve moisture-holding capacity and tilth. Leaf compost is not normally a fertilizer, because it is too low in nutrients. Compost serves primarily as an organic amendment and as a soil conditioner. Soil mulch is another valuable use for leaf compost.

Based in part on Experiment Station Research Project No. 07526.

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FS389

Fact sheet

Minimizing Waste Disposal: Grass Clippings

Peter F. Strom, Ph.D., Associate Professor of Environmental Science; James A. Murphy, Ph.D., Specialist in Turfgrass Management; and Henry W. Indyk, Ph.D., Specialist Emeritus in Turfgrass Management

Since refuse disposal costs have dramatically increased, and some landfills no longer accept grass clippings, many individuals and governmental agencies are seeking alternatives for disposal of clippings. During the maximum grass growing period, the municipal refuse load in some New Jersey suburban communities may contain nearly one-third grass clippings. Collected clippings become anaerobic very quickly because of their high demand for oxygen. After becoming anaerobic they emit strongly unpleasant odors. Therefore, grass clippings (in quantity) are difficult to handle and to process.

From our own experience with the handling and disposal of grass clippings, and discussions with others such as lawn care professionals, we suggest considering the following methods to reduce landfilling:

1. RETURN TO LAWN — It is most desirable to leave grass clippings uncollected on the lawn so that they are recycled, contributing to soil organic matter and supplying part of the fertilizer needs of the lawn. Adopt a mowing schedule to keep clippings short enough to filter through growing grass and not remain as a mat on top of the lawn. Research and experience indicate that only 1/3 of the grass length should be removed during mowing. Never allow the lawn grass to double its height between mowings. This approach not only eliminates clipping collection and disposal problems, but also can contribute to improvement of the lawn.

Clippings are <u>not</u> a cause of thatch in lawns. Rather, thatch is formed primarily from a dense accumulation of grass roots and stemmy material. Returning clippings along with proper mowing frequency will not increase disease problems.

Use caution when removing collection bags from mowers. Some machines are not designed to operate safely without a bag or other attachment in place. If you are unsure, check with your equipment supplier.

2. GARDEN MULCH — Grass clippings can be used as a garden mulch. To minimize any tendency to protect slugs, clippings can be dried in the sun for a day prior to being used in this way. Clippings can be spread on garden soil to check weed growth, reduce soil spattering and crusting, moderate soil temperatures, etc. As a precaution, do not use grass clippings from herbicide-treated lawns until after two grass cuttings have been made.

3. SOIL INCORPORATION — Clippings can serve as a source of organic matter for soil improvement when incorporated into the garden.

4. BACKYARD COMPOSTING — Grass clippings can be composted, particularly when incorporated into a backyard leaf composting pile. However, grass has a high nitrogen content, a much higher demand for oxygen than leaves, and a tendency to mat, thereby greatly reducing the passage of oxygen. Composting piles containing

grass clippings thus readily become anaerobic. This, in turn, can produce strong, unpleasant odors. These odors are particularly noticeable when the pile is disturbed.

Because of these problems, grass clippings should not be composted alone, but rather mixed with composting leaves. The partially decayed leaves which now (6-9 months after leaf fall) have a low demand for oxygen, will serve as a bulking agent permitting more oxygen to reach the grass. Grass, which is high in nitrogen, will provide a more rapid decomposition of the remaining leaves as long as it remains under aerobic conditions. Grass clippings will also contribute to a better end product (higher nitrogen content) than that obtained from composting leaves alone. One must be aware, however, that an excess of damp grass in the pile will soon become anaerobic, produce very unpleasant odors, and reduce the rate of decomposition. The objective is to keep the material **aerobic**. Also, to ensure that excess nitrogen is not given off as ammonia, do not add more than 1 part fresh grass clippings to 3 parts partially composted leaves.

The resulting compost can be used as a soil amendment, as a mulch for gardens, flower or shrub beds, or as a potting medium.

5. MUNICIPAL COMPOSTING — Some grass clippings can be incorporated into a municipal leaf composting operation. However, problems that may be experienced with backyard grass composting could be greatly magnified at a municipal facility. Even grass stored for one day or less in plastic bags or the back of a lawn maintenance pick-up truck may emit very unpleasant odors when being unloaded at the site. For this reason, grass clippings are banned at many leaf composting facilities, unless they are very isolated. Research is continuing in this area, but other problems include the high cost of collection and an inadequate supply of leaves for the amount of clippings.

Partially composted leaves should be mixed with the grass in a 3:1 ratio, or more. Because the leaves have already decomposed by the time the grass comes to the site, however, this means the ratio actually collected must be at least 6:1. For most towns this would be possible only if most of the grass clippings are handled directly by residents on their own property.

6. CLIPPING REDUCTION — Fertilizing and watering above the requirements of the grasses may be more detrimental than beneficial to the lawn. One of the effects is increased production of clippings. (Another is potential ground or surface water pollution.) Judicious and proper use of fertilizer and water can provide an attractive lawn with a reduction in the costs, effort, susceptibility to disease, and amount of clippings produced. A fertilization program should emphasize fertilizing the lawn in the fall season rather than in the spring. This can be effective not only in reducing the amount of clippings produced, but also in contributing to a better lawn.

Two related fact sheets: "Backyard Leaf Composting" (FS074) and "Using Leaf Compost" (FS117), and assistance with procedures covered above, may be obtained from the Rutgers Cooperative Extension office in your county. The telephone number appears under County Government in your local phone directory.

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LOVE YOUR PET?
LICENSE THEM TODAY!

MAPLEWOOD TOWNSHIP ORDINANCE AND STATE REGULATIONS REQUIRE ANNUAL LICENSING OF ALL DOGS & CATS

BENEFITS OF LICENSING YOUR PET

- Ensures up to date rabies vaccination
- Helps identify lost pets

$15 FOR SPAYED/NEUTERED
$18 FOR NON SPAYED/NEUTERED

**A $7 Late Fee Applies for Licenses purchased after Jan 30th each year.*

To license your pet visit:
https://www.maplewoodnj.gov/government/public-health-social-services/health-department-services/animal-control/animal-licenses
or complete and mail the attached form with payment.

Raising chickens in Maplewood

(Ch. 13, Ord. # 2709-13)

Up to 15 selected households within the Township of Maplewood will be permitted to raise up to five chickens per property for the purpose of household egg gathering. Roosters are not permitted. Contact the Health Officer Robert Roe for more information on permit requirements and fees.

St. Hubert's Animal Welfare

(973) 377-2295

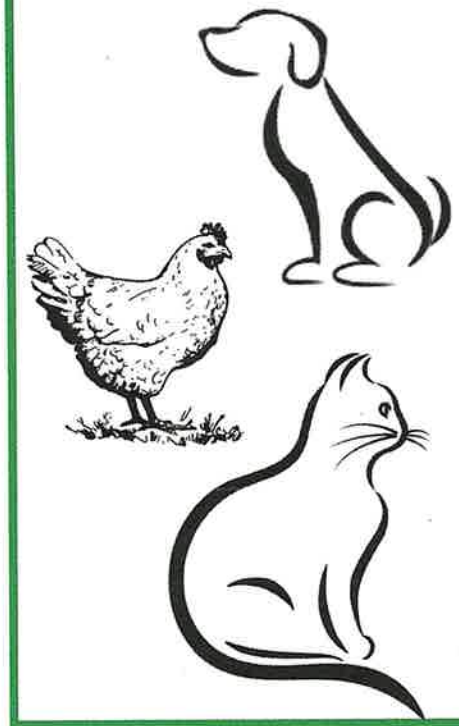
As of 2016, St. Hubert's Animal Welfare is the contracting agency for animal control services for the Township of Maplewood.

Contact St. Hubert's Animal Welfare for the following services:

- Injured dogs and cats
- Retrieval of expired pets, inside the home
- Dogs running at large
- Stray cats
- Animal bite reporting
- Bats in the home
- Healthy wildlife consultation
- Transport assistance of owned dogs and cats to a veterinarian if owner is homebound or disabled.

Township of Maplewood

Responsible Pet Ownership



Maplewood Health Department
Municipal Building, 574 Valley St.

Tel: (973) 762-8120

Pet Ownership in Maplewood

Congratulations on having a new pet! The care and companionship of domesticated animals can be a rewarding experience and improve one's health and wellbeing.

This brochure will inform residents of the expectations and requirements of **Responsible Pet Ownership**.

The Maplewood Health Department oversees the enforcement, and provision, of animal control services working with community partners to offer programs such as:

⇒ Trap, Neuter, Vaccinate and Release (TNVR) programs
⇒ Annual Animal Licensing
⇒ Dog Bite Complaints
⇒ Bat inside a residence
⇒ Sick wildlife on premises

Success of these programs relies on the participation and efforts by all residents and pet owners.

Annual Dog and Cat Licensing
(Ord. 113-2:113-7)

Dogs and cats, age seven (7) months and older are required to obtain or renew their license by January 31, every year. After January 31, an additional $7.00 will be charged to the license.

Obtain a license at the Maplewood Municipal Building, 574 Valley St., during regular business hours. Call the Health Department if you need an application to be mailed to you.

Fee: $15 for spayed/ neutered pets

$18 for non-spayed/ neutered pets

Rabies Vaccination

Rabies in wild animals is still found in our area. Dogs and cats can become infected with rabies through a bite, scratch or contact with a rabid animal. The first line of defense is to vaccinate your domesticated dog/ cat from getting the virus. The Health Department conducts a free dog/cat rabies clinic annually.

Trap, Neuter, Vaccine and Release (TNVR) Program

In cooperation with *Furry Hearts Rescue*, a pilot feral cat TNVR project is underway. The objectives of TNVR are to: treat feral cats in a humane way, prevent the spread of disease and nuisance from feral cats, and control over population. Contact *Furry Hearts Rescue* **(973)641-6893** or St. Hubert's Animal Welfare for low cost feral cat spay/ neuter services.

Quality of Life Maintenance (Ord. 113-12)

- Dog Noise– Please refrain your dog from excessive barking and howling.
- Pet Waste - Residents are required to clean up after their dog and dispose of dog waste in a garbage receptacle. Do not throw dog waste down the storm drain.
- Leash law– Dogs are prohibited from running off leash in township public spaces. Dogs must be securely controlled by an adequate leash no more than six (6) feet long.
- Feeding of Stray Animals (Ord. 113-30/ 113-31) Do not feed stray or unlicensed cats or leave food outdoors for stray animals. Violators shall be subject to a $100.00 fine in the first instance and $250.00 thereafter.

What do I need to bring to get my dog/ cat licensed?

Provide general description of the dog/ cat: breed, sex, age, color and markings, and whether such dog is of a long- or short-haired variety. Provide the name, street and address of the owner. For DOGS: Provide rabies certificate from a licensed veterinarian indicating the dog has been inoculated against rabies and that the inoculation shall be current through **September 30 of the licensing year.**

CLEAN UP AFTER YOUR DOG

FINES UP TO $1,000

Maplewood Twp. Ord. No. 2319-05, Ch. 113-20

Township Dog and Leash Ordinance

Maplewood Police Department has received complaints regarding dogs off leashes & would like to remind all residents that MPD will be strictly enforcing the issue moving forward.

Leashing of Dogs:

Per Maplewood T.O. 113-12(F): All dog owners must control their dogs with an adequate leash not more than six feet long. This applies to all of Maplewood Township INCLUDING all parks. Additionally, no dog, leashed or unleashed, shall be permitted to enter upon any basketball, tennis or paddle tennis courts within the Township of Maplewood.

Any person found in violation shall be subject to a fine as follows:

(1) First offense: $50.

(2) Second offense: $100.

(3) Any subsequent offense: an amount not to exceed $500.

FRIENDLY REMINDER TO PLEASE CLEAN UP AFTER YOUR PETS AS WELL

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FS117

Fact sheet

Using Leaf Compost

Roy L. Flannery, Specialist in Soils, Emeritus and
Franklin Flower, Specialist in Environmental Science, Emeritus

Composting involves primarily the microbial decomposition of organic matter. Compost - the end product - is a dark, friable, partially decomposed substance similar to natural organic matter found in the soil. The organic matter content of soils is very important. It influences the physical condition, water-holding capacity, and temperature of the soil, and especially the soil bacterial processes which affect the availability of mineral salts to plants.

Why Compost Leaves

If newly fallen leaves are added directly to the soil without first being composted, the microbes that decompose the leaves compete with growing plants for soil nitrogen. The temporary nitrogen shortage caused by the microbes can reduce plant growth. To reduce or eliminate this competition for nitrogen, composting of the leaves is recommended prior to incorporating them into soils.

Need for Organic Matter

Most New Jersey soils need an increase of 1/2 to 1% in organic matter. Sandy soils, such as loamy sands and sands, and soils with very high clay content are improved the most by an increase in organic matter content.

Benefits of Adding Leaf Compost to Soil

- Among the benefits derived from adding leaf compost to New Jersey soils are:
- Drought damage to plants is reduced because of an increased water-holding capacity of the soils.
- Soil tilth is improved making the soils easier to cultivate.
- Very small amounts of the 16 essential elements needed for plant growth are supplied.
- Adverse effects of excessive alkalinity, acidity, or over-fertilization are reduced by the added buffering of the soil.
- The cation exchange capacity of soils is increased, enabling the soils to hold more plant nutrients for longer periods.
- Decomposition of the organic matter produces organic acids which combine with iron and aluminum ions, thereby reducing their potential toxicity to plants. This also makes more phosphorus available for plants because free iron and aluminum can tie up the phosphates.
- The added organic matter provides a food source for desirable soil micro-organisms.
- When incorporated into the soil, or used in a thin mulch 1/16- to 1/8-inch thick, compost helps seeds to germinate.

Overall, compost improves the physical, chemical, and biological properties of soils. Leaf compost, however, is not normally considered a fertilizer as it is too low in nutrient content. It serves primarily as an organic amendment and a soil conditioner. The nitrogen content of composted leaves on a dry basis is about 1/2 to 1% by weight. For other materials commonly added to backyard leaf compost piles, the nitrogen content is: blood meal 10-14%; grass clippings 2-4%; coffee grounds 1 1/2-2%; eggshells 1-2%; horse manure 1-5%; cow manure 1-1 1/2%; poultry manure 3-5%; ammonium sulfate 20 1/2%; urea 45%; bone meal 1 1/2-4%; and cotton seed meal 6-7%.

When Compost is Ready to Use

When compost is ready to use (6 to 18 months after starting) its temperature will generally have decreased to slightly above air temperature. Finished compost will usually be drier than leaves during composting. The material also will be crumbly in texture. Before using compost, "screening" may be necessary to remove the larger partially decomposed materials. These materials will sometimes be present in composting piles because not all items decompose at the same rate. The undecomposed organic matter clumps may be broken up and added to another active compost pile for additional decomposition.

Adding Leaf Compost to the Soil

A good rate of organic matter to work into the top 6 1/2 to 7 inches of most New Jersey cultivated soils is 0.5 to 1.0% organic matter by weight. This is equivalent to adding 900 to 1,800 wet pounds (25 to 50 bushels) of leaf compost per 1,000 square feet of area. To accomplish this, spread a 3/8- to 3/4-inch depth of leaf compost uniformly over the soil surface and mix into the top 6 to 8 inches of soil.

Little or no nitrogen will be released from compost for plant use during the season immediately following incorporation into the soil. It is generally necessary to add nitrogen to soils containing compost to prevent the compost from "robbing" the soil of nitrogen and creating deficiency problems in plants grown in the soil. Adding 1 to 1 1/2 lbs. of 10% nitrogen fertilizer to each 100 lbs. (about 3 bushels) of leaf compost is recommended.

The preceding recommendations supply only the needs of the leaf compost. Most plants require an additional 1 to 3 lbs. of actual nitrogen per 1,000 square feet for normal feeding. This nitrogen should be applied to the soil in addition to that applied in the leaf compost.

Using Leaf Compost as a Mulch

Leaf compost can also be used as an organic mulch on the surface of soil in place of peatmoss, straw, etc. Organic mulches are valuable because they:

- Reduce rainfall runoff, thereby making more water available for plant growth.
- Decrease water evaporation losses from the soil.
- Keep the soils cooler in hot weather and warmer in cold weather.
- Reduce alternate freezing and thawing of soils which can injure the fibrous roots of plants.
- Help to prevent soil erosion by wind or water.
- Keep soils friable, therefore easier to cultivate.
- Increase biological activity of earthworms and other soil organisms.
- Prevent soil spattering on leaves, flowers, or fruits such as strawberries.
- Reduce soil compaction from rain and irrigation water.
- Help to control weeds.
- Present a pleasing appearance.

Recommended thicknesses of mulch layers: 2-3 inches for deciduous shrubs and trees, vegetables, and rosebeds; 3 inches for flower beds; and 3-4 inches for shallow-rooted, acid-loving plants.

Other Uses for Leaf Compost

Leaf compost may also be used in potting soil. However, no more than 25 to 30% of the potting soil should be leaf compost. Frequently leaf compost will continue to decompose. If more that 25 to 30% of the potting soil is leaf compost, there will be a significant volume reduction of the potting soil after 1 year.

Composting generally destroys most weed seeds contained in the compost material; however, not all of them will be destroyed. Some are heat resistant, and others will not be fully exposed to the high temperatures. If a completely pasteurized leaf compost is desired for potting soil, it will be necessary to heat it in an oven until the temperature of the center of the mass reaches 180°F and is maintained for 30 minutes.

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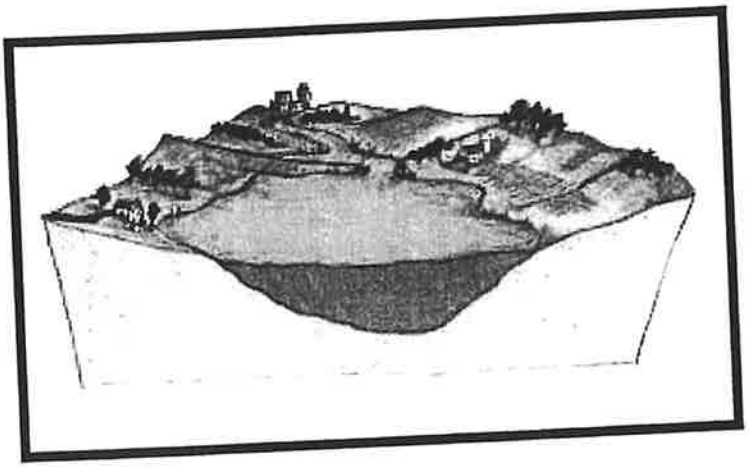
What's a watershed?

No matter where you are in New Jersey, you are in a watershed. Watersheds are everywhere ... from your front doorstep to the local park to the shopping mall to the creek down the road. Watersheds are the link between our land, our water and our communities because the quality of our water is linked to how we use the watershed surrounding it.

So what is a watershed?

What's a watershed?



A watershed is the area of land that drains into a body of water such as a river, lake, stream or bay. It is separated from other watersheds by high points in the area such as hills or slopes. It includes not only the waterway itself but also the entire land area that drains to it. For example, the watershed of a lake would include not only the streams entering that lake but also the land area that drains into those streams and eventually the lake. Drainage basins generally refer to large watersheds that encompass the watersheds of many smaller rivers and streams.

What's the water cycle?

For millions of years, water has been used. It is constantly being recycled and reused. It is important to understand how water moves through the Earth's water cycle, which is defined as the movement of water from the Earth's surface into the atmosphere and back to the Earth's surface again.

When it rains, the rainwater flows over land into waterways or is absorbed by the ground or plants. Water evaporates from land and water bodies becoming water vapor in the atmosphere. Water is also released from trees and other plants through "transpiration." The water vapor from evaporation and transpiration forms clouds in the atmosphere which in turn provide precipitation (rain, hail, snow, sleet) to start the cycle over again. This process of water recycling, known as the water cycle, repeats itself continuously.

What's your watershed address?

Where does the water that rains on your home go? After it leaves your lawn, street or sidewalk where is it headed? Does it flow downhill straight to a nearby stream or lake? Does it wander into a wetlands? Does it puddle in your backyard? Does it zip down a storm drain to a local creek?

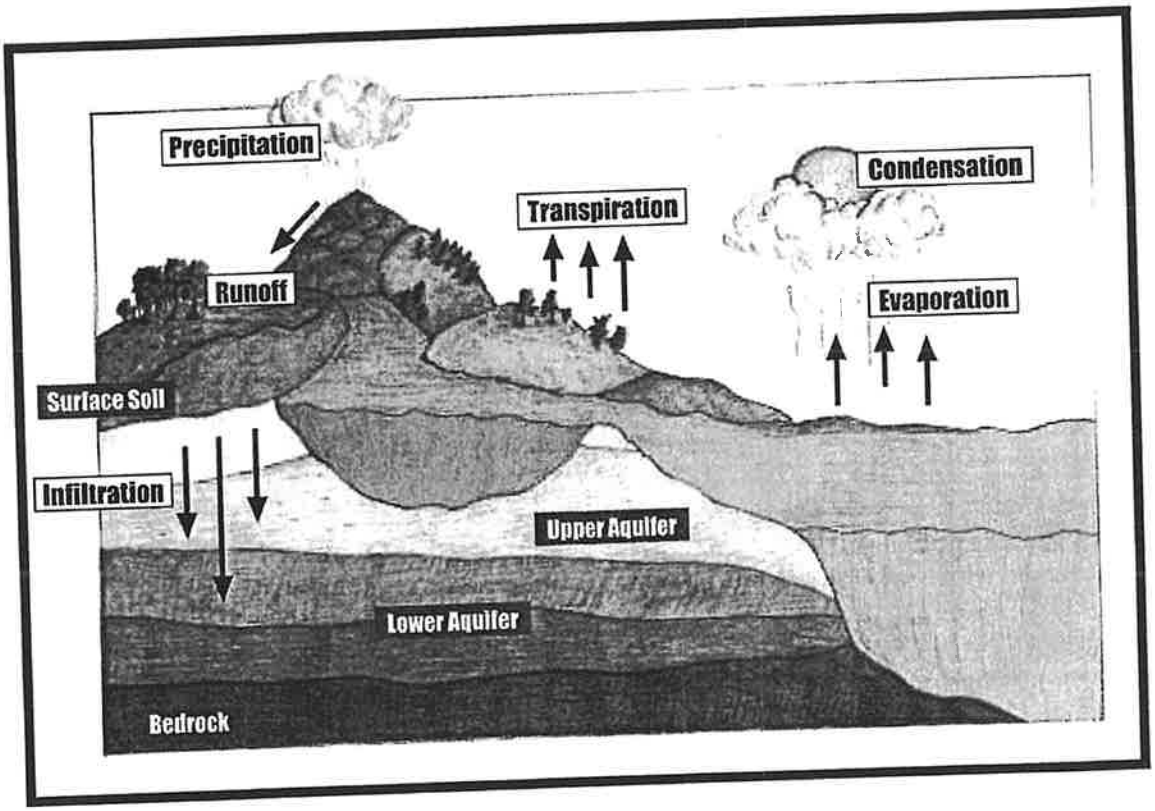
That destination, whether it's a puddle, a pond, a bay or a lake, is your watershed address. It could be Duck Pond, Spring Lake, Millstone River, Barnegat Bay or Beaver Brook. Just like there are towns within counties within states, there are subwatersheds within watersheds within drainage basins. For example, the rain that falls on your driveway might flow into Lake Hopatcong, which flows into the Musconetcong River, which flows into the Delaware River. So your watershed address would be Lake Hopatcong, Musconetcong River, Delaware River even though your mail finds you through Jefferson Township, Morris County, New Jersey.

What's ground water?

A sizable amount of rainwater runoff seeps into the ground to become ground water. Ground water moves into water-filled layers of porous geological formations called aquifers. If the aquifer is close to the surface, its ground water can flow into nearby waterways or wetlands, providing a base flow. Depending on your location, aquifers containing ground water can range from a few feet below the surface to several hundred feet underground. Aquifer recharge areas are locations where rainwater and other precipitation seeps into the Earth's surface to enter an aquifer. Contrary to popular belief, aquifers are not flowing underground streams or lakes.

Ground water moves at an irregular pace, seeping from more porous soils, from shallow to deeper areas and from places where it enters the Earth's surface to where it is discharged or withdrawn. A system of more than 100 aquifers is scattered throughout New Jersey, covering 7,500 square miles.

Why is ground water important?
Ground water is the primary drinking water source for half of the state's population. Most of this water is obtained from individual domestic wells or public water supplies which tap into aquifers. New Jersey agriculture also depends on a steady supply of clean ground water for irrigation.



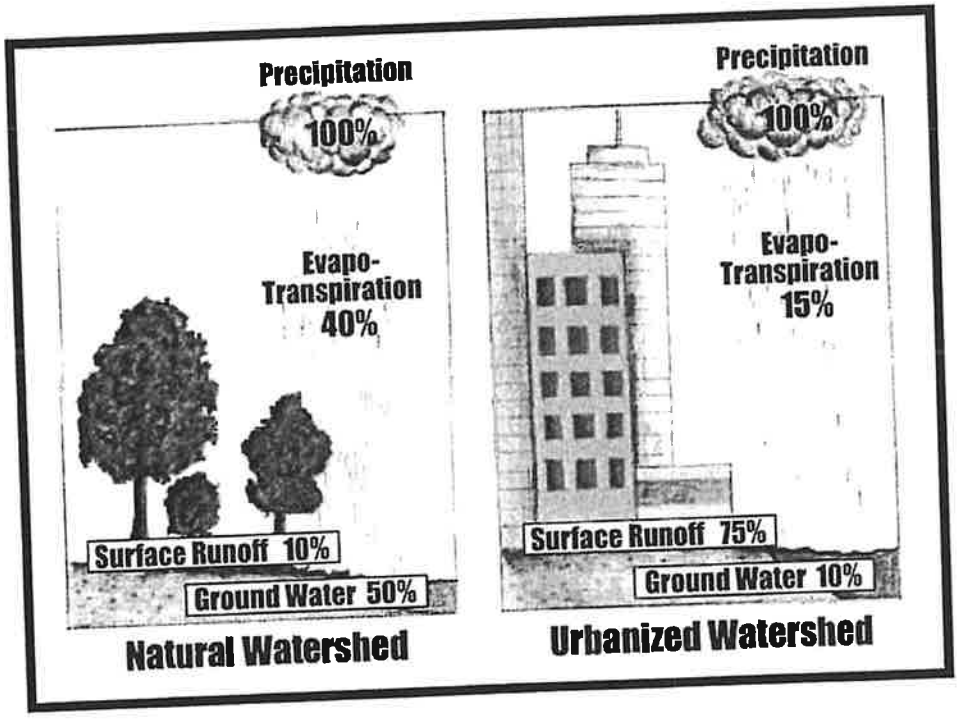
How does urbanization change a watershed?

Urbanization (or development) has a great effect on local water resources. It changes how water flows in the watershed and what flows in the water. Both surface and ground water flow are changed.

As a watershed becomes developed, trees, shrubs and other plants are replaced with impervious surfaces (roads, rooftops, parking lots and other hard surfaces that do not allow stormwater to soak into the ground). Without the plants to store and slow the flow of stormwater, the rate of stormwater runoff is increased. Less stormwater soaks into the ground because the sidewalks, roads, parking lots and rooftops block this infiltration. This means a greater volume of water reaches the waterway faster and less water infiltrates to ground water. This in turn leads to more flooding after storms and reduced flow in streams and rivers during dry periods. The reduced amount of infiltrating water can lower ground water levels, which in turn can stress local waterways that depend on steadier flows of water.

In the stream, more erosion of stream banks and scouring of channels will occur due to volume increase. This in turn degrades habitat for plant and animal life that depend on clean water. Sediment from eroded stream banks clogs the gills of fish and blocks light needed for plants. The sediment settles to fill in stream channels, lakes and reservoirs. This also increases flooding and the need for dredging to clear streams or lakes for boating.

In addition to the high flows caused by urbanization, the increased runoff also contains increased contaminants. These include litter, cigarette butts and other debris from sidewalks and streets, motor oil poured into storm sewers, heavy metals from brake linings, settled air pollutants from car exhaust and pesticides and fertilizers from lawn care. These contaminants reach local waterways quickly after a storm.



What's watershed management?

The watershed management approach seeks to effectively protect our water resources by taking into account the entire watershed. Successful watershed management requires the participation and involvement of the entire community within the watershed boundaries, including industry, government, business and citizens. Since everyone may contribute to watershed problems, all should be involved in identifying both the problems and the solutions.

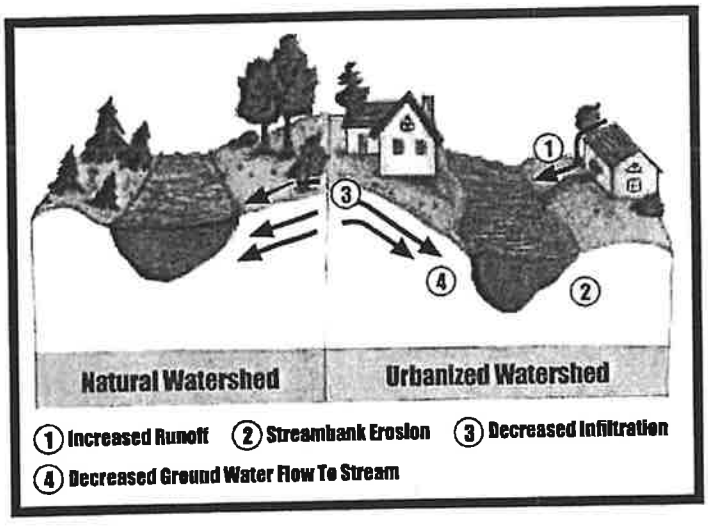
One of the first steps in watershed management is problem identification. Does the local lake choke with weeds in the summer? Are failing septic systems closing shellfish beds? Is increased runoff causing stream banks to erode?

Once the problems and their causes have been identified, practical solutions must be chosen. The watershed community must identify traditional or innovative solutions that will work in their area. These solutions can range from changes to municipal stormwater ordinances to homeowner education about lawn care to stream bank restoration projects.

Identifying which solutions are right for a particular watershed is a crucial component of the watershed management process. Different solutions work in different communities. Developed with the watershed community of industry, government, business and citizens, watershed management planning reflects the concerns and priorities of that community.

Once solutions have been identified, they must be implemented to be successful. This can be the most difficult part of the process. How can implementation be ensured? Who will carry out the plan? Is the community committed to implementing the plan? Are there resources available to do it?

The advantage of watershed management planning is that it addresses all sources of pollution within the watershed and is developed by the community most affected by it. Nonpoint source pollution is particularly suited to this approach because it is frequently beyond the scope of traditional regulatory programs. The plan can incorporate solutions ranging from change in local land use to integrated pest management. Each plan will uniquely fit the problems and solutions of its watershed.



New Jersey's five watershed bureaus and 20 watershed management areas

Northwest Bureau
(609) 633-3812

1. Upper Delaware River
2. Wallkill, Pochuck, Papakating
11. Central Delaware Tributaries

Northeast Bureau
(609) 633-1179

3. Pompton, Pequannock, Wanaque, Ramapo
4. Lower Passaic, Saddle
5. Hackensack, Pascack, Hudson
6. Upper and Mid-Passaic, Whippany, Rockaway

Raritan Bureau
(609) 633-7020

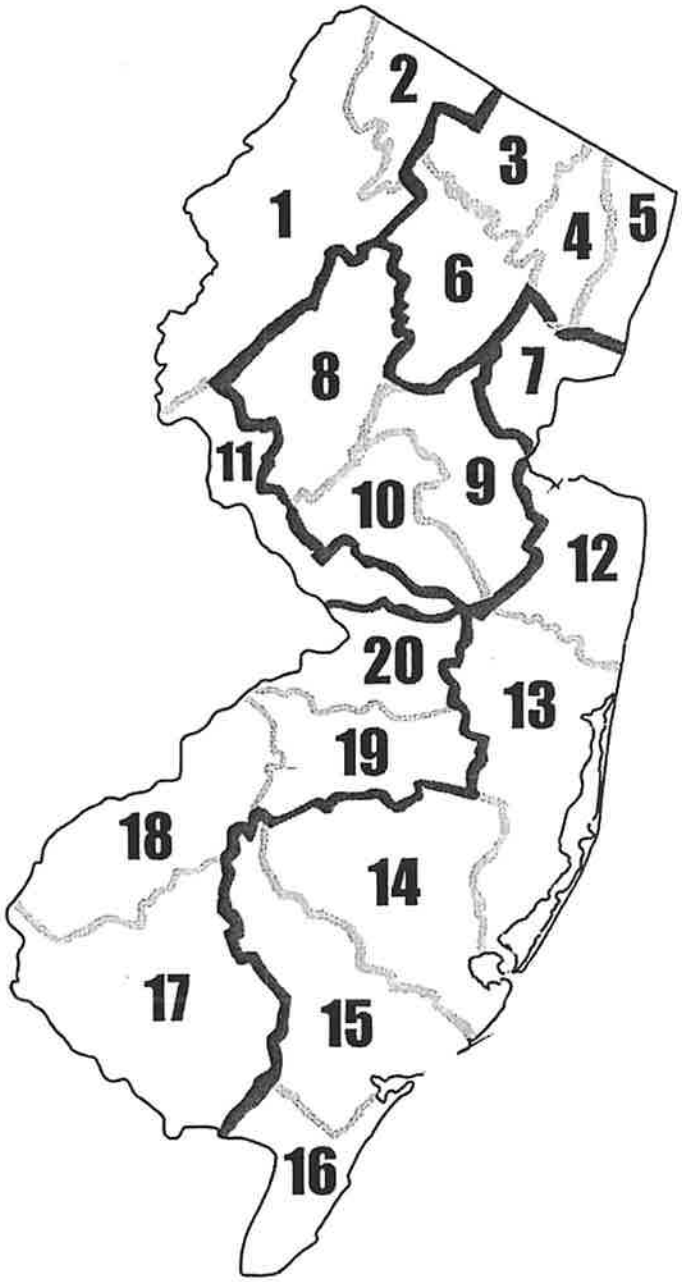
7. Elizabeth, Rahway, Woodbridge
8. North and South Branch Raritan
9. Lower Raritan, South River, Lawrence Brook
10. Millstone River

Atlantic Coastal Bureau
(609) 984-6888

12. Monmouth Watersheds
13. Barnegat Bay Watersheds
14. Mullica, Wading River
15. Great Egg Harbor, Tuckahoe
16. Cape May Watersheds

Lower Delaware Bureau
(609) 633-1441

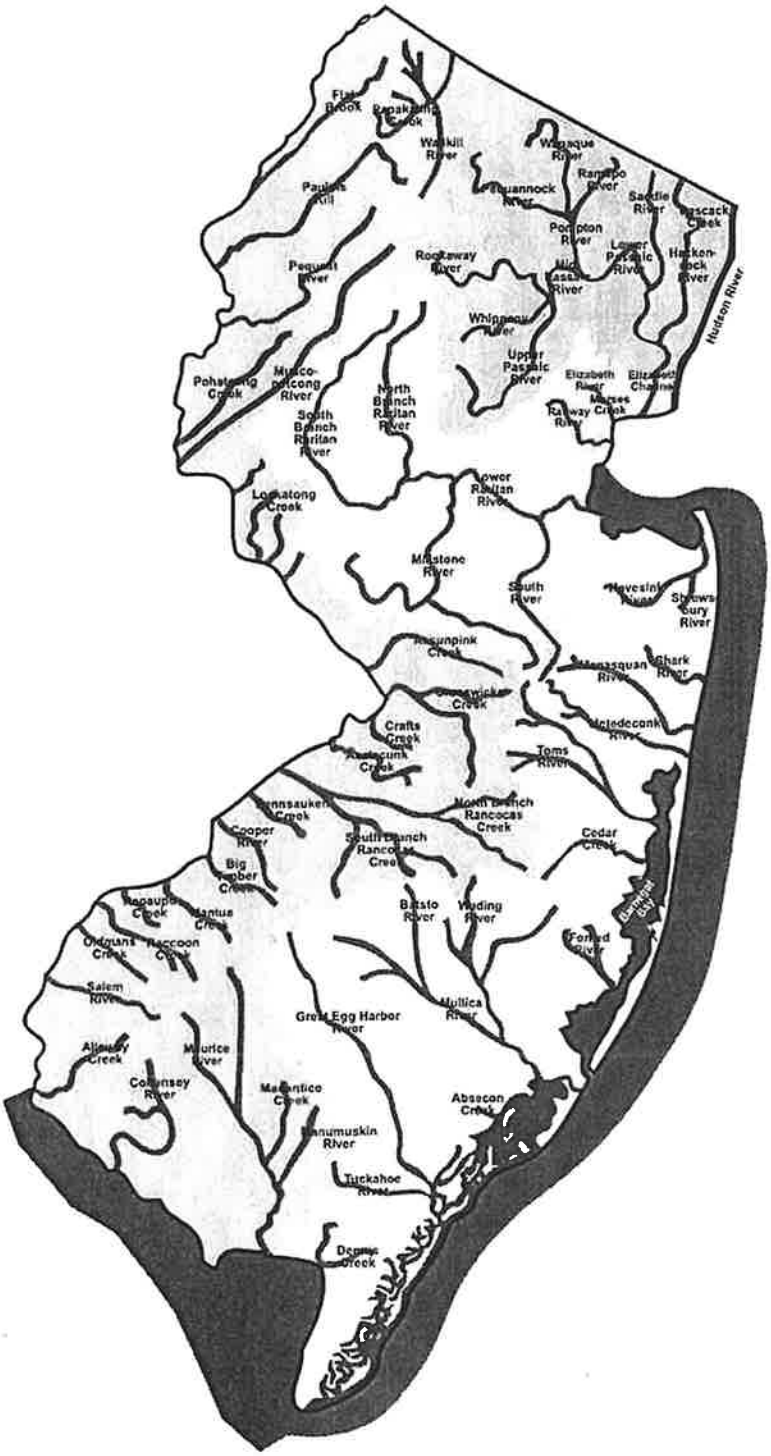
17. Maurice, Salem, Cohansey
18. Lower Delaware Tributaries
19. Rancocas Creek
20. Crosswicks Creek



New Jersey's five watershed regions and major waterways

watershed regions

- ☐ Atlantic Coastal
- ☐ Lower Delaware
- ☐ Northeast
- ☐ Northwest
- ☐ Raritan



Watershed protection and nonpoint source pollution
what you can do today!

One way you can protect your watershed is to reduce nonpoint source pollution. Nonpoint source pollution or "people pollution" is contamination of our watersheds, ground water, waterways and ocean that results from everyday activities such as fertilizing the lawn, walking pets, changing motor oil and littering. With each rainfall, pollutants generated by these activities are washed from the entire watershed into local waterways. They can also soak into the ground contaminating the ground water below.

But there is good news - in our everyday activities we can stop nonpoint source pollution and keep our environment clean. Simple changes in your daily lifestyle can make a tremendous difference in the quality of New Jersey's water resources. Here are a few ways that you can reduce nonpoint source pollution:

Place litter in trash receptacles. Never throw litter, including cigarette butts and fast food containers, in streets or down storm drains. Recycle as much as possible.

Avoid the overuse of fertilizers. Do not apply them before a heavy rainfall. Do a soil test to see if fertilizers are necessary. Fertilizers contain nitrates and phosphates that, in abundance, cause blooms of algae that can lead to fish kills.

Use alternative to pesticides whenever possible. If you do use a pesticide, follow the label directions carefully. Many household products made to exterminate pests are also toxic to humans, animals, aquatic organisms and plants.

Pick up after your pet. Pet owners should use newspaper, bags or scoopers to pick up after their pets and dispose of wastes in the garbage or toilet, not the storm drain. Animal wastes contain bacteria and viruses that can contaminate shellfish and cause the closing of bathing beaches. Animal waste also contains nutrients that can cause algae blooms that are unsightly and can lead to fish kills.

Do not feed ducks and geese. Feeding ducks, geese and other waterfowl causes them to concentrate in small areas resulting in concentrated animal waste, causing the same problems as pet waste.

Dispose of household hazardous waste properly. Do not pour household hazardous products down any drain or toilet. Do not discard with the regular household trash. Use natural and less toxic alternatives whenever possible. Contact your County Solid Waste Management Office for information regarding household hazardous waste collection in your area. Many common household products (paint thinners, mothballs, drain and oven cleaners, to name a few) contain toxic ingredients. When improperly used or discarded, these products are a threat to public health and the environment.

Recycle all used motor oil. Do not dump used motor oil down storm drains or on the ground. Take it to a local public or private recycling center. Used motor oil contains toxic chemicals that are harmful to animals, humans and fish.

Wash your car only when necessary. Consider using a commercial car wash that recycles its wash water. Like fertilizers, many car detergents contain phosphate. If you wash your car at home, use a non-phosphate detergent.

Treat your septic system with respect. Avoid adding unnecessary grease, household hazardous products and solids to your septic system. Conserve water. Inspect your tank annually and pump it out every three to five years depending on its use. An improperly working septic system can contaminate ground water and create public health problems.

Use marine sanitation devices and pump-out facilities at marinas when boating. Observe the state's no discharge zones. Dumping boat sewage overboard introduces bacteria and viruses into the water.

For additional information please contact:
New Jersey Department of Environmental Protection · Watershed Management
P.O. Box 418 · 401 East State Street · Trenton · New Jersey · 08625-0418
609-292-2113 · www.state.nj.us/dep/watershedmgt

Pet Waste Pollutes Our Waters

What You Can Do To Help Protect Our Water

Clean and plentiful water is important to our families, our environment, our economy and our quality of life.

Did you know that animal waste from pets can pollute our waters? When left on the ground, pet waste is washed by rain and melting snow and ice into storm drains that carry it to our rivers, lakes, the ocean and drinking water.

Animal waste contains a high concentration of nutrients as well as bacteria and disease-causing microorganisms that can cause problems.

What you can do

Pet owners or anyone who takes your pet for walks must properly dispose of the waste by picking it up, wrapping it and either placing it in the trash or flushing it unwrapped down the toilet.

Your municipality is required to adopt and enforce local pet-waste laws. At a minimum, your community must require that pet owners or their keepers **immediately** and **properly** dispose of their pet's solid waste deposited on **any public or private property not owned or possessed by that person.** People with assistance animals such as Seeing Eye dogs are exempt.

Make sure you know what your municipality requires – and follow it.

Thank you for doing your part to keep New Jersey's waters clean.

For more information, please contact the following:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021

Visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites www.epa.gov/npdes/stormwater or www.epa.gov/nps

Section 5

Storm Drain Inlet Labeling

SPPP Form 5 – Storm Drain Inlet Labeling

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # :*NJG 0154687*PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P., C.M.E./Township Engineer*

Effective Date of Permit Authorization (EDPA):*04/01/04*

Date of Completion: *TBD* Date of most recent update: *5/27/2022*

Storm Drain Inlet Labeling

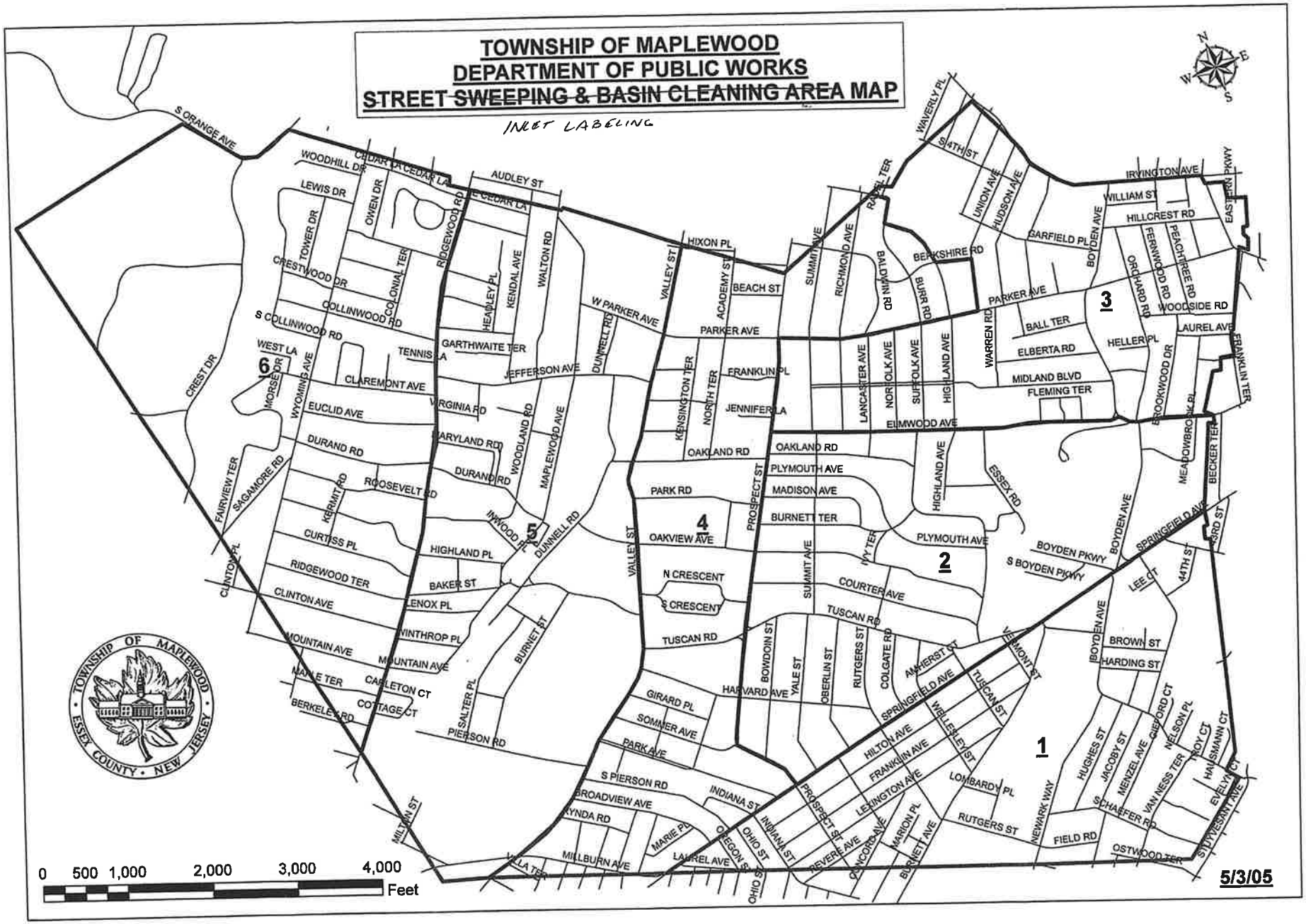
Describe your storm drain inlet labeling program, including your labeling schedule, the details of your long-term maintenance plan, and plans on coordinating with watershed groups or other volunteer organizations.

All new inlets feature ECO-N Head Pieces, which have No Dump to Waterways in the casting. All existing inlets get labeled by DPW personnel as they are cleaned each year. Existing inlets that do not have the ECO N grate will receive glue on labels.

Labeling effort completed 100% by DPW forces.

Maintenance Plan

Long term maintenance will be addressed by DPW sewer crew. The condition of lables will be assessed as part of the basin cleaning program. Labels found to be missing or in a state of disrepair will be replaced. DPW currently maintains a supply of extra labels and adhesive. As inlet heads are replaced we are relying on the casting labels themselves in lieu of the glued on label.


TOWNSHIP OF MAPLEWOOD
DEPARTMENT OF PUBLIC WORKS
STREET SWEEPING & BASIN CLEANING AREA MAP
INLET LABELING
1
2
3
4
5
6
0 500 1,000 2,000 3,000 4,000
Feet
5/3/05

Section 6

MS4 Outfall Pipe Mapping

SPPP Form 6 – MS4 Outfall Pipe Mapping

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # :*NJG 0154687*PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P., C.M.E./Township Engineer*

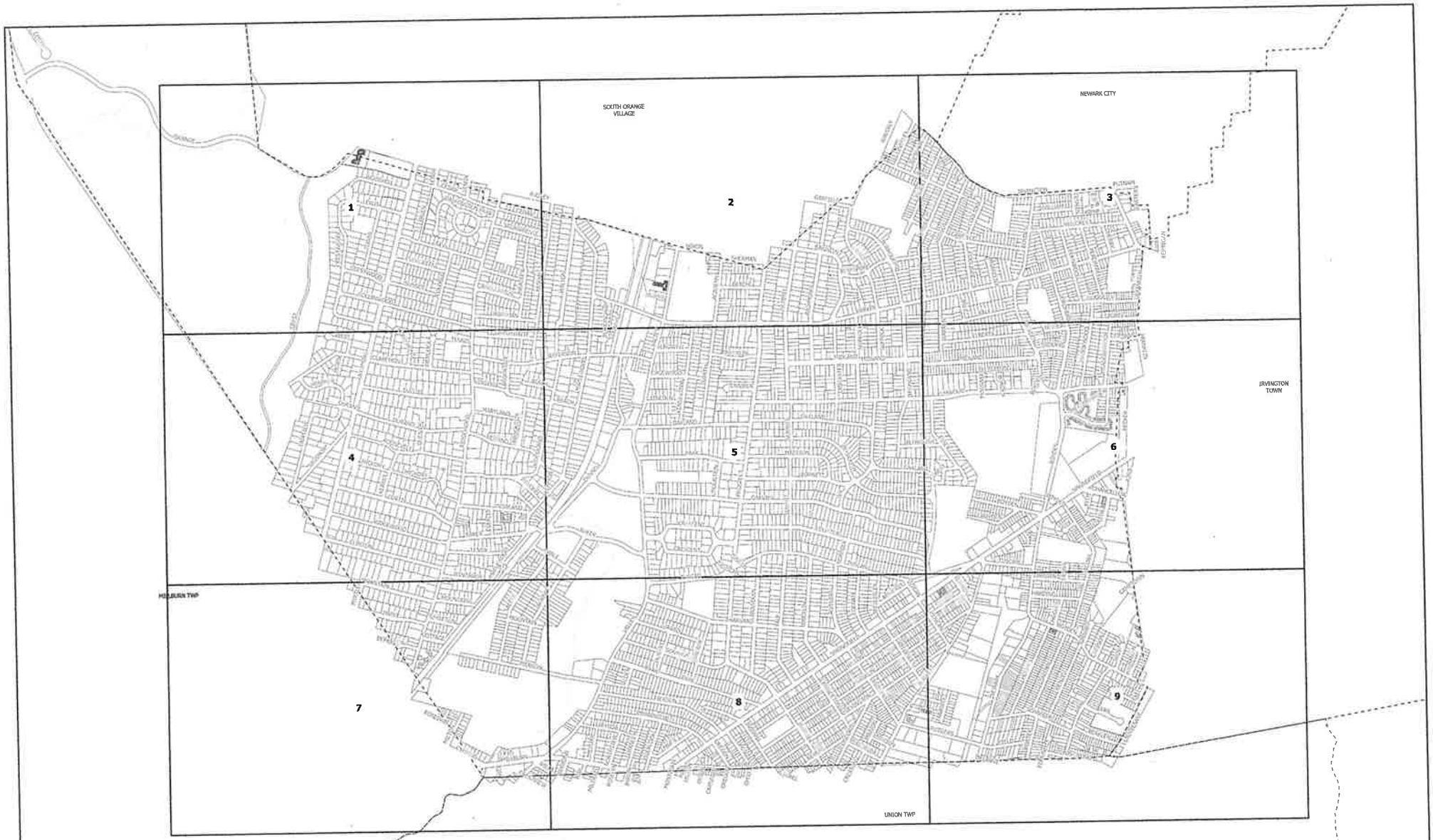
Effective Date of Permit Authorization (EDPA):*04/01/04*

Date of Completion: *10/01/05* Date of most recent update: *May 27, 2022*

Explain how you will prepare your map (include its type and scale, and the schedule for the mapping process). Who will prepare your map (e.g., municipal employees, a consultant, etc.)?

Maplewood Township has already located all stormwater outfall pipe locations throughout the Township and has development a map (1"=100') that displays the outfall locations. The map is currently being edited by a Consultant with field survey/GPS. Each outfall will be identified with an alphanumeric identifier. The map is in GIS format and can be made available upon request. The first sector of the Township has been updated to date. Updates of the GIS mapping are performed by a consultant.

Last Physical inspection was performed April 2018 by Township, Consulting Engeer updated mapping 2020.



Key Sheet Index

0 750 1,500 Feet

1 Inch = 750 Feet

STREAMS
SUBBOUNDS
PARCEL

MASER CONSULTING P.A.

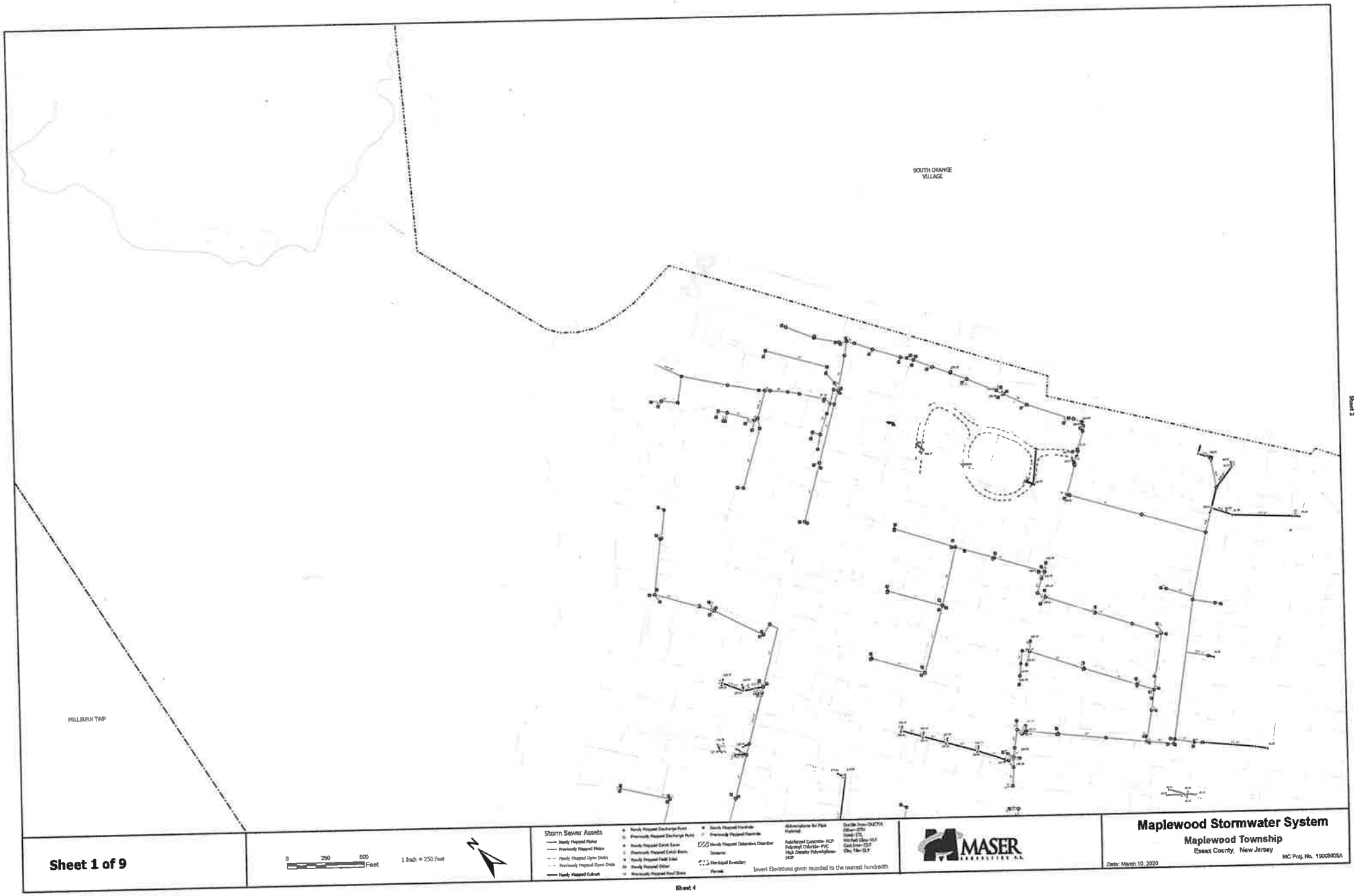
Maplewood Stormwater System

Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No : 19003005A



Sheet 1 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

- Newly Mapped Pipes
- Previously Mapped Pipes
- Newly Mapped Open Drain
- Previously Mapped Open Drain
- Newly Mapped Culvert
- Newly Mapped Discharge Point
- Previously Mapped Discharge Point
- Newly Mapped Catch Basin
- Previously Mapped Catch Basin
- Newly Mapped Field Inlet
- Newly Mapped Other
- Previously Mapped Roof Drain
- Newly Mapped Manhole
- Previously Mapped Manhole
- Newly Mapped Detention Chamber
- Streams
- Municipal Boundary
- Parcels

Invert Elevations given rounded to the nearest hundredth

Abbreviations for Pipe Material:

Asbestos Cement= ACP
Polyvinyl Chloride= PVC
High Density Polyethylene= HDP
Ductile Iron= DI/CIP
Other= OTH
Steel= STL
Vitrified Clay= VLY
Cast Iron= CI/I
Clay Tile= CLY

MASER CONSULTING P.A.

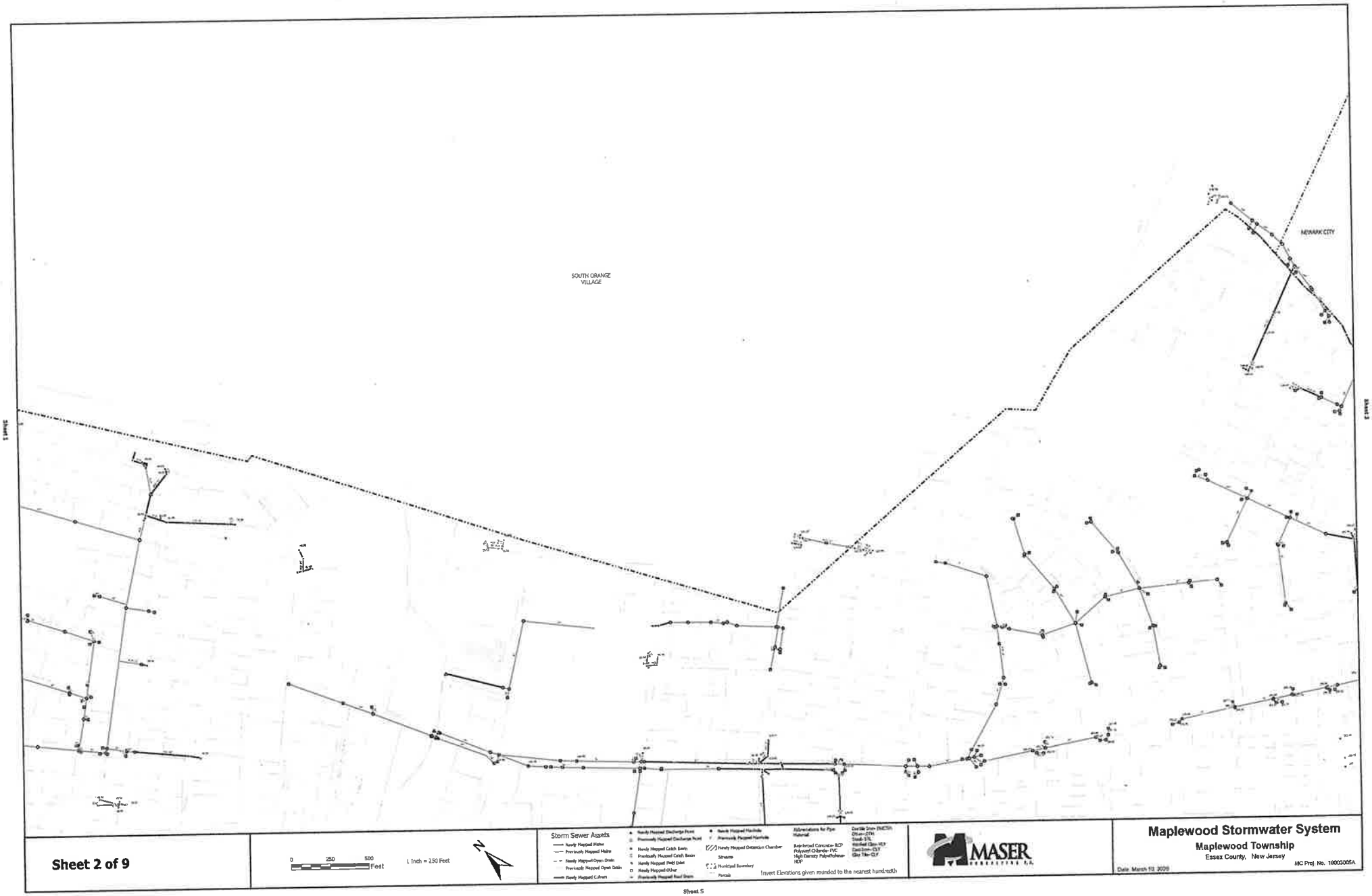
Maplewood Stormwater System

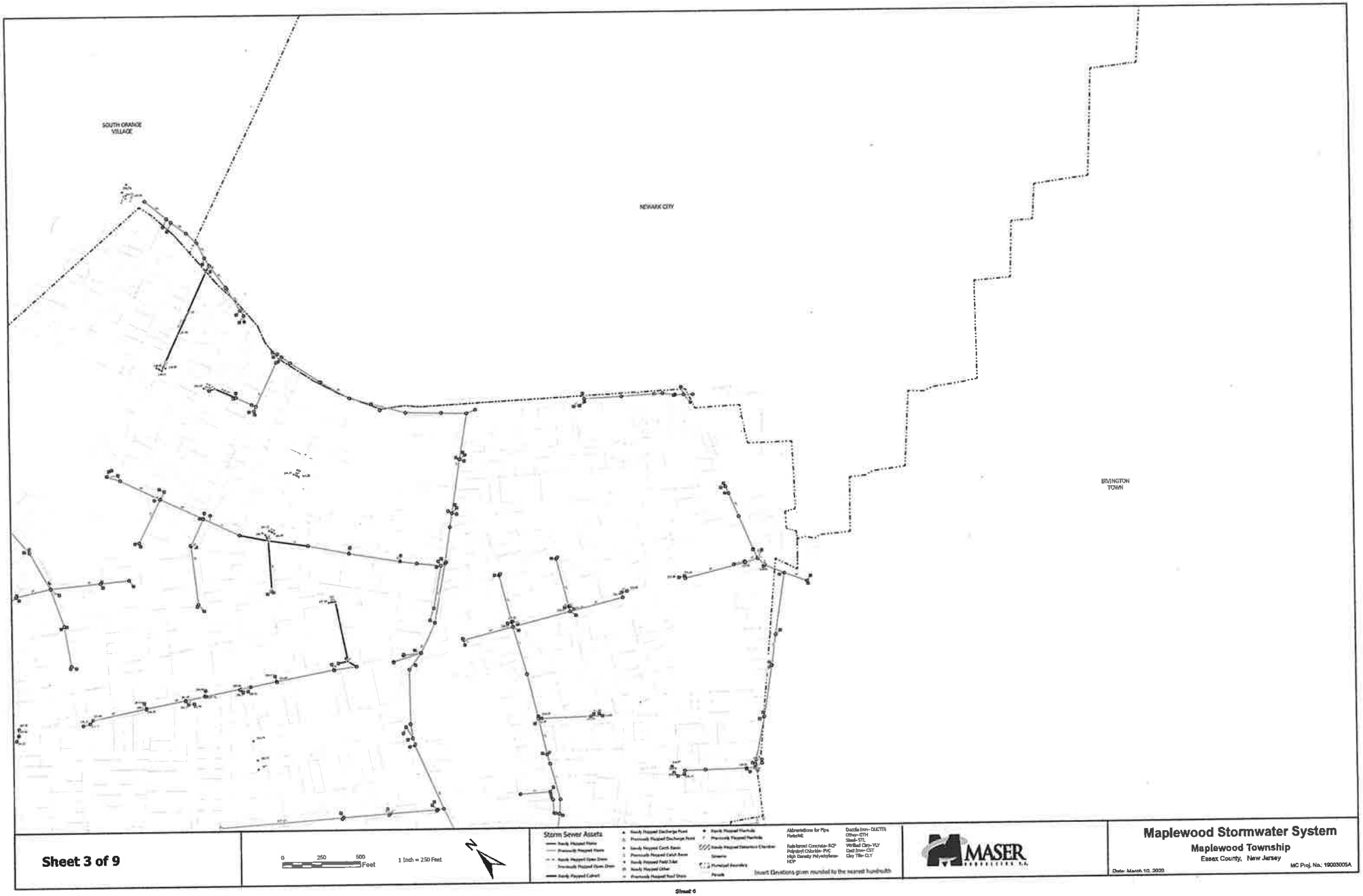
Maplewood Township

Essex County, New Jersey

MC Proj. No. 19003005A

Date: March 10, 2020


SOUTH ORANGE VILLAGE
NEWARK CITY
Sheet 1
Sheet 3
Sheet 5
Sheet 2 of 9
0 250 500 Feet
1 Inch = 250 Feet
N
Storm Sewer Assets
Newly Mapped Main
Previously Mapped Main
Newly Mapped Open Drain
Previously Mapped Open Drain
Newly Mapped Culvert
Newly Mapped Discharge Point
Previously Mapped Discharge Point
Newly Mapped Catch Basin
Previously Mapped Catch Basin
Newly Mapped Field Inlet
Newly Mapped Other
Previously Mapped Roof Drain
Newly Mapped Manhole
Previously Mapped Manhole
Newly Mapped Detention Chamber
Streams
Municipal Boundary
Parcels
Invert Elevations given rounded to the nearest hundredth
Abbreviations for Pipe Material
Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
MASER CONSULTING P.A.
Maplewood Stormwater System
Maplewood Township
Essex County, New Jersey
Date: March 10, 2009
MC Proj No. 18003005A



Sheet 3 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

Abbreviations for Pipe Material:
Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
Ductile Iron- DUCTIR
Other- OTH
Steel- STL
Vitrified Clay- VLY
Cast Iron- CST
Clay Tile- CLY

Insert Elevations given rounded to the nearest hundredth

MASER CONSULTING P.A.

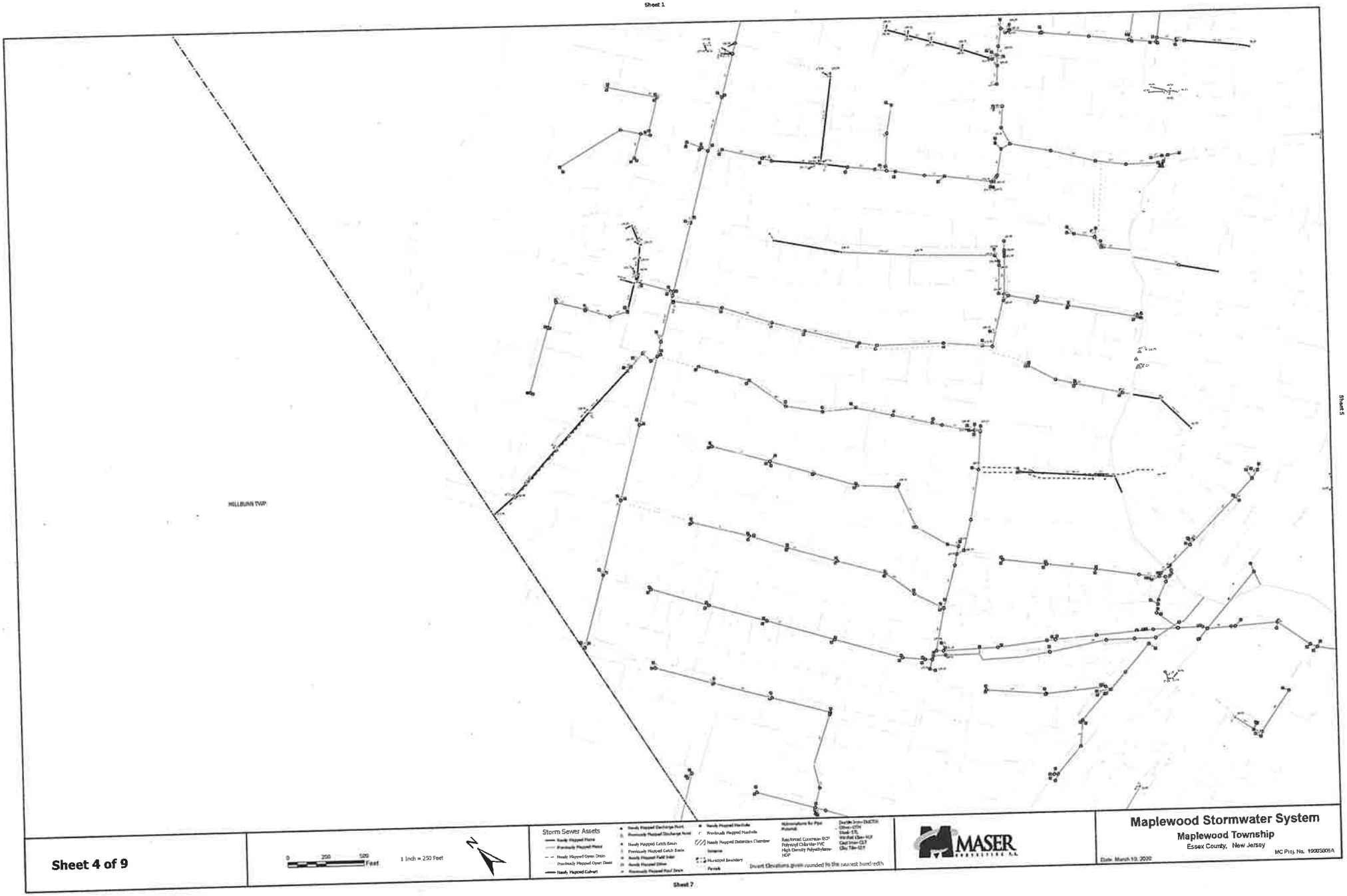
Maplewood Stormwater System

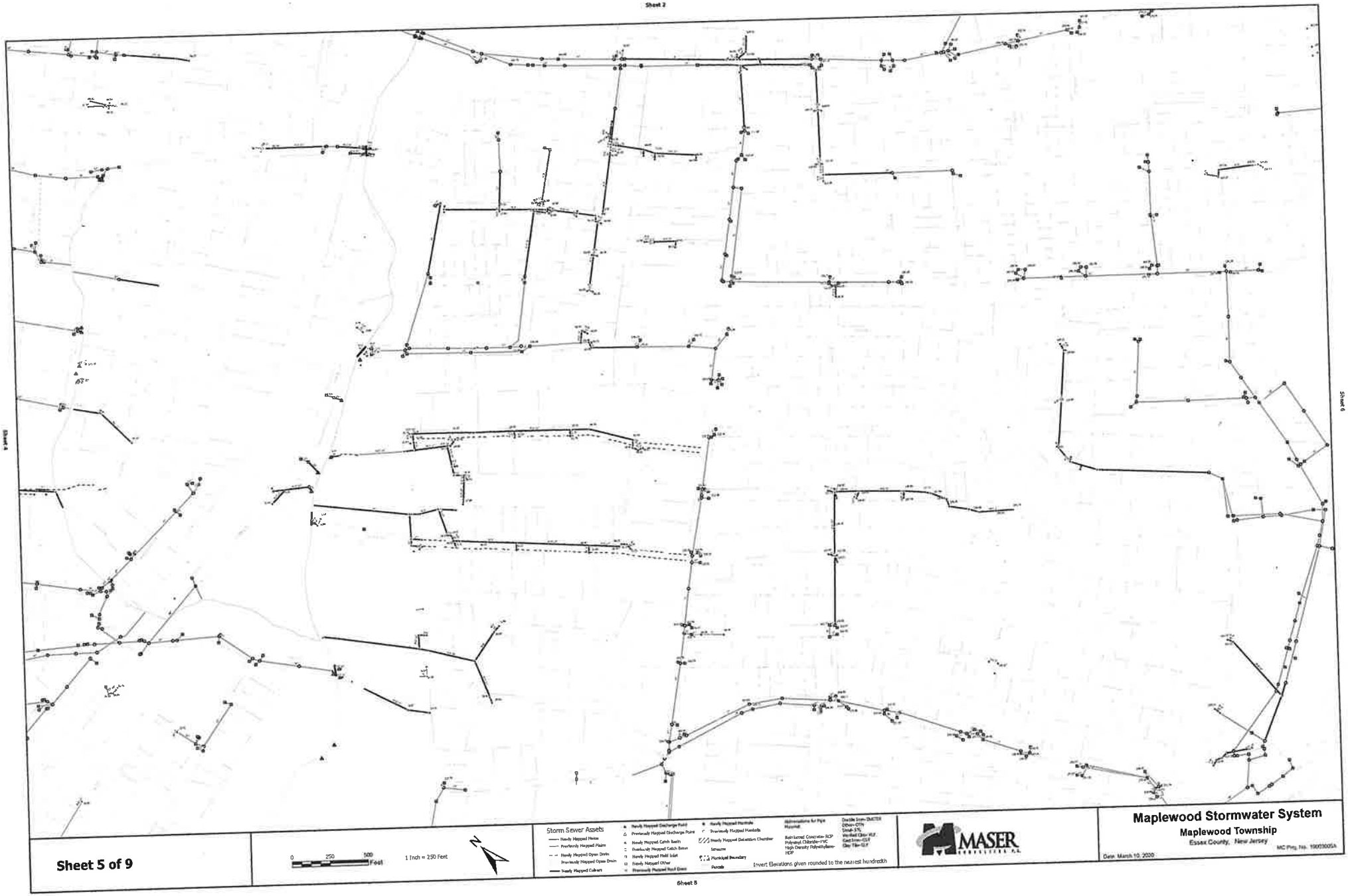
Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No.: 19003005A


Sheet 1
HILLBURN TWP
Sheet 5
Sheet 7
Storm Sewer Assets
Newly Mapped Plains
Previously Mapped Plains
Newly Mapped Open Drain
Previously Mapped Open Drain
Newly Mapped Culvert
Newly Mapped Discharge Point
Previously Mapped Discharge Point
Newly Mapped Catch Basin
Previously Mapped Catch Basin
Newly Mapped Field Inlet
Newly Mapped Drive
Previously Mapped Roof Drain
Newly Mapped Manhole
Previously Mapped Manhole
Newly Mapped Detention Chamber
Municipal Boundary
Parcels
Abbreviations for Pipe Material:
Ductile Iron-DI/CIP
Other-OTH
Unknown-UNK
Steel-STL
Vitrified Clay-VCP
Cast Iron-CI
Clay Tile-CLT
Reinforced Concrete-RCP
Polyvinyl Chloride-PVC
High Density Polyethylene-HDP
Invert Elevations given rounded to the nearest hundredth
MASER CONSULTING P.A.
Maplewood Stormwater System
Maplewood Township
Essex County, New Jersey
MC Proj. No. 19003005A
Date: March 19, 2020
Sheet 4 of 9
0 250 500 Feet
1 Inch = 250 Feet
N



Sheet 5 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

- Newly Mapped Mains
- Previously Mapped Mains
- Newly Mapped Open Drain
- Previously Mapped Open Drain
- Newly Mapped Culvert
- Newly Mapped Discharge Point
- Previously Mapped Discharge Point
- Newly Mapped Catch Basin
- Previously Mapped Catch Basin
- Newly Mapped Field Inlet
- Newly Mapped Other
- Previously Mapped Roof Drain
- Newly Mapped Manhole
- Previously Mapped Manhole
- Newly Mapped Detention Chamber
- Structure
- Municipal Boundary
- Parcels

Invert Elevations given rounded to the nearest hundredth

Abbreviations for Pipe Material:

Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
Ductile Iron- DUCTIR
Other- OTH
Steel- STL
Vitrified Clay- VCP
Cast Iron- CIP
Clay Tile- CLY

MASER CONSULTING P.A.

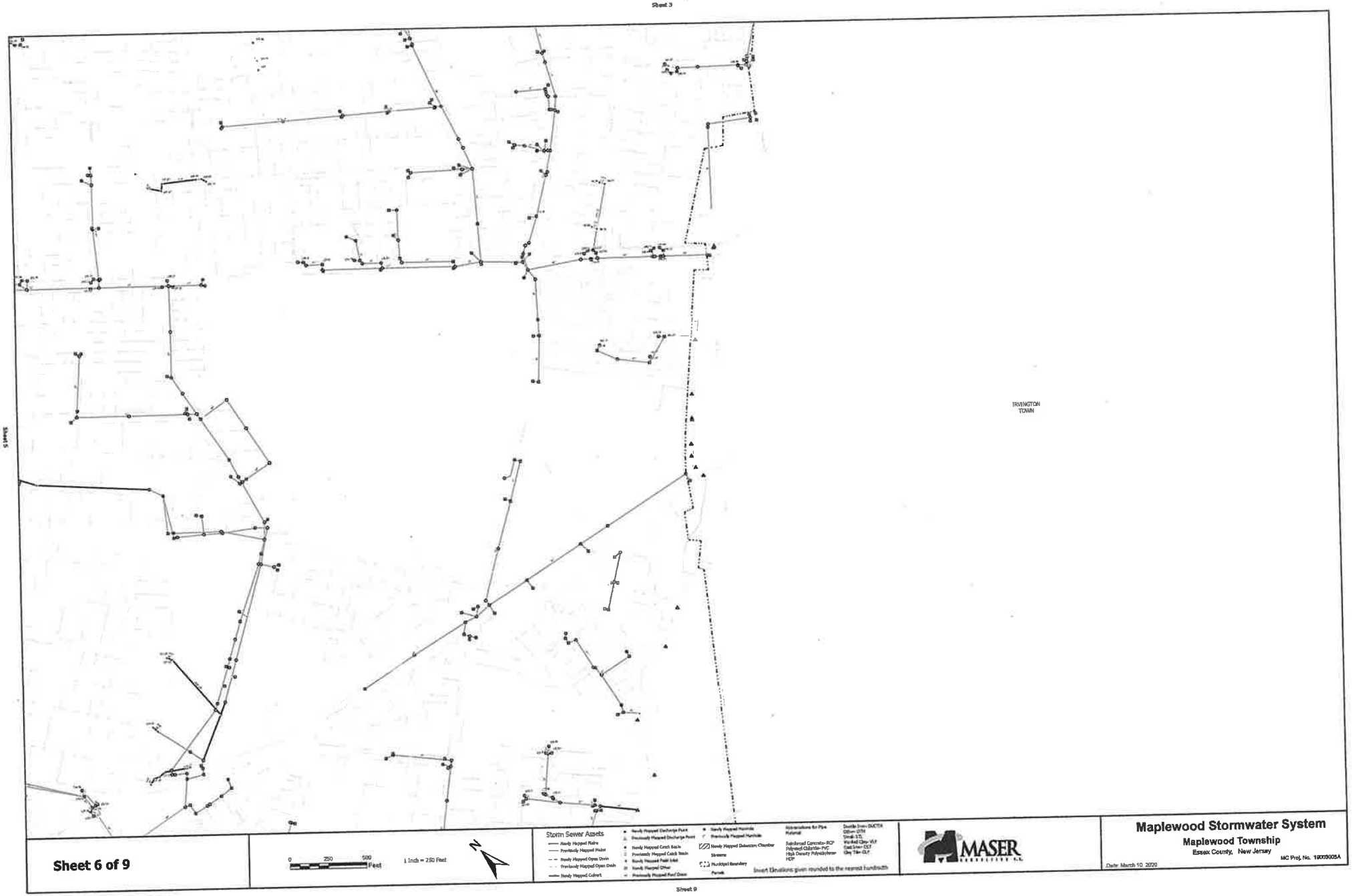
Maplewood Stormwater System

Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No. 19003005A



Sheet 6 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

- Newly Mapped Reins
- Previously Mapped Reins
- Newly Mapped Open Drain
- Previously Mapped Open Drain
- Newly Mapped Culvert
- Newly Mapped Discharge Point
- Previously Mapped Discharge Point
- Newly Mapped Catch Basin
- Previously Mapped Catch Basin
- Newly Mapped Field Inlet
- Newly Mapped Other
- Previously Mapped Other
- Newly Mapped Manhole
- Previously Mapped Manhole
- Newly Mapped Detention Chamber

Streams

Municipal Boundary

Parcels

Abbreviations for Pipe Material

Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
Ductile Iron- DUCTIR
Other- OTH
Steel- STL
Vitrified Clay- VLY
Cast Iron- CST
Clay Tile- CLY

Invert Elevations given rounded to the nearest hundredth

MASER CONSULTING P.A.

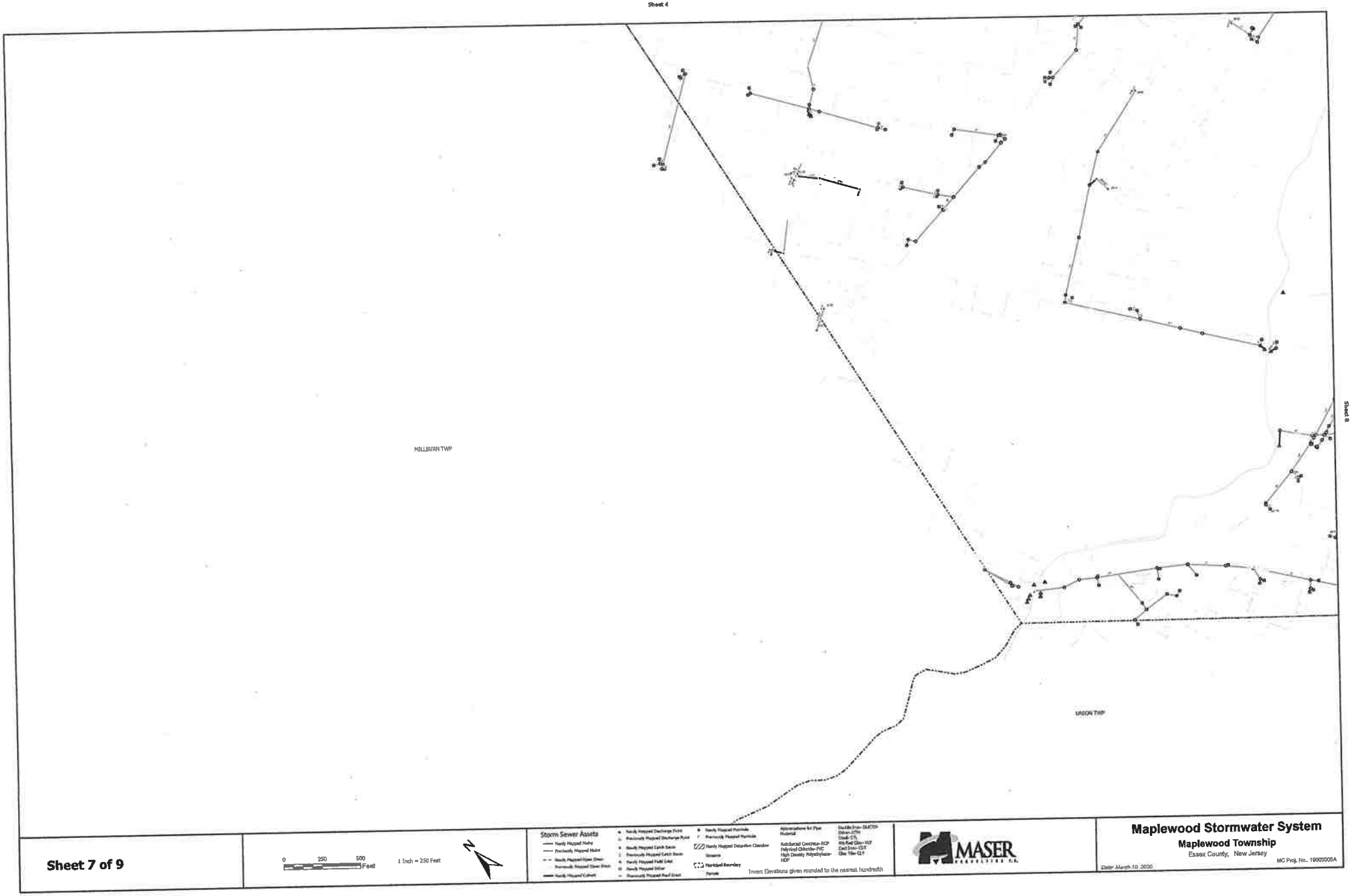
Maplewood Stormwater System

Maplewood Township

Essex County, New Jersey

MC Proj. No. 19X39005A

Date: March 10, 2020



Sheet 7 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

Newly Mapped Manhole
Previously Mapped Manhole
Newly Mapped Discharge Point
Previously Mapped Discharge Point
Newly Mapped Catch Basin
Previously Mapped Catch Basin
Newly Mapped Field Inlet
Newly Mapped Drywell
Previously Mapped Roof Drain
Newly Mapped Pumhole
Previously Mapped Pumhole
Newly Mapped Detention Chamber
Streams
Municipal Boundary
Parcels

Abbreviations for Pipe Material:
Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
Ductile Iron- DUCTIR
Clay- CLAY
Corrugated Metal Pipe- CMP
Reinforced Concrete Elliptical- RCE
Vitrified Clay- VCP
Cast Iron- CIP
Concrete- CONC

Invert Elevations given rounded to the nearest hundredth

MASER CONSULTING P.A.

Maplewood Stormwater System

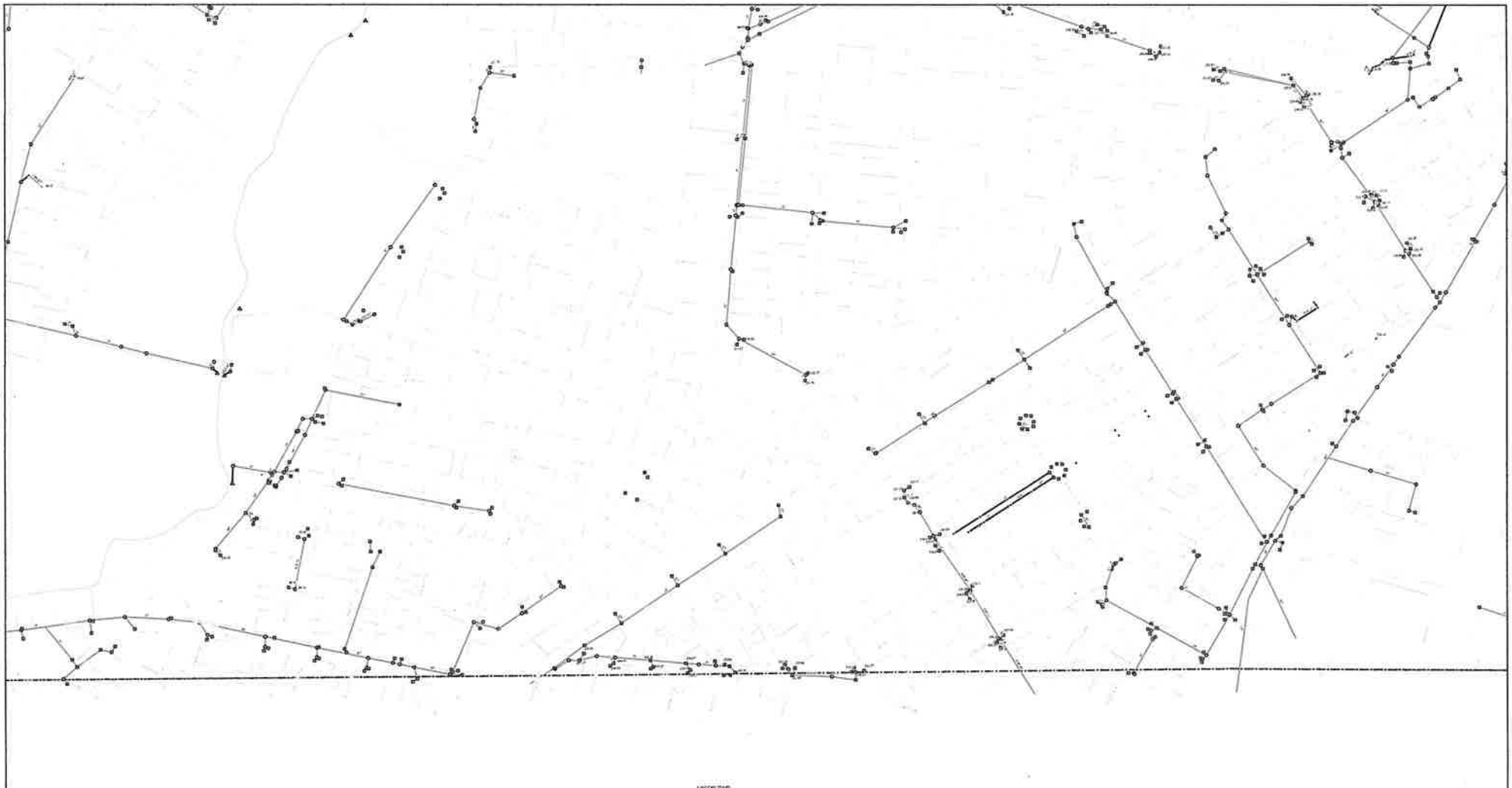
Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No.: 19005005A

Sheet 5



Sheet 7

Sheet 9

Sheet 8 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

Newly Mapped Flume
Previously Mapped Flume
Newly Mapped Open Drain
Previously Mapped Open Drain
Newly Mapped Culvert

Newly Mapped Discharge Point
Previously Mapped Discharge Point
Newly Mapped Catch Basin
Previously Mapped Catch Basin
Newly Mapped Field Inlet
Newly Mapped Other
Previously Mapped Reef Drain

Newly Mapped Manhole
Previously Mapped Manhole
Newly Mapped Detention Chamber
Streams
Municipal Boundary
Parcels

Abbreviations for Pipe Material:

Ductile Iron- DUCTIR
Other- OTH
Steel- STL
Vitrified Clay- VLY
Cast Iron- CIST
Clay Tile- CLT
Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP

Invert Elevations given rounded to the nearest hundredth

MASER CONSULTING P.A.

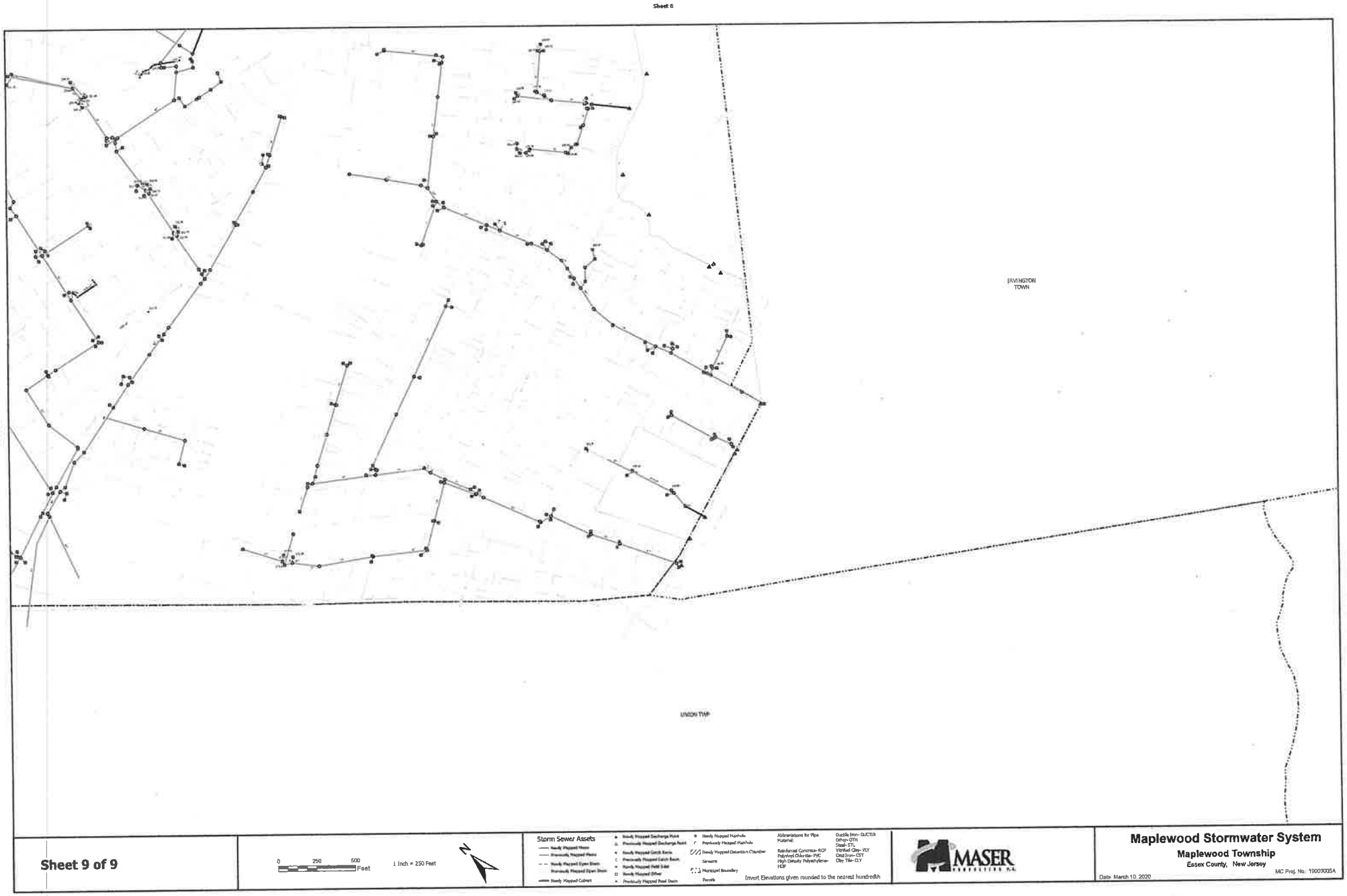
Maplewood Stormwater System

Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No: 18003035A



Sheet 9 of 9

0 250 500 Feet

1 Inch = 250 Feet

Storm Sewer Assets

Newly Mapped Mains
Previously Mapped Mains
Newly Mapped Open Drain
Previously Mapped Open Drain
Newly Mapped Culvert
Newly Mapped Discharge Point
Previously Mapped Discharge Point
Newly Mapped Catch Basin
Previously Mapped Catch Basin
Newly Mapped Field Inlet
Newly Mapped Other
Previously Mapped Field Inlet
Newly Mapped Manhole
Previously Mapped Manhole
Newly Mapped Detention Chamber
Sewerre
Municipal Boundary
Parcels

Invert Elevations given rounded to the nearest hundredth

Abbreviations for Pipe Material:

Reinforced Concrete- RCP
Polyvinyl Chloride- PVC
High Density Polyethylene- HDP
Ductile Iron- DUCTIR
Other- OTH
Steel- STL
Vitrified Clay- VCY
Cast Iron- CST
Clay Tile- CLY

MASER CONSULTING P.A.

Maplewood Stormwater System

Maplewood Township

Essex County, New Jersey

Date: March 10, 2020

MC Proj. No.: 19003005A

Section 7

Illicit Connection Program/Outfall Mapping

SPPP Form 7 – Illicit Connection Elimination Program

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Robert Roe; Health Officer*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/09* Date of most recent update: *Ongoing*

Describe your Illicit Connection Elimination Program, and explain how you plan on responding to complaints and/or reports of illicit connections (e.g., hotlines, etc.). Attach additional pages as necessary.

We have completed an intial physical inspection of all our outfall pipes. We used the DEP Illicit Connection Inspection Report Form to conduct these inspections, and each of these forms will be kept with our SPPP records. Outfall pipes that were found to have a dry weather flow or evidence of an intermittent non-stormwater flow were rechecked again and no illicit connections were found.

In future inspections if we find any illicit connection (and the connection is within Maplewood Township) we will cite the responsible party for being in violation of our Illicit Connection Ordinance, and we will have the connetion eliminated immediately. If, after the appropriate amount of investigation, we ar unable to locate the source of the illicit connection, we will submit the Closeout Investigation Form with our annual Inspection and Recertification. If an illicit connection is found to originate from another public entity, Maplewood Township will report the illicit connection to the Department.

Maplewood Township is to have a hotline for reporting spills and illegal dumping. This hotline will also be made available for reporting illicit connections. Investigation of the illicit connections are ongoing, each house requesting individual c/o are also checked.

Attachment B
Procedures for Detecting, Investigating, and Eliminating Illicit Connections

Detection

An illicit connection for the purposes of this permit, is any physical or non-physical connection that discharges domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater) to the Tier A Municipality's small MS4, unless that discharge is authorized under a NJPDES permit other than this Tier A Municipal Stormwater General Permit (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system). An illicit connection is also any category of non-stormwater discharges that a Tier A Municipality identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

MS4 outfall pipes, for the most part, should not be discharging during substantial dry periods (72 hours after a rain event). Such flow is frequently referred to as "dry weather flow", which may be the result of an illicit connection. All dry weather flows are generally non-stormwater discharges, however not all dry weather flows are illicit connections. Some non-stormwater flows result from the improper disposal of waste (e.g., radiator flushing, engine degreasing, improper disposal of oil) and some may be the result of allowable discharges such as residential car washing, irrigation runoff, permitted (NJPDES) discharges and natural waters (e.g., spring water and groundwater infiltration). By using the Department's Illicit Connection Inspection Report form and making physical observations, a Tier A Municipality will compile information that will help determine if the dry weather flow is an illicit connection and the most likely source of the illicit connection. After making these physical observations, additional chemical field testing will enable a Tier A Municipality to further narrow the potential source(s) of the illicit connection.

The first physical observation is to observe if there is a dry weather flow. Some dry weather discharges are continuously flowing and some are intermittent. Observations will allow the Tier A Municipality to establish with reasonable certainty if there is an intermittent flow. If there are indications of intermittent flows (staining, odors, deterioration of outfall structure) follow-up investigations are required (see Investigation section). An estimate of the flow rate of the discharge shall also be noted (flow rate can be estimated by various methods, including timing how long it takes to fill a container of a known size). Additional physical observations and measurements shall be made for odor, color, turbidity, floatable matter, temperature, deposits and stains, vegetation and algal growth and condition of outfall structure (see Illicit Connection Inspection Report form). Information compiled from physical observations and field monitoring should be used to help identify potential sources. These observations are very important since they are the simplest method of identifying grossly contaminated dry weather flows. If physical observations alone are sufficient to warrant further investigation, then field testing is not required.

If a dry weather flow exists, and after making all physical observations (unless physical observations are enough to warrant further investigation), the Tier Municipality shall field test for surfactants (detergents). If these flows contain surfactants in excess of the detection limit, Tier A Municipalities shall field test for ammonia (as N) and potassium to help distinguish sanitary wastewater sources from other non-stormwater flows that contain detergents. Non-stormwater discharges that are absent of surfactants shall be tested for fluoride to help distinguish potable from non-potable sources. Municipalities should refer to the Tier A Stormwater General Permit Guidance Manual for assistance and interpretation of field testing results.

All of the tests for the tracing of illicit connections may be performed in the field by employees of the Tier A Municipality or may be contracted out. Lab certification for those parameters is not required, however all person(s) responsible for calibrating, maintaining, and taking field samples shall be trained in the use of the equipment and appropriate field testing protocol.

Investigation

Any storm sewer outfall pipe found during the initial inspection or on any subsequent inspection to have a non-stormwater discharge or indications of an intermittent non-stormwater discharge requires further investigation by the Tier A Municipality to identify and locate the specific source. Non-stormwater discharges suspected of being sanitary sewage and/or significantly contaminated shall be prioritized and investigated first. Investigations of non-stormwater discharges suspected of being cooling water, washwater, or natural flows may be delayed until after all suspected sanitary sewage and/or significantly contaminated discharges have been investigated, eliminated and/or resolved.

Dry weather flows believed to be an immediate threat to human health or the environment shall be reported immediately to the Department's Action Hotline at 1-877-WARNDEP (1-877-927-6337).

Physical observations and field testing can help narrow the identification of potential sources of a non-stormwater discharge. However it is unlikely that either will pinpoint the exact source. Therefore, Tier A Municipalities will need to perform investigations "upstream" to identify illicit connections to systems with identified problem outfalls.

All non-stormwater discharges, whether continuous or intermittent must be investigated by the Tier A Municipality. All investigations must be resolved. If the source is found to be a non-stormwater discharge authorized under Part I, Section A.2.c of the permit, no further action is required. If a non-stormwater discharge is found but no source is able to be located within six (6) months of beginning the investigation, then the Tier A Municipality shall submit to the Department a Closeout Investigation form to close out the investigation. The Tier A Municipality must document that a good faith effort was made to find the source of the dry weather discharge and document each phase of the investigation. If the observed discharge is intermittent the Tier A Municipality must document, in the Illicit Connection Inspection Report form, that a minimum three (3)

separate investigations were made to observe the discharge when it is flowing. If these attempts are unsuccessful, the Tier A Municipality shall submit to the Department the Closeout Investigation form noted above. However, since this is an ongoing program, the Tier A municipality should periodically recheck these suspected intermittent discharges.

Elimination

Non-stormwater discharges traced to their source and found to be illicit connections subject to the ordinance prohibiting illicit connections shall be eliminated. At the time the illicit connection is detected the responsible party shall be cited for violation of the municipal ordinance prohibiting illicit connections and given thirty (30) days to cease the non-stormwater discharge. The responsible party may apply for a NJPDES permit for the discharge, but the discharge shall be ceased until a valid NJPDES permit has been issued by the Department. Tier A Municipalities are required to verify that the illicit discharge was eliminated by the responsible party within the specified timeframe and ensure that measures taken to eliminate the discharge are permanent and are not done in such a manner that would allow easy reconnection to the MS4.

When a responsible party fails to eliminate the discharge, Tier A Municipalities shall take the necessary steps to enforce their ordinance, including court action. In such instances the Department shall be notified by written correspondence so it is aware of any pending action and is able to provide assistance if needed.

If an illicit connection cannot be located or is found to emanate from another public entity, Tier A Municipalities must submit to the Department a written explanation detailing the results of the investigation and notify that public entity.

Section 8

Illicit Connection Records

SPPP Form 8 – Illicit Connection Records

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Robert Roe;Health Officer and Paul J. Kittner Jr, PE,PP, CME (Twp Eng.)*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/09* Date of most recent update: *Ongoing*

Prior to May 2, 2006

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? ____

Number of outfalls found to have a dry weather flow? *0*

Number of outfalls found to have an illicit connection? *0*

How many illicit connections were eliminated? *0*

Of the illicit connections found, how many remain? *0*

May 2, 2006 – May 1, 2007

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? ____

Number of outfalls found to have a dry weather flow? ____

Number of outfalls found to have an illicit connection? ____

How many illicit connections were eliminated? ____

Of the illicit connections found, how many remain? ____

May 2, 2007 – May 1, 2008

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? ____

Number of outfalls found to have a dry weather flow? ____

Number of outfalls found to have an illicit connection? ____

How many illicit connections were eliminated? ____

Of the illicit connections found, how many remain? ____

May 2, 20 – May 1, 20

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? *33*

Number of outfalls found to have a dry weather flow? *0*

Number of outfalls found to have an illicit connection? *0*

How many illicit connections were eliminated? *0*

Of the illicit connections found, how many remain? *0*

Illicit Connection Inspection Report Form

Municipality Information

Municipality:____ County ____ Maplewood, Essex

NJPDES # :____PI ID #: ____ NJG0154687, 203744

Team Member: ____

Date ____Effective Date of Permit Authorization (EDPA): 4/1/04

Outfall #: ____Location: ____

Receiving Waterbody: ____

1. Is there a dry weather flow? Y (☐) N (☐)
2. If "YES", what is the outfall flow estimate? ____ gpm
   (flow sample should be kept for further testing, and this form will need to be submitted with the Annual Report and Certification)
3. Are there any indications of an intermittent flow? Y (☐) N (☐)
4. If you answered "**NO**" to BOTH questions #1 and #3, there is probably not an illicit connection and you can skip to question #7.
   (NOTE: This form **does not** need to be submitted to the Department, but should be kept with your SPPP.)

   If you answered "**YES**" to either question, please continue on to question #5.
   (NOTE: This form will need to be submitted to the Department with the Annual Report and Certification.)

5. **PHYSICAL OBSERVATIONS**:

(a) **ODOR**: none ____

(b) **COLOR**: none ____

(c) **TURBIDITY**: none

(d) **FLOATABLES**: none ____

(e) **DEPOSITS/STAINS**: none ____

(f) **VEGETATION CONDITIONS**: normal

(g) **DAMAGE TO OUTFALL STRUCTURES**:

IDENTIFY STRUCTURE: ____

DAMAGE: none ____

6. **ANALYSES OF OUTFALL FLOW SAMPLE:**
   * field calibrate instruments in accordance with manufacturer's instructions prior to testing.

(a) **DETERGENTS**: ____mg/L

(if sample is greater than 0.06 mg/L, the sample is contaminated with detergents [which may be from sanitary wastewater or other sources]. Further testing is required and this outfall should be given the highest priority.)

(if the sample is not greater than 0.06 mg/L and it does not show physical characteristics of sanitary wastewater [e.g., odor, floatables, and/or color] it is unlikely that it is from sanitary wastewater sources, yet there may still be an illicit connection of industrial wastewater, rinse water, backwash or cooling water. Skip to question #6c.)

(b) **AMMONIA (as N) TO POTASSIUM RATIO:** _____

(if the Ammonia to Potassium Ratio is greater than 0.6:1, then it is likely that the pollutant is sanitary sewage)

(if the Ammonia to Potassium Ratio is less than or equal to 0.6:1, then the pollutant is from another washwater source.)

(c) **FLUORIDE:** _____mg/L

(if the fluoride levels are between 1.0 and 2.5 mg/L, then the flow is most likely from fluoride treated potable water.)

(if the sample tests below a detection limit of 0.1 mg/L for fluoride, it is likely to be from groundwater infiltration, springs or streams. In some cases, however, it is possible that the discharge could originate from an onsite well used for industrial cooling water, which will test non-detect for both detergents and fluoride. To differentiate between these cooling water discharges and groundwater infiltration, you will have to rely on temperature.)

(d) **TEMPERATURE:** _____°F

(if the temperature of the sample is over 70°F, it is most likely cooling water)

(if the temperature of the sample is under 70°F, it is most likely from ground water infiltration)

7. Is there a suspected illicit connection? Y (☐) N (☐)

   If "**YES**", what is the suspected source? _____

   If "**NO**", skip to signature block on the bottom of this form.

8. Has the investigation of the suspected illicit connection been completed?
   Y (☐) N (☐)

   If "**YES**", proceed to question #9.
   If "**NO**", skip to signature block on the bottom of this form.

9. Was the source of the illicit connection found? Y (☐) N (☐)

   If "**YES**", identify the source. _____

   What plan of action will follow to eliminate the illicit connection?

   Resolution:

   If "**NO**", complete the Closeout Investigation Form and attach it to this Illicit Connection Inspection Report Form.

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

If there is a dry weather flow or evidence of an intermittent flow, be sure to include this form with your Annual Report and Certification.

If there is not a dry weather flow or evidence of an intermittent flow, this form should be retained with your SPPP.

Closeout Investigation Form

Municipality Information

Municipality: _____ County _____

NJPDES # : **NJG** _____ PI ID #: _____

Team Member / Title: _____

Outfall #: _____ Location: _____

Receiving Waterbody: _____

Basis for Submittal:

( ) A non-stormwater discharge was found, but no source was located within six months.

( ) An intermittent non-stormwater discharge was observed, and three unsuccessful investigations were conducted to investigate the discharge while it was flowing.

Describe each phase of your investigation, including dates. Attach additional pages as necessary: _____

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

Complete and attach this form to the appropriate Illicit Connection Inspection Report Form and submit with the annual certification.

Section 9

Yard Waste Ordinance/Collection Program

SPPP Form 9 – Yard Waste Ordinance/Collection Program

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Calvin Bell/DPW Director*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *10/01/05* Date of most recent update: *April 2018*

Please describe your yard waste collection program. Be sure to include the collection schedule and how you will notify the residents and businesses of this schedule. Attach additional pages as necessary.

Adoption of ordinance that prohibits placing non-containerized yard wastes in the street.

(or a more aggressive approach, see below)

We have considered the two options available, and have decided to develop a yard waste collection and disposal program instead of just adopting and enforcing an ordinance that prohibits placing non-containerized yard wastes in the street.

*We will be conducting monthly colletions of leaves and grass during the months of October, November, and December, plus one collection in the spring. During the remainder of the year, Maplewood Township may hold additional yard waste collections, we will post our collection schedule and our ordinance requirements in our monthly newsletter, which will be mailed to all residents and busineses the first of each month. To develop a collection schedule we will be dividing Maplewood Township into six sectors, **giving ourselves two weeks to do the collections in each sector.*

Maplewood Township has also be adopting and enforces a yard waste ordinance that will prohibit all yard wastes from being placed at the curb or along the street more than seven days prior to our scheduled collections, unless they are bagged or otherwise containerized. The ordinance also prohibits the placing of yard waste closer than 10 feet from any storm sewer inlet along the street, unless they are bagged or otherwise containerized.

The Township has performed PILOT programs that provided free plastic bags to residents to encourage bagging of leaves to reduce yard waste from entering the drainage system.

SPRING RAKE-OUT

Each area is scheduled for five (5) pickup days. Locate your area on the map. The dates of the pickup in each area are noted on the schedule chart.

Materials to be picked up are limited to **branches, leaves** and **garden rakings** when packaged as follows:

- Branches must not be more than **four (4) feet** in length and must be tied in bundles that can be handled by one person.
- Leaves and garden rakings must be placed in returnable containers that can be handled by one person. Containers will be emptied and left. No plastic bags may be utilized.
- **You may not rake or place debris of any kind into the street.** You must use containers or twine.

Materials to be picked up must be placed at the curb not later than 6 AM on the scheduled date and not earlier than 5 PM on the day before.

Unpackaged material placed at the curb **will not** be picked up, and will constitute a violation of the law as established by Township Ordinance.

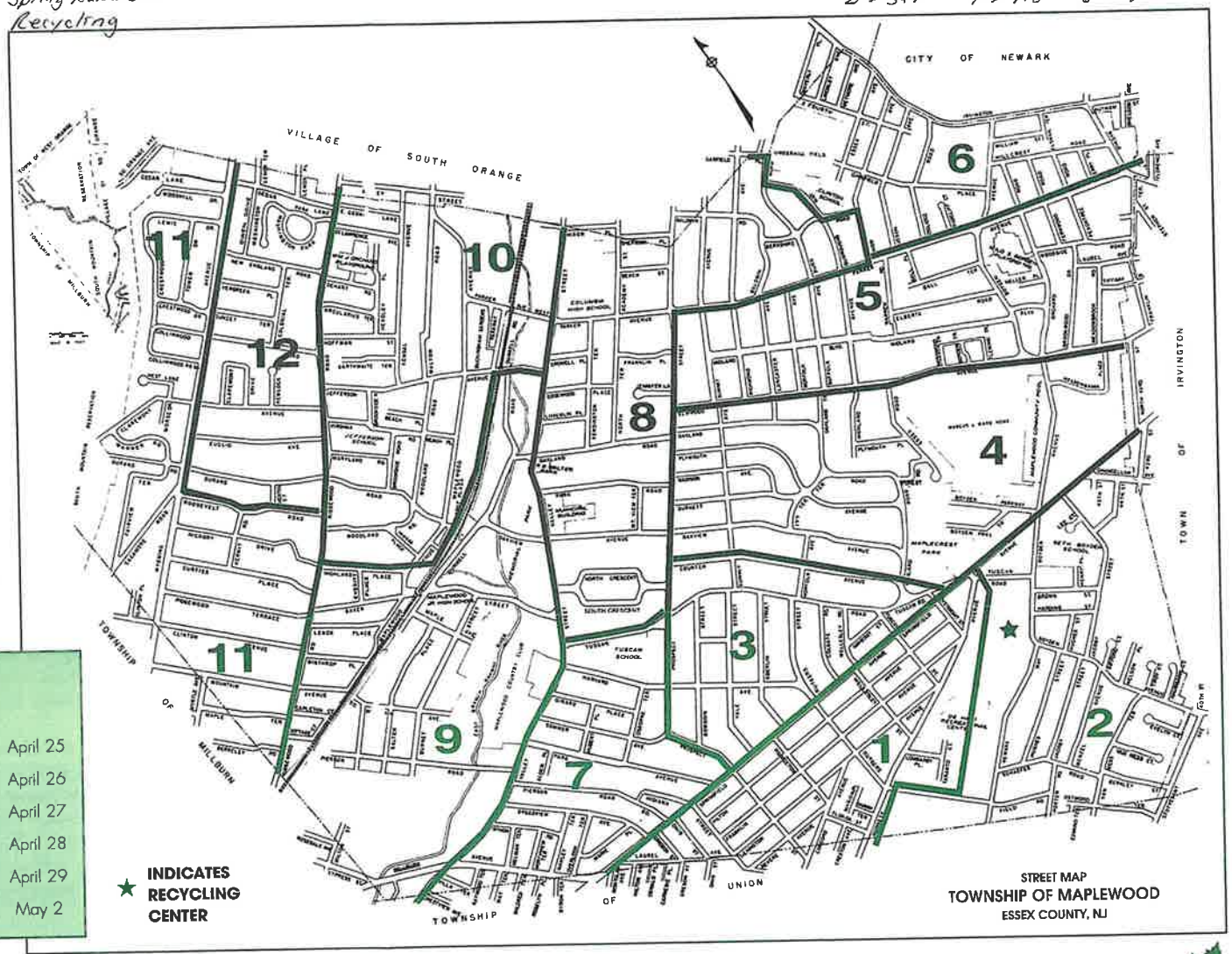
SPRING RAKE-OUT SCHEDULE

AREAS	DATES				
1 & 2	March 21	March 30	April 7	April 15	April 25
3 & 4	March 22	March 31	April 8	April 18	April 26
5 & 6	March 23	April 1	April 11	April 19	April 27
7 & 8	March 24	April 4	April 12	April 20	April 28
9 & 10	March 28	April 5	April 13	April 21	April 29
11 & 12	March 29	April 6	April 14	April 22	May 2

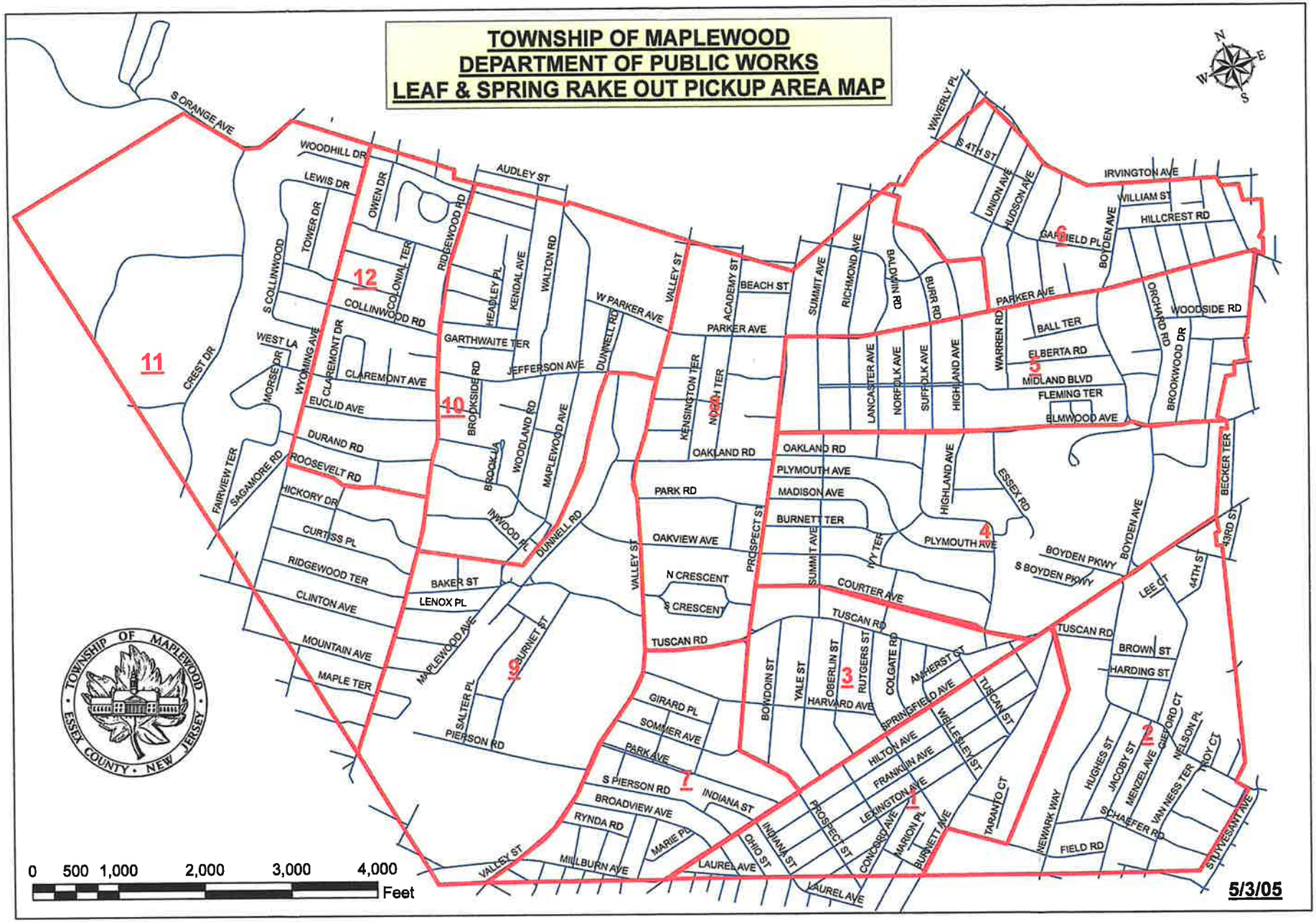
Leaf Pick Up
Spring Rake Out
Recycling

Bulk Pickup

Street Sweeping & Basin Cleaning
Section 1 → 1+2 3 → 5+6 5 → 9,10
2 → 3+4 4 → 7+8 6 → 11,12



TOWNSHIP OF MAPLEWOOD
DEPARTMENT OF PUBLIC WORKS
LEAF & SPRING RAKE OUT PICKUP AREA MAP



5/3/05

Section 10

Ordinances

SPPP Form 10 - Ordinances

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Liz Fritzen (Clerk)/Paul J. Kittner Jr, PE, PP, CME (Twp. Engineer)*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/20/05* Date of most recent update: *9/06/2011*

For each ordinance, give the date of adoption. If not adopted, explain the development status:

Pet Waste *adopted 11/14/05*

Are information sheets regarding pet waste distributed with pet licenses? Y ( ) N ( )

Litter *adopted 11/14/05*

Improper Waste Disposal *adopted 11/14/05*

Wildlife Feeding *adopted 11/14/05*

Yard Waste *adopted 11/14/05*

Illicit Connections *adopted 11/14/05*

How will these ordinances be enforced?

Stormwater Control Ordinance adopted 6/20/06 and revised through September 6, 2011.

Our code enforcement officers and local police officers will enforce these ordinances. If someone is found to be in violation of an ordinance, they will be issued a written warning for first time offenses, and penalties will be issued for subsequent offenses. Enforcement is performed by Summons to offenders .

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2319 -05

**AN ORDINANCE
TO ESTABLISH REQUIREMENTS
FOR THE PROPER DISPOSAL OF
PET SOLID WASTE**

"Interpretive Statement"

As required by the State of New Jersey, this ordinance will require pet owners and keepers to properly dispose of pet solid waste.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish requirements for the proper disposal of pet solid waste in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Immediate - shall mean that the pet solid waste is removed at once, without delay.
b. Owner/Keeper - any person who shall possess, maintain, house or harbor any pet or otherwise have custody of any pet, whether or not the owner of such pet.
c. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
d. Pet - a domesticated animal (other than a disability assistance animal) kept for amusement or companionship.
e. Pet solid waste - waste matter expelled from the bowels of the pet; excrement.
f. Proper disposal - placement in a designated waste receptacle, or other suitable container, and discarded in a refuse container which is regularly emptied by the municipality or some other

refuse collector; or disposal into a system designed to convey domestic sewage for proper treatment and disposal.

Section III. Requirement for Disposal:

All pet owners and keepers are required to immediately and properly dispose of their pet=s solid waste deposited on any property, public or private, not owned or possessed by that person.

Section IV. Exemptions:

Any owner or keeper who requires the use of a disability assistance animal shall be exempt from the provisions of this section while such animal is being used for that purpose.

Section V. Enforcement:

The provisions of this Article shall be enforced by the Police Department and the Local Board of Health of the Township of Maplewood.

Section VI. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VII. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VIII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section IX: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2321-05

AN ORDINANCE
TO ESTABLISH REQUIREMENTS
TO CONTROL LITTERING
IN THE TOWNSHIP OF MAPLEWOOD

"Interpretive Statement"

This ordinance will make it unlawful to litter upon any public or private property other than in a litter receptacle.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish requirements to control littering in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Litter - any used or unconsumed substance or waste material which has been discarded, whether made of aluminum, glass, plastic, rubber, paper, or other natural or synthetic material, or any combination thereof, including, but not limited to , any bottle, jar or can, or any top, cap or detachable tab of any bottle, jar or can, any unlighted cigarette, cigar, match or any flaming or glowing material or any garbage, trash, refuse, debris, rubbish, grass clippings or other lawn or garden waste, newspapers, magazines, glass, metal, plastic or paper containers or other packaging or construction material, but does not include the waste of the primary processes of mining or other extraction processes, logging, saw-milling, farming or manufacturing.

b. Litter Receptacle - a container suitable for the depositing of litter.

c. Person - any individual, corporation, company, partnership, firm association or political subdivision of this State subject to municipal jurisdiction.

Section III. Prohibited acts and regulated activities:

1. It shall be unlawful for any person to throw, drop, discard or otherwise place any litter of any nature upon public or private property other than in a litter receptacle, or having done so, to allow such litter to remain.
2. Whenever any litter is thrown or discarded or allowed to fall from a vehicle in violation of this ordinance, the operator or owner, or both, of the vehicle shall also be deemed to have violated the ordinance.

Section IV. Enforcement:

The provisions of this Article shall be enforced by the Police Department and the Local Board of Health of the Township of Maplewood..

Section V. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2322-05

**AN ORDINANCE
TO PROHIBIT THE IMPROPER
DISPOSAL OF WASTE**

"Interpretive Statement"

This ordinance will prohibit the spilling, dumping or disposal of materials other than stormwater to the municipal storm sewer system.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to prohibit the spilling, dumping or disposal of materials other than stormwater to the municipal separate storm sewer system (MS4) operated by the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Municipal separate storm sewer system (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal street, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Maplewood or other public body, and is designed and used for collecting and conveying stormwater.

b. Person - any individual, corporation, company, partnership, firm association or political subdivision of this State subject to municipal jurisdiction.

c. Stormwater - 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.

Section III. Prohibited Conduct:

The spilling, dumping, or disposal of materials other than stormwater to the municipal storm sewer system operated by the Township of Maplewood is prohibited. The spilling, dumping, or disposal of materials other than stormwater in such a manner as to cause the discharge of pollutants to the municipal separate storm sewer system is also prohibited.

Section IV. Exceptions to Prohibition:

a. Water line flushing and discharges from potable water sources.
b. Uncontaminated ground water (e.g., infiltration, crawl space or basement sump pumps, foundation or footing drains, rising ground waters).
c. Air conditioning condensate (excluding contact and non-contact cooling water)
d. Irrigation water (including landscape and lawn watering runoff).
e. Flows from springs, riparian habitats and wetlands, water reservoir discharges and diverted stream flows.
f. Residential car washing water, and residential swimming pool discharges.
g. Sidewalk, driveway and street wash water.
h. Flows from fire fighting activities.
i. Flows from rinsing of the following equipment with clean water.

- Beach maintenance equipment immediately following their use for their intended purposes; and
- Equipment used in the application of salt and de-icing materials immediately following salt and de-icing material applications. Prior to rinsing with clean water, all residual salt and de-icing material must be removed from equipment and vehicles to the maximum extent practicable use dry cleaning methods (e.g., shoveling and sweeping). Recovered materials are to be returned to storage for reuse or properly discarded. Rinsing of equipment, as noted in the above situation, is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

Section V. Enforcement:

The provisions of this Article shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.

Section VI. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VII. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph,

subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VIII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section IX: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2320-05

AN ORDINANCE
TO PROHIBIT THE FEEDING OF UNCONFINED WILDLIFE
IN ANY PUBLIC PARK OR ANY OTHER PROPERTY
OWNED OR OPERATED BY THE TOWNSHIP OF MAPLEWOOD

"Interpretive Statement"

This ordinance will prohibit the feeding, in any public park or in any other property owned by the Township of Maplewood, of any wildlife.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to prohibit the feeding of unconfined wildlife in any public park or any other property owned or operated by the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Feed - to give, place, expose, deposit, distribute or scatter any edible material with the intention of feeding, attracting or enticing wildlife. Feeding does not include baiting in the legal taking of fish and/or game.
b. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
c. Wildlife - all animals that are neither human nor domesticated.

Section III. Prohibited Conduct:

No person shall feed, in any public park or on any other property owned or operated by the Township of Maplewood, any wildlife, excluding confined wildlife (for example,

wildlife confined in zoos, parks, or rehabilitation centers, or unconfined wildlife at environmental education centers).

Section IV. Enforcement:

(a) This ordinance shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.

(b) Any person found to be in violation of this ordinance shall be ordered to cease the feeding immediately.

Section V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII. Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2323-05

**AN ORDINANCE
TO ESTABLISH A
YARD WASTE COLLECTION PROGRAM
WITHIN THE TOWNSHIP OF MAPLEWOOD**

"Interpretive Statement"

This ordinance will regulate the sweeping, raking, blowing or otherwise placing of yard waste that is not containerized at the curb or along the street within the Township of Maplewood.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish a yard waste collection and disposal program in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Containerized - means the placement of yard waste in a trash can, bucket, bag or other vessel, such as to prevent the yard waste from spilling or blowing out into the street and coming into contact with the stormwater.
b. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
c. Street - means any street, avenue, boulevard, road, parkway, viaduct, drive, or other way, which is an existing State, County, or Municipal roadway, and includes the land between the street lines, whether improved or unimproved, and may comprise pavement, shoulders, gutters, curbs, sidewalks, parking areas, and other areas within the street lines.
d. Yard Waste - means leaves.

Section III. Yard Waste Collection:

Sweeping, raking, blowing or otherwise placing yard waste at the curb or along the street is only allowed during the seven (7) days prior to a scheduled or announced collections which take place between October 15 and December 15, each year, and shall not be placed closer than ten (10) feet from any storm drain inlet. Placement of such yard waste at the curb or along the street at any other time or in any other manner is violation of this ordinance. If such placement of yard waste occurs, the party responsible for placement of the yard waste must remove the yard waste from the street or said party shall be deemed to be in violation of this ordinance.

Section IV. Enforcement:

The provisions of this Article shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.

Section V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII. Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII : Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2318-05

**AN ORDINANCE
TO AMEND CHAPTER 223
OF THE CODE OF
THE TOWNSHIP OF MAPLEWOOD
ENTITLED
ASEWERS@**

"Interpretive Statement"

This ordinance amends Article I, General Provisions, of Chapter 223 "Sewers" of the Code of the Township of Maplewood by eliminating the term "lateral sewers" and re-establishing the obligation of property owners to maintain house laterals.

BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey, that Chapter 223 of the Code of the Township of Maplewood entitled ASewers@ be amended to read as follows:

FIRST: Article I, General Provisions

Section 223-1. Definitions:

As used in this Article, unless a different meaning clearly appears from the context, the following words shall have the meanings given:

BUILDING STORM DRAIN - The lowest horizontal piping of a drainage system within a building, which receives and conveys rainwater, groundwater, subsurface water, condensate, cooling water and other similar liquids.

HOUSE LATERAL - The sanitary sewer pipe leading from the main connection with the house plumbing system. House lateral will include any AT@ or AY@ branches and any coupling devices utilized to connect house lateral sewer to main sewer or lateral sewer.

HOUSE PLUMBING SYSTEM - The system of sewer pipes within a house or other building.

MAIN SEWER - Sanitary sewer pipe laid in the street to which house laterals are attached.

Section 223-2. Sewer Inspector:

A. Appointment; compensation. There shall be an officer of the Township to be known as the ASewer Inspector,@ to be appointed by the Township Committee and to receive such compensation as shall be fixed by ordinance. The Sewer Inspector shall enforce the provisions of this Article and any supplements or amendments thereto, keep full and accurate records of the proceedings of his office and make monthly reports to the Township Committee of the proceedings. He shall make daily returns to the Township Treasurer of all moneys coming into his hands as Sewer Inspector, accepting the receipt of the Treasurer therefor.

B. Powers and duties. The Sewer Inspector shall have power to:

(1) Issue permits for the laying, construction, alteration, repair, demolition or removal of main sewer and for house laterals and the connection of the house plumbing system, house lateral, main sewer with the sanitary sewer system of the Township, provided that the plans and specifications for the same comply with the provisions of this Article.

(2) Revoke permits issued whenever the work done or materials furnished therefor are not in accordance with the provisions of this Article.

(3) Reissue revoked permits after the work and materials have been made to comply with the requirements of this Article.

(4) Inspect the work and materials at any time during the course of construction, and for such purpose shall have access to all buildings or work under construction and premises where the same is carried on within the Township between the hours of 8:00 a.m. and 5:00 p.m. on working days.

Section 223-3. Permit required; fee; application:

A. Permit required; fee. It shall be unlawful for any person to lay, construct, alter, repair, demolish or remove any main sewer or any house lateral or to connect in any manner the house or building plumbing system, house lateral, main sewer with any part of the sanitary sewer system of the Township without having first obtained a written permit therefor from the Sewer Inspector. The fee for such permit shall be as provided in Chapter 123, Fees. Permits shall be issued only to master plumbers licensed pursuant to the provisions of the Plumbing Code of the Township.

B. Application for permit. Application for a permit shall be made to the Sewer Inspector on forms furnished by him and shall be accompanied by detailed construction plans and specifications for any such sewer, lateral or connection.

Section 223-4. Main sewers:

A. Connection. All main sewers shall be connected with the sanitary sewer system of the Township. The sewers shall conform as nearly as possible in size, material and construction to the existing main or lateral sewers in the Township.

B. Construction. All main sewers shall be construed only in a public street, provided that the same may be constructed over private property if the owner or owners thereof and the holder

of any lien or encumbrance thereon shall execute and deliver to the Township a perpetual easement for the maintenance, repair and reconstruction of the same.

Section 223-5. House laterals:

A, House laterals shall be extra-heavy cast-iron soil or polyvinal chloride (PVC) pipe and fittings, not less than four (4) inches in diameter, with lead joints properly caulked, shall have a uniform fall of not less than one-fourth (1/4) inch per foot and shall be laid on a straight line from the main sewer to the inside of the house or building, except that where a change in direction is made necessary by existing conditions, 16th bends may be used with the approval of the Sewer Inspector.

B. House lateral connections to main sewers shall be made with AT@ or AY@ branches where branches are provided in the main or lateral sewer. Where such branches are not provided, a AT@ or AY@ connection must be used.

C. Whenever the length of the house lateral, exceeds seventy (70) feet from the main sewer to the house or other building Y-connection, four-inch cleanouts extended to the ground surface shall be provided at intervals of not over fifty (50) feet. Extra-heavy brass screw caps shall be provided for all cleanouts.

D. The cost for maintaining and connecting a house lateral to the main sewer shall be the responsibility of the property owner whose property is serviced by the house lateral.

223-6. Unlawful acts:

A. No building storm drain shall be connected with the sanitary sewer system or any part thereof.

B. No person shall construct or maintain in the Township any privy vault, cesspool or septic tank. All house plumbing systems shall be connected with the sanitary sewer.

223-7. Extension of system to another municipality:

A. Application for extension; requirements. If the Township Committee shall have heretofore authorized or shall hereafter authorize the extension of the sanitary sewer system of the Township into an adjoining municipality, with the consent of the governing body of such adjacent municipality, for the purpose of furnishing sewerage service to a resident or to residents of such adjoining municipality, the extension shall, be made at the expense of the property holder or holders desiring such extension and in accordance with the provisions of this Article. Application for the extension, shall in addition to the requirements of this Article, be accompanied by a Surety Bond or other security in amount, form and substance satisfactory to the Township, conditioned for the performance of the work in accordance with the filed plans and Specifications and the ordinances, Rules and Requirements of the Township, for the payment of all lawful claims of subcontractors, material men, laborers, persons, firms or corporations, for labor performed or materials, provisions provender or other supplies or teams, fuel, oil, implements or machine furnished, used or consumed in the carrying forward, performance or completing of the sanitary sewer installation and indemnifying the Township, its officers, agents and servants against all suits, costs and damages of every kind and description arising by reason of the performance of the work or the act or omission of the property holder, its agents, employees or servants.

B. Rents and Charges. Each property holder of residential property of such adjoining municipality who shall have connected or who shall connect his house plumbing system to the sanitary sewer of the Township shall pay to the Township

an annual rent or charge for the use of the sanitary sewer system as provided in Chapter 123, Fees. All property holders of property other than residential of such adjoining municipality who shall have connected or who shall connect his house plumbing system to the sanitary sewer system of the Township shall pay to the Township an annual rent or charge for the use of the sanitary sewer system as provided in Chapter 123, Fees. Such rent or charge shall be come due on the first day of February, May, August or November, as the case may be, after the completion of the connection with such sewer system and annually thereafter on the first day of February in each year and shall draw the same interest from the time such rent or charge becomes due as taxes upon real estate of the Township and shall be a lien upon the premises with which the connection is made.

SECOND: The Remainder of Chapter 223 remains unchanged.

THIRD: Severability

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

FOURTH: Repeal of Prior Ordinances

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

FIFTH: Effective Date

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood,

New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

Township of Maplewood
ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120
FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

RICHARD CALBI, JR., P.E.
TOWNSHIP ENGINEER

June 27, 2006

Mr. Sanjeev Varghese, P.E.
Essex County Engineer
900 Bloomfield Avenue
Verona, NJ 07044

Re: Stormwater Control Ordinance & Plan
Maplewood Township, Essex County

Dear Mr. Varghese:

Per the requirements of Maplewood Township's Municipal Stormwater General Permit (No. NJ0141852), I am forwarding you copy of the approved Stormwater Control Ordinance (2362-06) and adopted Stormwater Management Plan. Please review these documents for conformance and recommend approval of such to the Essex County Reviewing Agency.

Should you have any questions, please don't hesitate to call.

Sincerely,

Richard Calbi Jr. P.E.
Township Engineer

Cc: Joseph Manning, Township Administrator
Roger Desiderio, Township Attorney
Allen Cheng, NJDEP Municipal Stormwater Regulation Program

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Richard Calbi

From: Tara Wood [Tara.Wood@dep.state.nj.us]
Sent: Tuesday, June 27, 2006 9:28 AM
To: engineer@twp.maplewood.nj.us
Subject: Re: Essex County Review Agency

Good Morning Rich,

I've included the contact information for Essex County's Review Agency. Please forward both the adopted municipal stormwater management plan and municipal stormwater control ordinance to:

Sanjeev Varghese, County Engineer
900 Bloomfield Avenue
Verona, NJ 07044
973-226-8506
(fax) 973-226-7469

Copies of the above mentioned document should also be forwarded to the following address at the Department:

NJ Department of Environmental Protection
Division of Watershed Management
Bureau of Watershed Regulation
PO Box 418
Trenton, NJ 08625
Attn: Allen Cheng

Tara R. Wood, Environmental Specialist
New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
PO Box 029
Trenton, NJ 08625
Phone: 609-633-7021
Fax: 609-984-2147

>>> Richard Calbi <engineer@twp.maplewood.nj.us> 6/26/2006 3:12 PM >>>
Tara,

Perhaps you can help me. I need to send out copy of Maplewood Township's approved Stormwater control ordinance and plan to the County of Essex. Do you have contact information for the County Review Agency. Also do I need to send copy to NJDEP?

Thanks

Rich C.

Richard Calbi Jr. P.E.

Township Engineer

Township of Maplewood

TOWNSHIP OF MAPLEWOOD

RESOLUTION NO. 136-06

RESOLUTION
APPROVING MUNICIPAL STORMWATER
MANAGEMENT PLAN FOR
MAPLEWOOD TOWNSHIP

WHEREAS, the State of New Jersey pursuant to N.J.A.C. 7:14A-25, requires New Jersey Municipalities to adopt a Municipal Stormwater Management Plan (MSWMP); and

WHEREAS, the goals of the Township in adopting the MSWMP are to:

- reduce flood damage, including damage to life and property;
- minimize, to the extent practical, any increase in stormwater runoff from any new development;
- reduce soil erosion from any development or construction project;
- assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- maintain groundwater recharge;
- prevent, to the greatest extent feasible, an increase in nonpoint pollution;
- maintain the integrity of stream channels for their biological functions, as well as for drainage;
- minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water; and
- protect public safety through the proper design and operation of stormwater basins.

WHEREAS, the Township Engineer has recommended the adoption of the MSWMP, a copy of which is attached to this Resolution;

NOW, THEREFORE, BE IT RESOLVED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey, that the Township of Maplewood does hereby adopt the attached Municipal Stormwater Management Plan for the Township of Maplewood.

I, Elizabeth J. Fritzen, Township Clerk of the Township of Maplewood, in the County of Essex and State of New Jersey, do hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey, at a regular meeting of said Committee held on June 20, 2006.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Township of Maplewood in the County of Essex and State of New Jersey, on this 20th day of June 2006.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

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Chapter 238. Stormwater Management

§ 238-1. Scope and purpose.

A. Policy statement. Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure best management practices (GI BMPs) and nonstructural stormwater management strategies. GI BMPs and low-impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose. The purpose of this chapter is to establish minimum stormwater management requirements and controls for "major development," as defined below in § **238-2**.

C. Applicability.

(1) This chapter shall be applicable to the following major developments:

(a) Nonresidential major developments; and

(b) Aspects of residential major developments that are not preempted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

(2) This chapter shall also be applicable to all major developments undertaken by the Township of Maplewood.

D. Compatibility with other permit and ordinance requirements.

(1) Development approvals issued pursuant to this chapter are to be considered an integral part of development approvals and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this chapter shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

(2) This chapter is not intended to interfere with, abrogate, or annul any other chapters, rule or regulation, statute, or other provision of law except that, where any provision of this chapter imposes restrictions different from those imposed by any other chapter, rule or regulation, or other provision of law, the more-restrictive provisions or higher standards shall control.

§ 238-2. Definitions.

For the purpose of this chapter, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number

include the plural number. The word "shall" is always mandatory and not merely directory. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

CAFRA CENTERS, CORES OR NODES

Those areas with boundaries incorporated by reference or revised by the Department in accordance with N.J.A.C. 7:7-13.16.

CAFRA PLANNING MAP

The map used by the Department to identify the location of coastal planning areas, CAFRA centers, CAFRA cores, and CAFRA nodes. The CAFRA Planning Map is available on the Department's Geographic Information System (GIS).

COMMUNITY BASIN

An infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond, established in accordance with N.J.A.C. 7:8-4.2(c)14, that is designed and constructed in accordance with the New Jersey Stormwater Best Management Practices Manual, or an alternate design, approved in accordance with N.J.A.C. 7:8-5.2(g), for an infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond and that complies with the requirements of this chapter.

COMPACTION

The increase in soil bulk density.

CONTRIBUTORY DRAINAGE AREA

The area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

CORE

A pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

COUNTY REVIEW AGENCY

An agency designated by the County Commissioners to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:

A. A county planning agency; or

B. A county water resource association created under N.J.S.A. 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

DEPARTMENT

The Department of Environmental Protection.

DESIGN ENGINEER

A person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

DESIGNATED CENTER

A State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

DEVELOPMENT

A. The division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other

structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

B. In the case of development of agricultural land, development means any activity that requires a state permit, any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act, N.J.S.A 4:1C-1 et seq.

DISTURBANCE

The placement or reconstruction of impervious surface or motor vehicle surface, or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Milling and repaving is not considered disturbance for the purposes of this definition.

DRAINAGE AREA

A geographic area within which stormwater, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

EMPOWERMENT NEIGHBORHOODS

Neighborhoods designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A 55:19-69.

ENVIRONMENTALLY CONSTRAINED AREA

The following areas where the physical alteration of the land is in some way restricted, either through regulation, easement, deed restriction or ownership such as wetlands, floodplains, threatened and endangered species sites or designated habitats, and parks and preserves. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

ENVIRONMENTALLY CRITICAL AREA

An area or feature which is of significant environmental value, including, but not limited to, stream corridors, natural heritage priority sites, habitats of endangered or threatened species, large areas of contiguous open space or upland forest, steep slopes, and wellhead protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

EROSION

The detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

GREEN INFRASTRUCTURE

A stormwater management measure that manages stormwater close to its source by:

A. Treating stormwater runoff through infiltration into subsoil;

B. Treating stormwater runoff through filtration by vegetation or soil; or

C. Storing stormwater runoff for reuse.

HUC 14 or HYDROLOGIC UNIT CODE 14

An area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a fourteen-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

IMPERVIOUS SURFACE

A surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

INFILTRATION

The process by which water seeps into the soil from precipitation.

LEAD PLANNING AGENCY

One or more public entities having stormwater management planning authority designated by the regional stormwater management planning committee pursuant to N.J.A.C. 7:8-3.2, that serves as the primary representative of the committee.

MAJOR DEVELOPMENT

A. An individual development, as well as multiple developments that individually or collectively result in:

(1) The disturbance of one or more acres of land since February 2, 2004;

(2) The creation of 1/4 acre or more of regulated impervious surface since February 2, 2004;

(3) The creation of 1/4 acre or more of regulated motor vehicle surface since March 2, 2021; or

(4) A combination of Subsection **A(2)** and **(3)** above that totals an area of 1/4 acre or more. The same surface shall not be counted twice when determining if the combination area equals 1/4 acre or more.

B. Major development includes all developments that are part of a common plan of development or sale (for example, phased residential development) that collectively or individually meet any one or more of Subsection **A(1)**, **(2)**, **(3)** or **(4)** above. Projects undertaken by any government agency that otherwise meet the definition of "major development" but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered "major development."

MOTOR VEHICLE

Land vehicles propelled other than by muscular power, such as automobiles, motorcycles, autocycles, and low-speed vehicles. For the purposes of this definition, motor vehicle does not include farm equipment, snowmobiles, all-terrain vehicles, motorized wheelchairs, go-carts, gas buggies, golf carts, ski-slope-grooming machines, or vehicles that run only on rails or tracks.

MOTOR VEHICLE SURFACE

Any pervious or impervious surface that is intended to be used by "motor vehicles" and/or aircraft, and is directly exposed to precipitation, including, but not limited to, driveways, parking areas, parking garages, roads, racetracks, and runways.

MUNICIPALITY

The Township of Maplewood, Essex County, New Jersey.

NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES (BMP) MANUAL or BMP MANUAL

The manual maintained by the Department providing, in part, design specifications, removal rates, calculation methods, and soil-testing procedures approved by the Department as being capable of contributing to the achievement of the stormwater management standards specified in this chapter. The BMP Manual is periodically amended by the Department as necessary to provide design specifications on additional best management practices and new information on already-included practices reflecting the best available current information regarding the particular practice and the Department's determination as to the ability of that best management practice to contribute to compliance with the standards contained in this chapter. Alternative stormwater management measures, removal rates, or calculation methods may be utilized, subject to any limitations specified in this chapter, provided the design engineer demonstrates to the municipality, in accordance with § **238-4F** of this chapter and N.J.A.C. 7:8-5.2(g), that the proposed measure and its design will contribute to achievement of the design and performance standards established by this chapter.

NODE

An area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

NUTRIENT

A chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

PERSON

Any individual, corporation, company, partnership, firm, association, political subdivision of this state and any state, interstate or federal agency.

POLLUTANT

Any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2011 et seq.)), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, groundwaters or surface waters of the state, or to a domestic treatment works. Pollutant includes both hazardous and nonhazardous pollutants.

RECHARGE

The amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

REGULATED IMPERVIOUS SURFACE

Any of the following, alone or in combination:

A. A net increase of impervious surface;

B. The total area of impervious surface collected by a new stormwater conveyance system (for the purpose of this definition, a new stormwater conveyance system is a stormwater conveyance system that is constructed where one did not exist immediately prior to its construction or an existing system for which a new discharge location is created);

C. The total area of impervious surface proposed to be newly collected by an existing stormwater conveyance system; and/or

D. The total area of impervious surface collected by an existing stormwater conveyance system where the capacity of that conveyance system is increased.

REGULATED MOTOR VEHICLE SURFACE

Any of the following, alone or in combination:

A. The total area of motor vehicle surface that is currently receiving water;

B. A net increase in motor vehicle surface; and/or

C. Quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant, where the water quality treatment will be modified or removed.

SEDIMENT

Solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

SITE

The lot or lots upon which a major development is to occur or has occurred.

SOIL

All unconsolidated mineral and organic material of any origin.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA1)

An area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the state's future redevelopment and revitalization efforts.

STATE PLAN POLICY MAP

The geographic application of the State Development and Redevelopment Plan's goals and statewide policies, and the official map of these goals and policies.

STORMWATER

Water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities, or conveyed by snow-removal equipment.

STORMWATER MANAGEMENT BMP

An excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management BMP may either be normally dry (that is, a detention basin or infiltration system), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

STORMWATER MANAGEMENT MEASURE

Any practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

STORMWATER MANAGEMENT PLANNING AGENCY

A public body authorized by legislation to prepare stormwater management plans.

STORMWATER MANAGEMENT PLANNING AREA

The geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

STORMWATER RUNOFF

Water flow on the surface of the ground or in storm sewers, resulting from precipitation.

TIDAL FLOOD HAZARD AREA

A flood hazard area in which the flood elevation resulting from the two-, ten-, or 100-year storm, as applicable, is governed by tidal flooding from the Atlantic Ocean. Flooding in a tidal flood hazard area may be contributed to, or influenced by, stormwater runoff from inland areas, but the depth of flooding generated by the tidal rise and fall of the Atlantic Ocean is greater than flooding from any fluvial sources. In some situations, depending upon the extent of the storm surge from a particular storm event, a flood hazard area may be tidal in the 100-year storm, but fluvial in more frequent storm events.

URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD

A neighborhood given priority access to state resources through the New Jersey Redevelopment Authority.

URBAN ENTERPRISE ZONES

A zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. seq.

URBAN REDEVELOPMENT AREA

Previously developed portions of areas:

A. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PAI), designated centers, cores or nodes;

B. Designated as CAFRA centers, cores or nodes;

C. Designated as Urban Enterprise Zones; and

D. Designated as Urban Coordinating Council Empowerment Neighborhoods.

WATER-CONTROL STRUCTURE

A structure within, or adjacent to, a water, which intentionally or coincidentally alters the hydraulic capacity, the flood elevation resulting from the two-, ten-, or 100-year storm, flood hazard area limit, and/or floodway limit of the water. Examples of a water-control structure may include a bridge, culvert, dam, embankment, ford (if above grade), retaining wall, and weir.

WATERS OF THE STATE

The ocean and its estuaries, all springs, streams, wetlands, and bodies of surface water or groundwater, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

WETLANDS or WETLAND

An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as "hydrophytic vegetation."

§ 238-3. Design and performance standards for stormwater management measures.

A. Stormwater management measures for major development shall be designed to provide erosion control, groundwater recharge, stormwater runoff quantity control, and stormwater runoff quality treatment as follows:

(1) The minimum standards for erosion control are those established under the Soil and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules at N.J.A.C. 2:90.

(2) The minimum standards for groundwater recharge, stormwater quality, and stormwater runoff quantity shall be met by incorporating green infrastructure.

B. The standards in this chapter apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or water quality management plan adopted in accordance with Department rules.

§ 238-4. Stormwater management requirements for major development.

A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § **238-10**.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department's Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 13:1B-15.150, particularly Helonias bullata (swamp pink) and/or Clemmys muhlenbergii (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of Subsections **P**, **Q** and **R**:

(1) The construction of an underground utility line, provided that the disturbed areas are revegetated upon completion;

(2) The construction of an aboveground utility line, provided that the existing conditions are maintained to the maximum extent practicable; and

(3) The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

D. A waiver from strict compliance from the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of Subsections **O**, **P**, **Q** and **R** may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

(1) The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

(2) The applicant demonstrates through an alternatives analysis, that through the use of stormwater management measures, the option selected complies with the requirements of Subsections **O**, **P**, **Q** and **R** to the maximum extent practicable;

(3) The applicant demonstrates that, in order to meet the requirements of Subsections **O**, **P**, **Q** and **R**, existing structures currently in use, such as homes and buildings, would need to be condemned; and

(4) The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under Subsection **D(3)** above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Subsections **O**, **P**, **Q** and **R** that were not achievable on-site.

E. Tables 1 through 3 below summarize the ability of stormwater best management practices identified and described in the New Jersey Stormwater Best Management Practices Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in Subsections **O**, **P**, **Q** and **R**. When designed in accordance with the most current version of the New Jersey Stormwater Best Management Practices Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in Tables 1, 2 and 3 are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendments of the New Jersey Stormwater Best Management Practices to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department's website at https://njstormwater.org/bmp_manual2.htm.

F. Where the BMP tables in the New Jersey Stormwater Management Rule are different due to updates or amendments with the tables in this chapter, the BMP Tables in the Stormwater Management Rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 1
Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity

Table 1
Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High-Water Table (feet)
Cistern	0%	Yes	No	—
Dry well[a]	0%	No	Yes	2
Grass swale	50% or less	No	No	2[e] 1[f]
Green roof	0%	Yes	No	—
Manufactured treatment device[a][g]	50% or 80%	No	No	Dependent upon the device
Pervious paving system[a]	80%	Yes	Yes[b] No[c]	2[b] 1[c]
Small-scale bioretention basin[a]	80% or 90%	Yes	Yes[b] No[c]	2[b] 1[c]
Small-scale infiltration basin[a]	80%	Yes	Yes	2
Small-scale sand filter	80%	Yes	Yes	2
Vegetative filter strip	60% to 80%	No	No	—

(Notes corresponding to annotations [a] through [g] are found following Table 3.)

Table 2
Green Infrastructure BMPs for Stormwater Runoff Quantity
(or for Groundwater Recharge and/or Stormwater Runoff Quality with a Waiver or Variance from N.J.A.C. 7:8-5.3)

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High-Water Table (feet)
Bioretention system	80% or 90%	Yes	Yes[b] No[c]	2[b] 1[c]
Infiltration basin	80%	Yes	Yes	2
Sand filter[b]	80%	Yes	Yes	2
Standard constructed wetland	90%	Yes	No	N/A
Wet pond[d]	50% to 90%	Yes	No	N/A

(Notes corresponding to annotations [b] through [d] are found following Table 3.)

Table 3
BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity
only with a Waiver or Variance from N.J.A.C. 7:8-5.3

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High-Water Table (feet)
Blue roof	0%	Yes	No	N/A
Extended detention basin	40% to 60%	Yes	No	1
Manufactured treatment device[h]	50% or 80%	No	No	Dependent upon the device
Sand filter[c]	80%	Yes	No	1
Subsurface gravel wetland	90%	No	No	1
Wet pond	50% to 90%	Yes	No	N/A

Notes to Tables 1, 2, and 3:

(a) Subject to the applicable contributory drainage area limitation specified at Subsection **O(4)**;

(b) Designed to infiltrate into the subsoil;

(c) Designed with underdrains;

(d) Designed to maintain at least a ten-foot-wide area of native vegetation along at least 50% of the shoreline and to include a stormwater runoff retention component designed to capture stormwater runoff for beneficial reuse, such as irrigation;

(e) Designed with a slope of less than 2%;

(f) Designed with a slope of equal to or greater than 2%;

(g) Manufactured treatment devices that meet the definition of green infrastructure at § **238-2**;

(h) Manufactured treatment devices that do not meet the definition of green infrastructure at § **238-2**.

G. An alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate may be used if the design engineer demonstrates the capability of the proposed alternative stormwater management measure and/or the validity of the alternative rate or method to the municipality. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate shall be provided to the Department in accordance with § **238-6B**. Alternative stormwater management measures may be used to satisfy the requirements at Subsection **O** only if the measures meet the definition of green infrastructure at § **238-2**. Alternative stormwater management measures that function in a similar manner to a BMP listed at Subsection **O(2)** are subject to the contributory drainage area limitation specified at Subsection **O(2)** for that similarly functioning BMP. Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner to any BMP listed at Subsection **O(2)** shall have a contributory drainage area less than or equal to 2.5 acres, except for alternative stormwater management measures that function similarly to cisterns, grass swales, green roofs, standard constructed wetlands, vegetative filter strips, and wet ponds, which are not subject to a contributory drainage area limitation. Alternative measures that function similarly to standard constructed wetlands or wet ponds shall not be used for compliance with the stormwater runoff

quality standard unless a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with Subsection **D** is granted from Subsection **O**.

H. Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high-water table, so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems or other subsurface structures within the zone of influence of the groundwater mound, or interference with the proper functioning of the stormwater management measure itself.

I. Design standards for stormwater management measures are as follows:

(1) Stormwater management measures shall be designed to take into account the existing site conditions, including, but not limited to, environmentally critical areas; wetlands; flood-prone areas; slopes; depth to seasonal high-water table; soil type, permeability, and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone);

(2) Stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure, as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than 1/3 the width of the diameter of the orifice or 1/3 the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of § **238-8C**;

(3) Stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 5:21-7.4 and 5:21-7.5 shall be deemed to meet this requirement;

(4) Stormwater management BMPs shall be designed to meet the minimum safety standards for stormwater management BMPs at § **238-8**; and

(5) The size of the orifice at the intake to the outlet from the stormwater management BMP shall be a minimum of 2 1/2 inches in diameter.

J. Manufactured treatment devices may be used to meet the requirements of this section, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department. Manufactured treatment devices that do not meet the definition of green infrastructure at § **238-2** may be used only under the circumstances described at Subsection **O(4)**.

K. Any application for a new agricultural development that meets the definition of major development at § **238-2** shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at Subsections **O**, **P**, **Q** and **R** and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

L. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R** shall be met in each drainage area, unless the runoff from the drainage areas converge on-site and no adverse environmental impact would occur as a result of compliance with any one or more of the individual standards

being determined utilizing a weighted average of the results achieved for that individual standard across the affected drainage areas.

M. Any stormwater management measure authorized under the municipal stormwater management plan or chapter shall be reflected in a deed notice recorded in the Essex County Register of Deeds. A form of deed notice shall be submitted to the municipality for approval prior to filing. The deed notice shall contain a description of the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **O**, **P**, **Q** and **R** and shall identify the location of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the maintenance plan required to be recorded upon the deed pursuant to § **238-10B(5)**. Prior to the commencement of construction, proof that the above-required deed notice has been filed shall be submitted to the municipality. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.

N. A stormwater management measure approved under the municipal stormwater management plan or chapter may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to § **238-4** of this chapter and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the municipality for approval and subsequently recorded with the Essex County Register of Deeds and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with Subsection **M** above. Prior to the commencement of construction, proof that the above-required deed notice has been filed shall be submitted to the municipality in accordance with Subsection **M** above.

O. Green infrastructure standards.

(1) This subsection specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.

(2) To satisfy the groundwater recharge and stormwater runoff quality standards at Subsections **P** and **Q**, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at Subsection **F** and/or an alternative stormwater management measure approved in accordance with Subsection **G**. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Best Management Practice	Maximum Contributory Drainage Area
Dry well	1 acre
Manufactured treatment device	2.5 acres
Pervious pavement systems	Area of additional inflow cannot exceed 3 times the area occupied by the BMP
Small-scale bioretention systems	2.5 acres
Small-scale infiltration basin	2.5 acres
Small-scale sand filter	2.5 acres

(3) To satisfy the stormwater runoff quantity standards at Subsection **R**, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with Subsection **G**.

(4) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with Subsection **D** is granted from the requirements of this subsection, then BMPs from Table 1, 2, or 3, and/or an alternative stormwater management measure approved in accordance with Subsection **G** may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R**.

(5) For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this subsection. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this subsection, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R**, unless the project is granted a waiver from strict compliance in accordance with Subsection **D**.

P. Groundwater recharge standards. This subsection contains the minimum design and performance standards for groundwater recharge as follows:

(1) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § **238-5**, either:

(a) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual preconstruction groundwater recharge volume for the site; or

(b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from preconstruction to post-construction for the two-year storm is infiltrated.

(2) This groundwater recharge requirement does not apply to projects within the urban redevelopment area, or to projects subject to Subsection **P(3)** below.

(3) The following types of stormwater shall not be recharged:

(a) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department-approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

(b) Industrial stormwater exposed to source material. "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

Q. Stormwater runoff quality standards.

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards

are applicable when the major development results in an increase of 1/4 acre or more of regulated motor vehicle surface.

(2) Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:

(a) 80% TSS removal of the anticipated load, expressed as an annual average, shall be achieved for the stormwater runoff from the net increase of motor vehicle surface.

(b) If the surface is considered regulated motor vehicle surface because the water quality treatment for an area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant is to be modified or removed, the project shall maintain or increase the existing TSS removal of the anticipated load expressed as an annual average.

(3) The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major development, including any that discharge into a combined sewer system, shall comply with Subsection **Q(2)** above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.

(4) The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 4, below. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.

Table 4 Water Quality Design Storm Distribution

Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)
1	0.00166	41	0.1728	81	1.0906
2	0.00332	42	0.1796	82	1.0972
3	0.00498	43	0.1864	83	1.1038
4	0.00664	44	0.1932	84	1.1104
5	0.00830	45	0.2000	85	1.1170
6	0.00996	46	0.2117	86	1.1236
7	0.01162	47	0.2233	87	1.1302
8	0.01328	48	0.2350	88	1.1368
9	0.01494	49	0.2466	89	1.1434
10	0.01660	50	0.2583	90	1.1500
11	0.01828	51	0.2783	91	1.1550
12	0.01996	52	0.2983	92	1.1600
13	0.02164	53	0.3183	93	1.1650
14	0.02332	54	0.3383	94	1.1700
15	0.02500	55	0.3583	95	1.1750
16	0.03000	56	0.4116	96	1.1800
17	0.03500	57	0.4650	97	1.1850

Table 4 Water Quality Design Storm Distribution

Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)
18	0.04000	58	0.5183	98	1.1900
19	0.04500	59	0.5717	99	1.1950
20	0.05000	60	0.6250	100	1.2000
21	0.05500	61	0.6783	101	1.2050
22	0.06000	62	0.7317	102	1.2100
23	0.06500	63	0.7850	103	1.2150
24	0.07000	64	0.8384	104	1.2200
25	0.07500	65	0.8917	105	1.2250
26	0.08000	66	0.9117	106	1.2267
27	0.08500	67	0.9317	107	1.2284
28	0.09000	68	0.9517	108	1.2300
29	0.09500	69	0.9717	109	1.2317
30	0.10000	70	0.9917	110	1.2334
31	0.10660	71	1.0034	111	1.2351
32	0.11320	72	1.0150	112	1.2367
33	0.11980	73	1.0267	113	1.2384
34	0.12640	74	1.0383	114	1.2400
35	0.13300	75	1.0500	115	1.2417
36	0.13960	76	1.0568	116	1.2434
37	0.14620	77	1.0636	117	1.2450
38	0.15280	78	1.0704	118	1.2467
39	0.15940	79	1.0772	119	1.2483
40	0.16600	80	1.0840	120	1.2500

(5) If more than one BMP in series is necessary to achieve the required 80% TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (A \times B)/100$$

Where:

R = Total TSS percent load removal from application of both BMPs.

A = The TSS percent removal rate applicable to the first BMP.

B = The TSS percent removal rate applicable to the second BMP.

(6) Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include green infrastructure BMPs that optimize nutrient removal while still achieving the performance standards in Subsections **P**, **Q** and **R**.

(7) In accordance with the definition of "FW1" at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

(8) The Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-4.1(c) 1 establish 300-foot riparian zones along Category One waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters. A person shall not undertake a major development that is located within or discharges into a 300-foot riparian zone without prior authorization from the Department under N.J.A.C. 7:13.

(9) Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)3.i, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this subsection to reduce the post-construction load of total suspended solids by 95% of the anticipated load from the developed site, expressed as an annual average.

(10) These stormwater runoff quality standards do not apply to the construction of one individual single-family dwelling, provided that it is not part of a larger development or subdivision that has received preliminary or final site plan approval prior to December 3, 2018, and that the motor vehicle surfaces are made of permeable material(s) such as gravel, dirt, and/or shells.

R. Stormwater runoff quantity standards.

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quantity impacts of major development.

(2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § **238-5**, complete one of the following:

(a) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two-, ten-, and 100-year storm events do not exceed, at any point in time, the preconstruction runoff hydrographs for the same storm events;

(b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the preconstruction condition, in the peak runoff rates of stormwater leaving the site for the two-, ten- and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use chapters in the drainage area;

(c) Design stormwater management measures so that the post-construction peak runoff rates for the two-, ten- and 100-year storm events are 50%, 75% and 80%, respectively, of the preconstruction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed; or

(d) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with Subsection **R(2)(a)**, **(b)** and **(c)** above is required unless the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the major development. No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water-control structure.

(3) The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system.

§ 238-5. Calculation of stormwater runoff and groundwater recharge.

A. Stormwater runoff shall be calculated in accordance with the following:

(1) The design engineer shall calculate runoff using one of the following methods:

(a) The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in Chapters 7, 9, 10, 15 and 16, Part 630, Hydrology National Engineering Handbook, incorporated herein by reference as amended and supplemented. This methodology is additionally described in Technical Release 55 - Urban Hydrology for Small Watersheds (TR-55), dated June 1986, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873; or

(b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330, Trenton, New Jersey 08625. The document is also available at http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStandardsComplete.pdf.

(2) For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology above at Subsection **A(1)(a)** and the Rational and Modified Rational Methods at Subsection **A(1)(b)**. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover has existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

(3) In computing preconstruction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce preconstruction stormwater runoff rates and volumes.

(4) In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 - Urban Hydrology for Small Watersheds or other methods may be employed.

(5) If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

B. Groundwater recharge may be calculated in accordance with the following: the New Jersey Geological Survey Report GSR-32, A Method for Evaluating Groundwater-Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices

Manual; at the New Jersey Geological Survey website at https://www.nj.gov/dep/njgs/pricelst/gsreport/gsr32.pdf or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

§ 238-6. Sources for technical guidance.

A. Technical guidance for stormwater management measures can be found in the documents listed below, which are available to download from the Department's website at http://www.nj.gov/dep/stormwater/bmp_manual2.htm.

(1) Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended and supplemented. Information is provided on stormwater management measures such as, but not limited to, those listed in Tables 1, 2, and 3.

(2) Additional maintenance guidance is available on the Department's website at https://www.njstormwater.org/maintenance_guidance.htm.

B. Submissions required for review by the Department should be mailed to The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420.

§ 238-7. Solids and floatable materials control standards.

Site design features identified under § **238-4F** above, or alternative designs in accordance with § **238-4G** above, to prevent discharge of trash and debris from drainage systems shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this subsection, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Subsection B below.

A. Grates.

(1) Design engineers shall use one of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

(a) The New Jersey Department of Transportation (NJDOT) bicycle-safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines; or

(b) A different grate, if each individual clear space in that grate has an area of no more than seven square inches, or is no greater than 0.5 inch across the smallest dimension.

(2) Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater system floors used to collect stormwater from the surface into a storm drain or surface water body.

(3) For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven square inches, or be no greater than two inches across the smallest dimension.

B. The standard in Subsection **A(1)** above does not apply:

(1) Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine square inches;

(2) Where the municipality agrees that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;

(3) Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end-of-pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

(a) A rectangular space 4.625 inches long and 1.5 inches wide (this option does not apply for outfall netting facilities); or

(b) A bar screen having a bar spacing of 0.5 inch.

(4) Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle-safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

(5) Where flows are conveyed through a trash rack that has parallel bars with one-inch spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8; or

(6) Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register-listed historic property.

§ 238-8. Safety standards for stormwater management basins.

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs. This section applies to any new stormwater management BMP.

B. The provisions of this section are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management BMPs. Municipal and county stormwater management plans and chapters may, pursuant to their authority, require existing stormwater management BMPs to be retrofitted to meet one or more of the safety standards in Subsection **C(1)**, **(2)**, and **(3)** for trash racks, overflow grates, and escape provisions at outlet structures.

C. Requirements for trash racks, overflow grates and escape provisions.

(1) A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management BMP to ensure proper functioning of the BMP outlets in accordance with the following:

(a) The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars;

(b) The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;

(c) The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and

(d) The trash rack shall be constructed of rigid, durable, and corrosion-resistant material and designed to withstand a perpendicular live loading of 300 pounds per square foot.

(2) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

(a) The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

(b) The overflow grate spacing shall be no less than two inches across the smallest dimension.

(c) The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.

(3) Stormwater management BMPs shall include escape provisions as follows:

(a) If a stormwater management BMP has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management BMPs. With the prior approval of the municipality pursuant to Subsection **C**, a freestanding outlet structure may be exempted from this requirement;

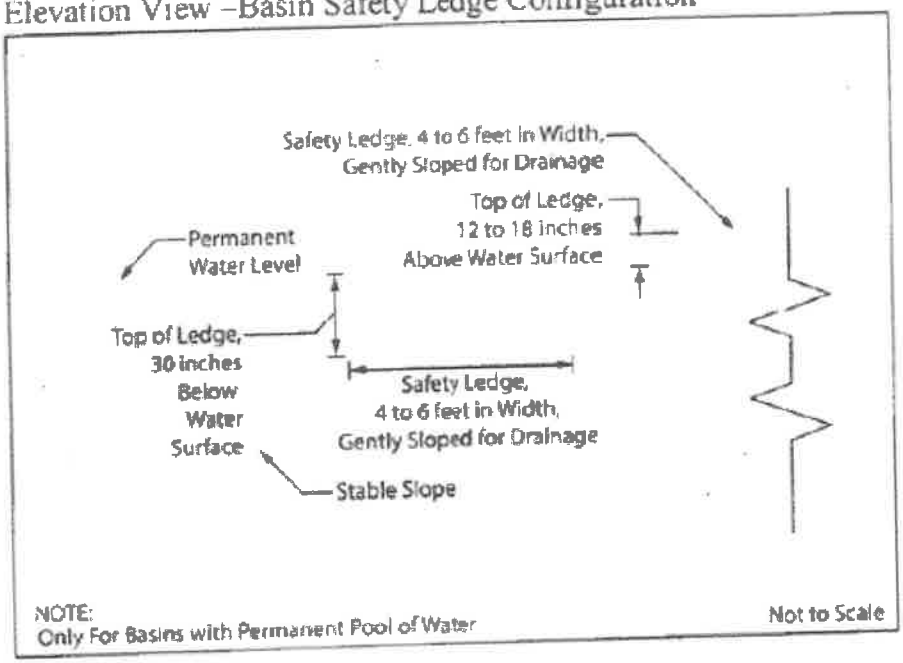
(b) Safety ledges shall be constructed on the slopes of all new stormwater management BMPs having a permanent pool of water deeper than 2 1/2 feet. Safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately 2 1/2 feet below the permanent water surface, and the second step shall be located one to 1 1/2 feet above the permanent water surface. See Subsection **E** for an illustration of safety ledges in a stormwater management BMP; and

(c) In new stormwater management BMPs, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical.

D. Variance or exemption from safety standard. A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the municipality that the variance or exemption will not constitute a threat to public safety.

E. Safety ledge illustration.

Elevation View –Basin Safety Ledge Configuration



§ 238-9. Requirements for site development stormwater plan.

A. Submission of site development stormwater plan.

(1) Whenever an applicant seeks municipal approval of a development subject to this chapter, the applicant shall submit all of the required components of the checklist for the site development stormwater plan at Subsection **C** below as part of the submission of the application for approval.

(2) The applicant shall demonstrate that the project meets the standards set forth in this chapter.

(3) The applicant shall submit three copies of the materials listed in the checklist for site development stormwater plans in accordance with Subsection **C** of this chapter.

B. Site development stormwater plan approval. The applicant's site development project shall be reviewed as a part of the review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the municipality's review engineer to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this chapter.

C. Submission of site development stormwater plan. The following information shall be required:

(1) Topographic base map. The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of one inch equals 200 feet or greater, showing two-foot contour intervals. The map as appropriate may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category One waters, wetlands and floodplains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and man-made features not otherwise shown.

(2) Environmental site analysis. A written and graphic description of the natural and man-made features of the site and its surroundings should be submitted. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site.

Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.

(3) Project description and site plans. A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations will occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high-groundwater elevations. A written description of the site plan and justification for proposed changes in natural conditions shall also be provided.

(4) Land use planning and source control plan. This plan shall provide a demonstration of how the goals and standards of § **238-3** through § **238-5** are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

(5) Stormwater management facilities map. The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

(a) Total area to be disturbed, paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

(b) Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

(6) Calculations.

(a) Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in § **238-4** of this chapter.

(b) When the proposed stormwater management control measures depend on the hydrologic properties of soils or require certain separation from the seasonal high-water table, then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

(7) Maintenance and repair plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § **238-10**.

(8) Waiver from submission requirements. The municipal official or board reviewing an application under this chapter may, in consultation with the municipality's review engineer, waive submission of any of the requirements in Subsection **C(1)** through **(6)** of this section when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

§ 238-10. Maintenance and repair.

A. Applicability. Projects subject to review as in § **238-1C** of this chapter shall comply with the requirements of Subsections **B** and **C**.

B. General maintenance.

(1) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(2) The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). The plan shall contain information on BMP location, design, ownership, maintenance tasks and frequencies, and other details as specified in Chapter 8 of the New Jersey BMP Manual, as well as the tasks specific to the type of BMP, as described in the applicable chapter containing design specifics.

(3) If the maintenance plan identifies a person other than the property owner (for example, a developer, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's or entity's agreement to assume this responsibility, or of the owner's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

(4) Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project. The individual property owner may be assigned incidental tasks, such as weeding of a green infrastructure BMP, provided the individual agrees to assume these tasks; however, the individual cannot be legally responsible for all of the maintenance required.

(5) If the party responsible for maintenance identified under Subsection **B(3)** above is not a public agency, the maintenance plan and any future revisions based on Subsection **B(7)** below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

(6) Preventative and corrective maintenance shall be performed to maintain the functional parameters (storage volume, infiltration rates, inflow/outflow capacity, etc.) of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

(7) The party responsible for maintenance identified under Subsection **B(3)** above shall perform all of the following requirements:

(a) Maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders;

(b) Evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed; and

(c) Retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by Subsection **B(6)** and **(7)** above.

(8) The requirements of Subsection **B(3)** and **(4)** do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency, subject to all applicable municipal stormwater general permit conditions, as issued by the Department.

(9) In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 14 days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, in its discretion, may extend the time

allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or county may immediately proceed to do so and shall bill the cost thereof to the responsible person. Nonpayment of such bill may result in a lien on the property.

C. Nothing in this subsection shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

§ 238-11. Enforcement.

This Ordinance shall be enforced by the Township Code Enforcement Department or its designees.

§ 238-12. Violations and penalties.

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this chapter shall be subject to the following penalties: $1,000 per day. Each day shall be deemed a separate violation.

Section 11

Storm Drain Inlet Retrofitting

SPPP Form 11 – Storm Drain Inlet Retrofitting

Municipality Information

Municipality: Township of Maplewood County Essex

NJPDES #: NJG 0154687 PI ID #: 203744

Team Member/Title: Calvin Bell/Director of Public Works/Paul J. Kittner Jr, PE, PP, CME/Twp. Eng.

Effective Date of Permit Authorization (EDPA): 04/01/04

Date of Completion: *Last: May 27, 2022* Date of most recent update: *Ongoing Every Year*

What type of storm drain inlet design will generally be used for retrofitting?
For Existing Inlets, Bolt on Cast Iron Screens are used, new inlets receive the ECO-N Head Pieces

Repaving, repairing, reconstruction or alteration project name	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains w/ hydraulic exemptions
2018 Road Improvement Program and NJDOT Boyden Avenue	*2018*	*2019*	*2019*	*64 +33 -97*	
2019 Road Improvement Program and NJDOT Burnett Avenue	*2019*	*2020*	*2021*	*37*	
2020 Road Improvement Program and NJDOT Midland Boulevard	*2020*	*2020*	*2021*	*25*	
2021 Drainage Improvements	*2021*	*2021*	*2022*	*34*	

Are you claiming any alternative device exemptions or historic place exemptions for any of the above projects? Please explain:

Section 12

Street Sweeping and Road Erosion Control Maintenance

SPPP Form 12 – Street Sweeping and Road Erosion Control Maintenance

Municipality Information

Municipality: Maplewood Township County: Essex

NJPDES # :NJG 0154687PI ID #: 203744

Team Member/Title: Paul J. Kittner Jr, Pe, PP, CMe/Director of Public Works

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *01/20/05* Date of most recent update: *May 27, 2022*

Street Sweeping

Please describe the street sweeping schedule that you will maintain.
(NOTE: Attach a street sweeping log containing the following information: date and area swept, # of miles swept and the total amount of materials collected.)

Maplewood already conforms to and surpasses the minimal standard required. The Township's current street sweeping plan and schedule is already more frequent and impacts more roadway types than the minimum guidelines given by NJDEP. Please refer to the attached sweeping map. DPW maintains a schedule log for details. Street Sweeping is performed on a continual basis, weather permitting.

Road Erosion Control Maintenance

Describe your Road Erosion Control Maintenance Program, including inspection schedules. A list of all sites of roadside erosion and the repair technique(s) you will be using for each site should be attached to this form.
(NOTE: Attach a road erosion control maintenance log containing the following information: location, repairs, date)

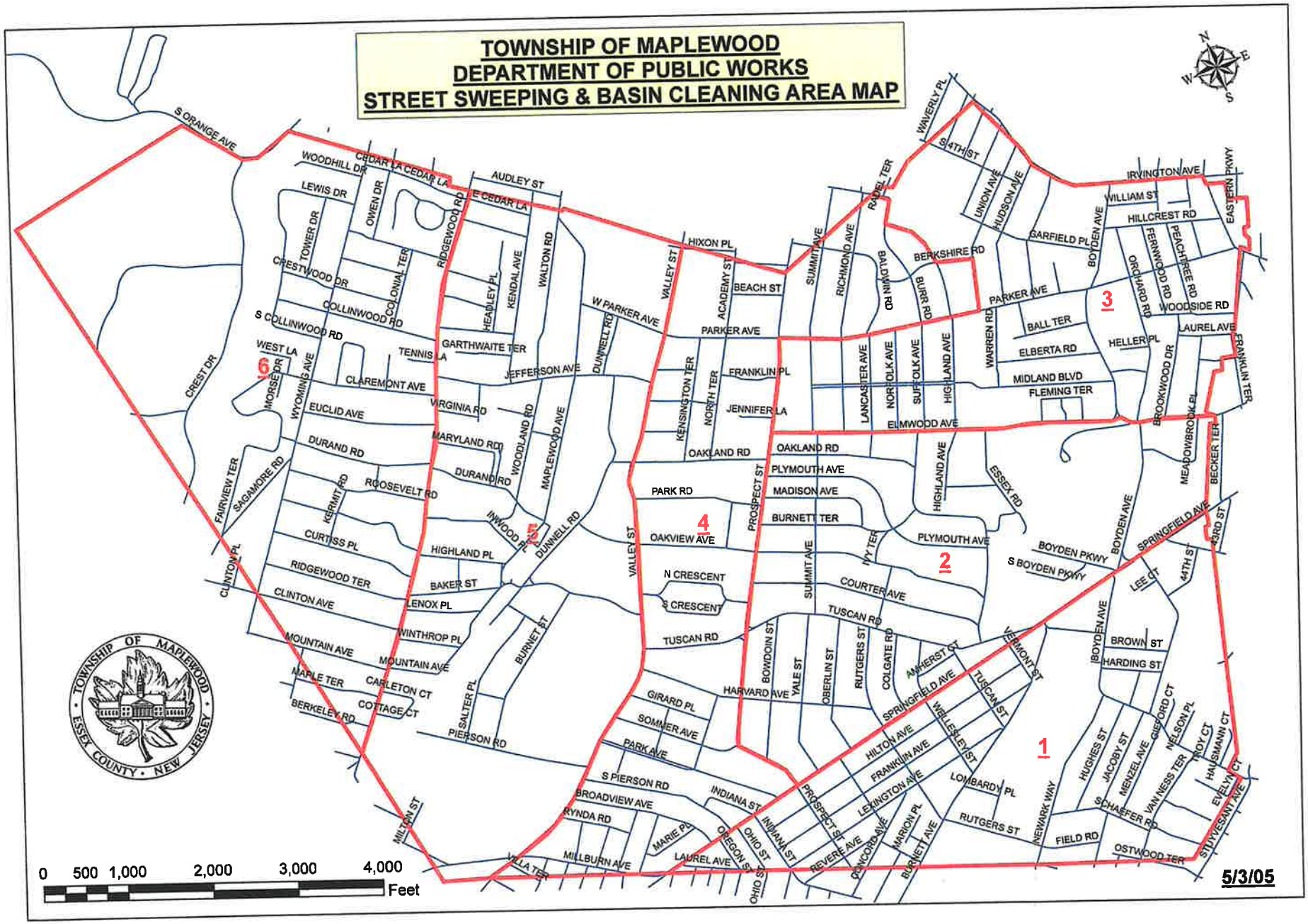
Maplewood Township will use the Public Works (or Maintenance) Department to monitor all our roads and streets for erosion problems during normal patrols. All identified road erosion problems will be reported to the Public Works Department Supervisor. During quarterly SPPP Team meetings, identified areas of erosion will be discussed and repairs prioritized. All maintenance personnel will then be assigned to the areas of concern, and the areas identified to have road erosion problems will be repaired in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. All maintenance personnel will maintain an inspection log, and will maintain a list of all repairs and the dates completed. The status of the Road Erosion Control Maintenance Program will be included in the Annual Report and Recertification. Road erosion is minimized as almost all of the roads are curbed.

2021 Catch Basins cleaned Per month/Debris collected

Month	# Basins	Tons
January	72	6
February	54	3
March	142	13
April	138	12
May	162	15
June	146	13
July	136	10
August	142	12
September	128	7
October	136	11
November	24	1
December	32	2
Yearly Total	1,312	105

MS4 Sweepings 2021

	MILEAGE	TONS OF DEBRIS
JANUARY	389.3	54
FEBRUARY	-------	--
MARCH	414.1	69
APRIL	16.1	2
MAY	187.1	48
JUNE	365.4	53
JULY	248.4	36
AUGUST	456.4	55
SEPTEMBER	583.9	82
OCTOBER	156.2	27
NOVEMBER	28	3
DECEMBER	183.2	-----LEAVES
TOTALS	3028.1 MILES	429


TOWNSHIP OF MAPLEWOOD
DEPARTMENT OF PUBLIC WORKS
STREET SWEEPING & BASIN CLEANING AREA MAP
N
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3
4
5
6
S ORANGE AVE
WOODHILL DR
CEDAR LA
LEWIS DR
OWEN DR
TOWER DR
CRESTWOOD DR
COLONIAL TER
RIDGEWOOD RD
AUDLEY ST
E CEDAR LA
HEADLEY PL
KENDAL AVE
WALTON RD
S COLLINWOOD RD
COLLINWOOD RD
WEST LA
MORSE DR
WYOMING AVE
CREST DR
TENNIS LA
GARTHWAITE TER
JEFFERSON AVE
CLAREMONT AVE
EUCLID AVE
VIRGINIA RD
MARYLAND RD
DURAND RD
ROOSEVELT RD
FAIRVIEW TER
SAGAMORE RD
KERMIT RD
CLINTON PL
CURTISS PL
HIGHLAND PL
RIDGEWOOD TER
BAKER ST
CLINTON AVE
LENOX PL
WINTHROP PL
MOUNTAIN AVE
MAPLE TER
CARLETON CT
COTTAGE CT
BERKELEY RD
WOODLAND RD
MAPLEWOOD AVE
INWOOD PL
DUNNELL RD
BURNETT ST
SALTER PL
PIERSON RD
W PARKER AVE
DUNNELL RD
VALLEY ST
HIXON PL
ACADEMY ST
BEACH ST
PARKER AVE
FRANKLIN PL
JENNIFER LA
KENSINGTON TER
NORTH TER
OAKLAND RD
PARK RD
OAKVIEW AVE
N CRESCENT
S CRESCENT
TUSCAN RD
HARVARD AVE
GIRARD PL
SOMMER AVE
PARK AVE
S PIERSON RD
BROADVIEW AVE
RYNDA RD
MILLBURN AVE
VILLA TER
MILTON ST
MARIE PL
LAUREL AVE
OREGON ST
OHIO ST
INDIANA ST
PROSPECT ST
REVERE AVE
CONCORD AVE
MARION PL
RUTGERS ST
SUMMIT AVE
RICHMOND AVE
RADEL TER
BALDWIN RD
BURR RD
BERKSHIRE RD
WAVERLY PL
S 4TH ST
UNION AVE
HUDSON AVE
IRVINGTON AVE
WILLIAM ST
HILLCREST RD
GARFIELD PL
BOYDEN AVE
EASTERN PKWY
ORCHARD RD
FERNWOOD RD
PEACHTREE RD
WOODSIDE RD
PARKER AVE
BALL TER
ELBERTA RD
HELLER PL
LAUREL AVE
WARREN RD
MIDLAND BLVD
FLEMING TER
LANCASTER AVE
NORFOLK AVE
SUFFOLK AVE
HIGHLAND AVE
ELMWOOD AVE
BROOKWOOD DR
BROOKWOOD PL
FRANKLIN TER
MEADOWBROOK PL
BECKER TER
OAKLAND RD
PLYMOUTH AVE
MADISON AVE
BURNETT TER
PROSPECT ST
HIGHLAND AVE
ESSEX RD
IVY TER
COURTER AVE
SUMMIT AVE
BOWDOIN ST
YALE ST
OBERLIN ST
RUTGERS ST
COLGATE RD
AMHERST CT
VERMONT ST
TUSCAN ST
WELLESLEY ST
LEXINGTON AVE
FRANKLIN AVE
HILTON AVE
SPRINGFIELD AVE
BOYDEN PKWY
S BOYDEN PKWY
BOYDEN AVE
SPRINGFIELD AVE
43RD ST
44TH ST
LEE CT
BROWN ST
HARDING ST
LOMBARDY PL
NEWARK WAY
HUGHES ST
JACOBY ST
MENZEL AVE
GIFFORD CT
NELSON PL
TROY CT
HAUSMANN CT
EVELYN CT
STUYVESANT AVE
VAN NESS TER
SCHAEFER RD
FIELD RD
OSTWOOD TER
RUTGERS ST
TOWNSHIP OF MAPLEWOOD
ESSEX COUNTY • NEW JERSEY
0 500 1,000 2,000 3,000 4,000
Feet
5/3/05

Section 14

Outfall Pipe Stream Scouring Remediation

SPPP Form 14 - Outfall Pipe Stream Scouring Remediation

Municipality Information

Municipality: Maplewood Township County: Essex

NJPDES # :NJG 0154687 PI ID #: 203744

Team Member/Title: Paul J. Kittner Jr, PE, PP, CME /Director of Public Works/Twp. Engineer

Effective Date of Permit Authorization (EDPA): *01/21/04*

Date of Completion: *10/01/05* Date of most recent update: *May 27, 2022*

Describe your stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control active, localized stream and stream bank scouring. Attach additional pages as necessary.

(NOTE: Attach a prioritized list of sites observed to have outfall pipe stream and stream bank scouring, date of anticipated repair, method of repair and date of completion.)

When we are doing the illicit connection part of this program, we will be checking all of our outfall pipes for signs of scouring. All sites will be placed on a prioritized list and repairs will be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. In addition, repairs that do not need NJDEP permits for those repairs may be done first.

We will follow each repair up with an annual inspection of the siteto ensure that scouring has not resumed. A total of 33 outfalls were inspected during 2018. Next scheduled inspection is 2023.

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Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: ENRIQUE RIASOTA

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E35

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  No not great condition

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. Concrete encasement.

- Is there any erosion present that needs to be addressed?

  Some erosion, not bad.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 36

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  OK, but some erosion at joints.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - 1'x1' size.

- Is there any erosion present that needs to be addressed?

  Yes.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Riasoto

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 28

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  Yes.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - rip-rap encased via concrete.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique BIASOTTI

DATE/TIME: 4/23/18 - 1:25pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E37 / 22 Meadowbrook Place

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: 60% backflow

- Is the discharge pipe/flared end section in tact?

  Inset not in tact.

- Are the joints of the exposed pipe in good condition?

  No

- Is the rip-rap sufficient? What size is the rip rap?

  No rip-rap gravel.

- Is there any erosion present that needs to be addressed?

  Yes erosion

- Has all debris been removed from the discharge point?

  Debris at discharge point.

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  Yes

- Are there any comments you would like to make regarding the outfall?

  Pipe flat and damaged. Sediment build up.
  Pipe compromised. Low set pipe.

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: April 23, 2018 / 1:40pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E21

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes flared
- Are the joints of the exposed pipe in good condition?
  Yes joints are okay.
- Is the rip-rap sufficient? What size is the rip rap?
  Rip rap covered by stucco finish not visible
- Is there any erosion present that needs to be addressed?
  Some but not terrible
- Has all debris been removed from the discharge point?
  Some debris clear for the most part
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No
- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 22

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes flared

- Are the joints of the exposed pipe in good condition?

  yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes

- Is there any erosion present that needs to be addressed?

  End of pipe some erosion but not bad.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

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Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E23

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Exposed not surrounded by rip-rap.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Pipe runs under tree roots.

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E38

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: Severly compromised.
- Is the discharge pipe/flared end section in tact?

  Yes
- Are the joints of the exposed pipe in good condition?

  Unknown - needs to be cleared
- Is the rip-rap sufficient? What size is the rip rap?

  Yes - concrete over rip-rap.
- Is there any erosion present that needs to be addressed?

  NO
- Has all debris been removed from the discharge point?

  No - Completely covered - blocked - submerged in dirt.
- Did you take pictures of the outfall?

  Yes
- Is there any siltation built up at the structure?

  Yes
- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti
DATE/TIME: 4/23/18
WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E39

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Flared
- Are the joints of the exposed pipe in good condition?
  Yes - wall is compromised
- Is the rip-rap sufficient? What size is the rip rap?
  Large block 12" - 16" block
- Is there any erosion present that needs to be addressed?
  Yes the wall
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Clean Pipe
- Are there any comments you would like to make regarding the outfall?
  Wall surrounding pipe in bad condition

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti
DATE/TIME: 4/23/18
WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E46/ Springfield Ave. below bridge center

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes - Flared
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  Yes Concrete covers rip. rap.
- Is there any erosion present that needs to be addressed?
  No erosion
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  Good flow.

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E43

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Pipe flared

- Are the joints of the exposed pipe in good condition?

  Unknown after inspection

- Is the rip-rap sufficient? What size is the rip rap?

  Rip rap good - covered in concrete.

- Is there any erosion present that needs to be addressed?

  Not much erosion.

- Has all debris been removed from the discharge point?

  No - debris covers 50% of discharge.

- Did you take pictures of the outfall?

  YES

- Is there any siltation built up at the structure?

  Yes

- Are there any comments you would like to make regarding the outfall?

  Needs cleaning.

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 44

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes, flared
- Are the joints of the exposed pipe in good condition?
  Unknown - too clogged.
- Is the rip-rap sufficient? What size is the rip rap?
  Yes - encased in concrete.
- Is there any erosion present that needs to be addressed?
  No.
- Has all debris been removed from the discharge point?
  No. discharge ie 60% - 70% clogged
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  No Flow - needs dirt cleared from discharge.

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April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: ~~E 26~~ / E 27

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:
- Is the discharge pipe/flared end section in tact?

  Yes
- Are the joints of the exposed pipe in good condition?

  Yes
- Is the rip-rap sufficient? What size is the rip rap?

  Yes - Rip-Rap encased in concrete.
- Is there any erosion present that needs to be addressed?

  No erosion
- Has all debris been removed from the discharge point?

  No - pipe is 30% covered with silt.
- Did you take pictures of the outfall?

  Yes
- Is there any siltation built up at the structure?

  Yes. covers 30% of pipe.
- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: [redacted] E25

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) ~~Good~~

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  No - Some metal mesh showing
- Are the joints of the exposed pipe in good condition?
  No breakage on top section of pipe
- Is the rip-rap sufficient? What size is the rip rap?
  No. Stone is loose around pipe
- Is there any erosion present that needs to be addressed?
  Yes said erosion compromises stone.
- Has all debris been removed from the discharge point?
  Yes.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Bracetti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: Eliminated

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  No, closed due to collapse of pipe
- Are the joints of the exposed pipe in good condition?
  No collapsed.
- Is the rip-rap sufficient? What size is the rip rap?
  No. Surround is not good. eroded severly
- Is there any erosion present that needs to be addressed?
  Yes, soil erosion displayed outfall.
- Has all debris been removed from the discharge point?
  No. collapsed pipe.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes - due to collapse.
- Are there any comments you would like to make regarding the outfall?
  Not sure if eliminated or just collapsed.

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April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E-40

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes, intact.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Rip-Rap in good condition encased in concrete. Fracture in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Very large outfall by Arizona Iced Tea above Nelson Place

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E-41

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Unknown - not visible

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, good rip-rap encased in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

  Smaller, openey but clear.

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Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Batsotti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 34

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - encased in concrete

- Is there any erosion present that needs to be addressed?

  No

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood
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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E33

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  No

- Are the joints of the exposed pipe in good condition?

  Yes

- Is there any erosion present that needs to be addressed? What size is the rip rap?

  yes – encased in concrete

- Is there any erosion present that needs to be addressed?

  Soil erosion around outfall ~~one outfalls~~ erosion

- Has all debris been removed from the discharge point?

  yes

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Approximately 18" wide, elevated on wall

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: sunny

The following items should be reviewed for each outfall:

Location/ID No: E42

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes:
- Is the discharge pipe/flared end section in tact?
  No flare, pipe buried.
- Are the joints of the exposed pipe in good condition?
  No. Pipe collapsed and buried.
- Is the rip-rap sufficient? What size is the rip rap?
  No - rip-rap non existent.
- Is there any erosion present that needs to be addressed?
  Yes, soil eroded and covered pipe.
- Has all debris been removed from the discharge point?
  No. Most of pipe discharge covered
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  Collapsed - bad shape, no flow of water

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 28 / Evelyn Court

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes.

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E29

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  yes - encased in concrete
- Is there any erosion present that needs to be addressed?
  No.
- Has all debris been removed from the discharge point?
  Yes.
- Did you take pictures of the outfall?
  Yes.
- Is there any siltation built up at the structure?
  No. Flows easy.
- Are there any comments you would like to make regarding the outfall?

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Paul J. Kittner, Jr., P.E., P.P., C.M.E.
Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/24/2018 2:30pm

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E45

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes, but has breaks on clay pipe.
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  yes - encased in concrete.
- Is there any erosion present that needs to be addressed?
  No.
- Has all debris been removed from the discharge point?
  Yes.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?
  Pipe is clay - extends from inlet.

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/24/18 2:34pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 31

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  yes.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. encased in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes. Good flow

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique & Jason

DATE/TIME: 4/24/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 30

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes

- Are the joints of the exposed pipe in good condition?

  yes

- Is the rip-rap sufficient? What size is the rip rap?

  No. Soil around pipe - not much rip-rap.

- Is there any erosion present that needs to be addressed?

  No. soil is stable

- Has all debris been removed from the discharge point?

  No. Large rocks blocking discharge

- Did you take pictures of the outfall?

  yes.

- Is there any siltation built up at the structure?

  No. Stones inside pipe.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/24/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 32

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. encased in concrete. Flush with bridge concrete.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes. Flows easily – Large pipe.

- Did you take pictures of the outfall?

  Yes.

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/20/18

WEATHER: Rainy

The following items should be reviewed for each outfall:

Location/ID No: W 23

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes:

- Is the discharge pipe/flared end section in tact?
  Yes
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  Yes - concrete encased.
- Is there any erosion present that needs to be addressed?
  No serious erosion
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: ENRIQUE BIASOTTI

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: WI 22

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes
- Are the joints of the exposed pipe in good condition?
  ~~Yes~~ No. Joint near end of outfall perforated.
- Is the rip-rap sufficient? What size is the rip rap?
  Yes but some pieces missy. Size of rip-rap 1'x1'
- Is there any erosion present that needs to be addressed?
  Yes, erosion of rocks under pipe.
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: ENRIQUE BIASOTTI

DATE/TIME: 4/30/18

WEATHER: Rain.

The following items should be reviewed for each outfall:

Location/ID No: W 21

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  Yes, but some water infiltration causing erosion

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, rip-rap 1'x1'.

- Is there any erosion present that needs to be addressed?

  Yes rip-rap stone under pipe because of perforated joint.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood
Engineering Department

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Paul J. Kittner, Jr., P.E., P.P., C.M.E.
Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/30/18

Weather: Rain

The following items should be reviewed for each outfall:

Location/ID No: W 20

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  No. joint compromised - seeing metal wire inside concrete.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, 1'x1' rip-rap

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood
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Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/30/18

Weather: Rain

The following items should be reviewed for each outfall:

Location/ID No: W19

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Not intakt on the end section.
- Are the joints of the exposed pipe in good condition?
  Jointe are not good on exposed pipe.
- Is the rip-rap sufficient? What size is the rip rap?
  Rip-rap is sufficient but missing some stones.
- Is there any erosion present that needs to be addressed?
  yes, below pipe
- Has all debris been removed from the discharge point?
  yes
- Did you take pictures of the outfall?
  yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: Y - unknown number - 30 Brook Lane.

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  yes.

- Is the rip-rap sufficient? What size is the rip rap?

  yes. 1'x1' rip-rap.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  yes.

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: W24 - Owen Drive - Washington Park

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  yes - 1'x1'.

- Is there any erosion present that needs to be addressed?

  Below pipe yes. Some erosion.

- Has all debris been removed from the discharge point?

  Yes.

- Did you take pictures of the outfall?

  yes.

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Section 16:

Standard Operating Procedures

SPPP Form 16 – Standard Operating Procedures

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # :*NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, PE,PP,CME (Twp. Eng and Director of Public W.orks)*

Effective Date of Permit Authorization (EDPA):*04/01/04*

Date of Completion: *04/01/05* Date of most recent update: *May 27, 2022*

BMP	Date SOP went into effect	Describe your inspection schedule
Fueling Operations (including the required practices listed in Attachment D of the permit)	*04/01/05*	*Maintenance yard will be inspected once a month. This inspection is performed by DPW.* *Visual inspections will be made before discharging stormwater that has accumulated in the secondary containment. Above ground fueling tanks were completed in 2022.*
Vehicle Maintenance (including the required practices listed in Attachment D of the permit)	*04/01/05*	*Monthly inspections will be held to ensure that the SOP is being met. Vehicle Maintenance is typically performed indoors or at a third party facility depending on the nature of the Maintenance/Repair.*
Good Housekeeping Practices (including the required practices listed in Attachment D of the permit) **Attach inventory list required by Attachment D of the permit.**	*04/01/05*	*Monthly inspections of all municipal maintenance yards and ancillary operations are held. Debris is removed, stockpile locations are kept tidy and neat. Chemicals are kept indoors and not exposed to Stormwater runoff.*

Maplewood DPW
Public Works Facility

359 Boyden Avenue
Maplewood, NJ 07047

Spill Prevention Control and Countermeasure Plan
US EPA 40 CFR 112

CHAPMAN INC
ENVIRONMENTAL SERVICES

CHAPMAN ENVIRONMENTAL SERVICES

Professional Engineer's Certification– 112.3(d)(1)

The undersigned Registered Professional Engineer is familiar with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112) and has supervised an examination of the facility. The undersigned Registered Professional Engineer attests that this Oil Spill Prevention Control and Countermeasures Plan has been prepared in accordance with good engineering practices including applicable industry standards, and in accordance with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112); and procedures have been established for required inspections and testing; and that the Plan is adequate for the facility.

Name	**David Faccas, P.E.**
Title	**Senior Engineer**
P.E. Registration Number	**24 GE 04615300**
State of License	**NJ**
Signature	STATE OF NEW JERSEY DAVID D. FACCAS No. GE46153 *LICENSED* PROFESSIONAL ENGINEER
Date	**3/30/2022**

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- Specifications & Safety Data Sheets

Note: Regulation References in Table of Contents indicate cross-reference to 40 CFR 112.

1) PE Certification & Management Review – 112.3 & 112.7

The Township of Maplewood and the Public Works Facility is committed to the prevention of discharges of oil into navigable waters and the environment and maintains the highest standards for spill prevention control and countermeasures through periodic review, updating, and implementation of this Spill Prevention Control and Countermeasure (SPCC) Plan. As the site owner and responsible entity, Maplewood DPW will ensure the necessary workforce, equipment and materials required to expeditiously control and remove any quantity of oil discharged.

Site Owner	Maplewood Township, NJ – Department of Public Works Facility
Site Name, Address & Authorized Facility Representative	Maplewood Public Works Facility 359 Boyden Ave **Paul Kittner, P.E., P.P., C.M.E.** Superintendent of Public Works

Maplewood DPW Commitment to Manpower Certification

Paul Kittner, P.E., P.P., C.M.E.
Authorized Facility Representative (Print)
Superintendent of Public Works, Township of Maplewood
Title
Signature

a. Management Review & Technical Amendment Log - 112.7

A review and evaluation of this SPCC Plan will be conducted at least once every five years. As a result of the review and evaluation, Maplewood DPW will amend the SPCC Plan if: (1) a technology becomes available that will significantly reduce the likelihood of a spill event from the facility and (2) if that technology has been field- proven at the time of review. This SPCC Plan will also be amended within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for discharging of oil into or upon the navigable waters of the United States or adjoining shorelines. Any technical amendment to the SPCC Plan shall be certified by a Professional Engineer.

The below signed Facility Representative of Maplewood DPW (or their designee) attest to the following:

1. The Plan has been prepared in accordance with accepted industry practices and standards, and with the SPCC rule requirements.
2. Procedures for required inspections, recordkeeping and testing have been established.
3. The Plan is being fully implemented.
4. The facility meets the qualifying criteria.
5. The Plan does not deviate from SPCC rule requirements except as allowed and as certified by a PE; and
6. Management approves the Plan and has committed resources to implement it

Review Dates	5-Year Review & Technical Amendment Log Professional Engineer Certification Facility Representative Signature	Amendments Required? PE Certification Required? Description of Technical Amendments
		Initial Signature (No Amendments) Plan Issuance

Professional Engineer's Certification– 112.3(d)(1)

The undersigned Registered Professional Engineer is familiar with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112) and has supervised an examination of the facility. The undersigned Registered Professional Engineer attests that this Oil Spill Prevention Control and Countermeasures Plan has been prepared in accordance with good engineering practices including applicable industry standards, and in accordance with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112); and procedures have been established for required inspections and testing; and that the Plan is adequate for the facility.

Name	**David Faccas, P.E.**
Title	**Senior Engineer**
P.E. Registration Number	**24 GE 04615300**
State of License	**NJ**
Signature	
Date	**3/30/2022**

c. Substantial Harm Criteria Checklist - 40 CFR 112.20(e)

Site Name:	***Maplewood DPW Facility***
Site Address:	***359 Boyden Ave., Maplewood, NJ***

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

   Yes **No X**

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   Yes **No X**

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

   Yes **No X**

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

   Yes **No X**

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

   Yes **No X**

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Name (please type or print)	**Title**
Signature	**Date**

2) Emergency Contact Information

Emergency & Non-Emergency Spill Reporting Hotlines	
New Jersey Department of Environmental Protection Spill Response	1-877-WARNDEP 1-877-927-6337
National Response Center USCG/USEPA	1-800-424-8802
Local Emergency Agencies	
Maplewood Township Police Department	911
Maplewood Township Fire Department	911
Essex County Health Department	973-762-4400
Spill Response Contractors/Consultants	
T. Slack Environmental	908-964-5360
LORCO Waste Oil Services 450 S Front St, Elizabeth, NJ 07202 www.lorcopetroleum.com	800-734-0910
Chapman Environmental Services Regulatory Compliance Services	Matthew Mee 201-341-6285 mmee@chapmanes.com
Maplewood DPW Site Contacts	
Paul Kittner, P.E., P.P., C.M.E. Superintendent of Public Works	**Phone:** (973) 762-8120 ext. 3200 **Address:** 574 Valley Street Maplewood Township, NJ 07040 United States

3) Introduction

a. Purpose

The purpose of this Spill Prevention Control and Countermeasure (SPCC) plan is to prevent oil spills from occurring, and to perform a safe, efficient, and timely response in the event of a spill or leak (both referred to as "spills" herein). In accordance with United States Environmental Protection Agency (USEPA) oil pollution prevention regulations (40 CFR 112), SPCC plans are required for non-transportation related facilities that could reasonably be expected to discharge oil into or upon navigable waters or adjoining shorelines; and meet one of the following conditions:

- Above-ground oil storage capacity exceeds 1,320 gallons; or
- Underground oil storage capacity exceeds 42,000 gallons, unless the underground tanks are subject to the technical requirements of 40 CFR 280, or a state program approved under 40 CFR 281. (New Jersey approved Underground Storage Tank program is regulated under N.J.A.C. 7:14B.)

As defined by 40 CFR Part 112, oil includes all grades of motor oil, hydraulic oil, lube oil, fuel oil, gasoline and diesel, automatic transmission fluid, used oil, and transformer di-electric fluid. The definition of oil also includes non-petroleum oils such as animal or vegetable oils and synthetic oils.

The Maplewood DPW Facility currently has the capacity to store greater than 1,320 gallons of oil products in containers 55-gallons and greater. Potential spills from the oil storage locations have the potential to either leave the property in question or impact navigable water bodies.

b. Using the Plan

In addition to satisfying a regulatory requirement, this SPCC plan should be a working document at the facility. The plan should be used frequently in the following ways:

- As a reference for oil storage and containment system information.
- As a tool for informing new employees and refreshing current employees on practices for preventing and responding to oil spills.
- As a guide to the required annual training program for employees.
- As a guide to the required monthly facility and tank inspections.
- As a resource during an emergency response.
- As a tool to address the facility's operation and maintenance procedures.

c. Location of SPCC Plan - 112.3(e)

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC Plan is maintained at the Maplewood DPW Facility Service Center and is readily available. All relevant inspection, testing and training records are kept with the plan.

d. Cross-Reference with SPCC Provisions - 112.7

All applicable portions of the SPCC Rule have been cited in both the table of contents and each corresponding section header. Section headings identify, where appropriate, the relevant section(s) of the SPCC rule and the Table of Contents includes a listing of all cross references. SPCC provisions which are not applicable to this facility, or its operations are noted where relevant in this plan.

e. Practicability of Secondary Containment - 112.7(d)

As required by rule, Maplewood DPW has determined that secondary containment is practicable at this facility. Compliance with both the general and sized secondary containment requirements is detailed in Section 2.0 of this plan.

f. SPCC Plan Revisions

The Maplewood DPW designated SPCC responsible entity must review the SPCC Plan every 5 years. More frequent updates and Professional Engineer recertification are required following any change in the facility design, construction, operation, or maintenance that would affect the facility's potential for discharging oil. Revisions must occur as soon as possible, but no later than six months following the change.

g. EPA Notifications (Spill Event Notifications)

Facility information must be submitted to the EPA Regional Administrator within sixty days whenever the facility discharges:

- More than 1,000 gallons of oil in a single event,
- or discharges more than 42 gallons of oil in each of two spill events within a 12-month period.

A spill notification form and full event details must be submitted to:

US EPA Region 2
290 Broadway
New York, NY 10007-1866
Phone: 877-251-4575

EPA EMERGENCY NOTIFICATION
800-424-8802
(National Response Center)

If the facility self certifies any future SPCC plan amendments in lieu of a Professional Engineer's review and certification, and the facility then experiences a reportable spill, the EPA Regional Administrator can review Self-Certification eligibility and require the plan be certified by a Professional Engineer.

h. Facility Description - 112.7(a)(3); 112.8(b), Location & Use

The facility is in Maplewood Township, Essex County, New Jersey. The facility is a municipal public works garage which provides general transportation, repair, leaf collection and other miscellaneous public services. The site is approximately 5 acres in size in a predominantly residential neighborhood in northern New Jersey. A gasoline and diesel covered fueling island is present for the use of Maplewood public vehicles. Automotive services are conducted inside the various works bays onsite. Waste cooking oil and motor oil tanks are staged outside for hand filling of residents disposing of used oil. Two diesel-fired emergency generators (one portable, one stationary) are also present onside. Various drums of automotive oils and petroleum products are all located inside, under cover around the mechanic bays.

Facility Name	Maplewood DPW
Facility Type	Municipal Public Works Facility (Equipment repair, vehicle repair, vehicle fueling, misc. municipal services)
Facility Location	359 Boyden Ave., Maplewood, NJ
Tax Map & Location	Block 48.47 Lot 167 4.7 Acres Coordinates: Latitude - 40°43'10.55"N Longitude - 74°15'28.77"W
SPCC Coordinator (EHS Professional)	Paul Kittner, P.E., P.P., C.M.E. Superintendent of Public Works

i. Waterways and Site Drainage

The Irvington Brook is located approximately 1,000' east of the subject site. The East Branch Rahway River (A branch of the Rahway River) is another named surface water body located to the west of the Maplewood DPW. This branch rises from the Rahway River as a surface stream and is classified as an open water in the state of New Jersey. Due to the topography of the site, general site drainage flows southeast. The drainage flow via elevation pathway is seen on Appendix-Elevation. Stormwater drains are present throughout the site and offer the quickest pathway to navigable waterways and migration of surface spills beyond the subject property boundaries.

j. Spill History

The Maplewood DPW has not experienced any spills subject to the EPA SPCC Spill History definition or reporting thresholds.

4) Potential Spill Sources

a. SPCC Compliance - 112.7(a)(1) & 112.7(a)(2); 112.8(b); 112.8(c); 112.8(d)

The property is utilized by Maplewood DPW as a fueling and maintenance facility for vehicles and equipment. Operations at the site include vehicle parking/storage, vehicle maintenance and repair, vehicle fueling. The following descriptions detail the size and location of all oil product storage, including all associated bulk loading and unloading areas (bulk transfer areas) on-site. The Maplewood DPW provides routine maintenance and repairs to township vehicles. Maplewood DPW vehicles are also fueled at this location with diesel fuel. Site plans, spill pathways and site features such as building, and service bay identifiers have been included in Appendix C.

Oil Storage Containers				
Tank ID	**Contents**	**Volume (gallons)**	**Storage Vessel**	**Location**
T-001	Waste Cooking Oil	250	DW AST	Outside – Public Works
T-002	Waste Motor Oil	250	DW AST	Outside – Public Works
T-003	Diesel	10,000	ConVault DW AST	Outside – Fueling Island
T-004	Gasoline	10,000	ConVault DW AST	Outside – Fueling Island
T-005	Diesel	300	Generator Belly Tank	Outside – Parking Lot
T-006	Diesel	300	Generator Belly Tank	Outside – Near Salt Shed
T-007	Waste Motor Oil	250	Shop AST	Inside - Mechanics Garage

TOTAL	**21,350**	Gallons (Not including drum storage)

Bulk Oil Transfer Areas			
Bulk Area	**Description**	**Location**	**Operation**
BULK-1	250-gallon Waste Cooking Oil AST – waste removal by vacuum truck	Residential Waste Oil Drop off area	Used Oil Removal
BULK-2	250-gallon Waste Motor oil AST – waste removal by vacuum truck	North Side of Mechanics Garage	Used Oil Removal
BULK-3	Fueling Island (10,000 gasoline & 10,000 diesel ASTs) Fuel deliveries	Fueling Island	Diesel & Gasoline Delivery
BULK-4	300-gallon Emergency Generator Belly Tank	North Side of Mechanics Garage	Diesel Delivery
BULK-5	300-gallon Portable Emergency Generator Belly Tank	Adjacent to Diesel AST near Fueling Island	Diesel Delivery
BULK-6	250-gallon waste motor oil at Mechanics Garage	North Side of Mechanics Garage	Used Oil Removal

55-Gallon Drums			
Area	**Description**	**Location**	**Spill Control**
Mechanics Garage	Varying Amounts of 55-gallon drums of new motor oils and hydraulic oils are stored inside the Mechanics Garage.	Inside Mechanics Garage	All drums are staged inside.

Aboveground Storage Tank Details (Bulk Storage Containers)

A. T-001: 250-gallon Waste Cooking Oil, DW AST

A 250-gallon aboveground Waste cooking oil tank is located outside the mechanics garage of the Maplewood DPW Facility. The tank is equipped with secondary containment. It is emptied once a month or as needed by vacuum truck. The area surrounding the tank is concrete and asphalt.

Figure 1: 250-gallon Waste Cooking Oil, DW AST

B. T-002: 250-gallon Waste Motor Oil, DW AST

A 250-gallon waste motor oil tank storing used oil is located outside of the mechanics garage at the Maplewood DPW Facility. The waste motor oil tank is double walled. This tank is emptied as needed by a vacuum truck. The area surrounding this tank is concrete and asphalt.

Figure 2: 250-gallon waste motor oil tank

C. T-003: 10,000-gallon gasoline, DW AST, ConVault

The 10,000-gallon ConVault Gasoline tank is located outside at the Fueling Island of Maplewood DPW Facility. This aboveground tank is equipped with secondary containment, and a high-level alarm system is present. Asphalt pavement surrounds this diesel tank. A concrete containment apron and two spill kits are present in BULK-3 as an emergency form of protection for T-003 and T-004.

Figure 3: 10,000-gallon diesel DW AST

D. T-004: 10,000-gallon diesel, DW AST, ConVault

A 10,000-gallon ConVault Diesel tank is located outside at the fueling island of Maplewood DPW Facility. The tank is equipped with secondary containment and a high-level alarm system is present. Asphalt pavement surrounds this gasoline tank. A concrete containment apron and two spill kits are present in BULK-3 as an emergency form of protection.

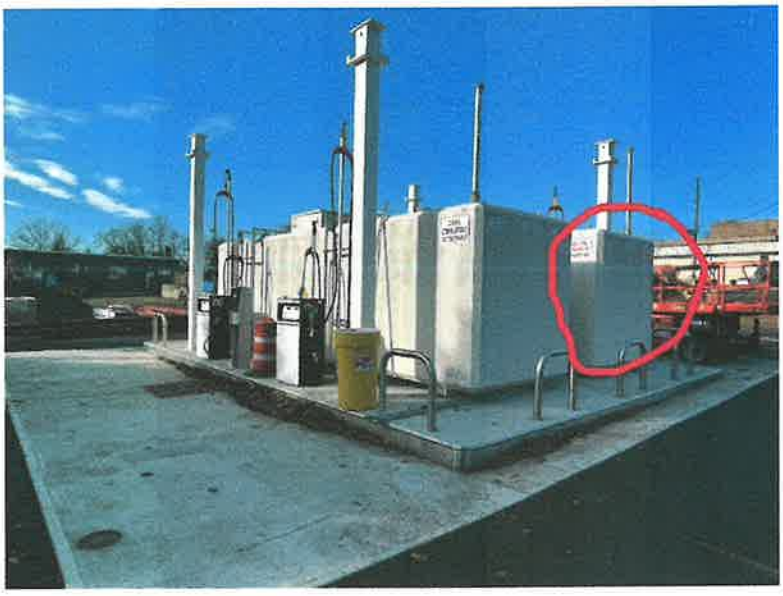


Figure 4: 10,000-gallon Gasoline Tank, DW AST

E. T-005: 300-gallon, DW, Generator Belly tank

A 300-gallon Generator Belly tank is located outside in the parking lot at Maplewood DPW Facility. This tank is double walled, containing diesel fuel. Concrete pavement surrounds T-005.

Figure 5: 300-gallon, DW, EG Belly tank

F. T-006: 300-gallon, DW, Portable EG Belly tank

A 300-gallon EG Belly tank is located outside near the Salt Shed at Maplewood DPW Facility. This tank is double walled, containing diesel fuel.

Figure 6: 300-gallon, DW, EG Belly tank

G. T-007: 250-gallon, Waste Motor Oil, AST

A 250-gallon waste motor oil AST tank is located within the mechanic's garage at Maplewood DPW Facility. This tank is double walled, containing waste motor oil.

Figure 7: 250-gallon, Shop DW AST

Bulk Oil Transfer Areas

A. BULK-1 Transfer Area: T-001 – 250-gallon Waste Cooking Oil, DW

The Bulk Transfer Area (BULK-1) is immediately adjacent to the tank 1 (T-001) in the residential waste oil drop off area. The spill direction will run to the nearest storm drain about 25 feet Northwest of the tank.

Figure 8 8: BULK-1 Transfer Area associated with T-001

B. BULK-2 Transfer Area: T-002– 250-gallon Waste Motor Oil, DW

The Bulk Transfer Area (BULK- 2) is located immediately adjacent to tank 2 (T-002) on the North Side of Mechanics Garage. The Spill direction will run to the nearest storm drain less than 10 feet northwest of the tank.

Figure 9: BULK-2 Transfer Area associated with T-002

C. BULK-3 Transfer Area: T-003 and T-004 - 10,000-gallon Diesel Tank and 10,000-gallon Gasoline Tank

The Bulk Transfer Area (BULK-3) is located immediately adjacent to T-003 and T-004's dispensers on the Northeast side of the fueling island. A containment drain is present on the Southeast side of T-003, the delivery vehicle must park within the concrete containment apron surrounding both tanks. Two emergency spill kits are present at Bulk-3.

Figure 10: BULK 3 Transfer Area for T-003 & T-004

D. BULK 4- Transfer Area: T-005- 300-gallon EG Belly tank

The delivery area for BULK-4 is located immediately adjacent to T-005 EG Belly tank on the North Side of the Mechanics Garage. Any spill will run toward a storm drain located about 120 feet East of T-005.

Figure 11: BULK 4 Transfer Area associated with T-005

E. BULK-5 Transfer Area: T-006- 300-gallon Generator Belly Tank

The delivery area for BULK-5 is located adjacent to Diesel AST near Fueling Island. T-006 lies on a level grade, without storm drains nearby. Any Spill would flow evenly in all directions.

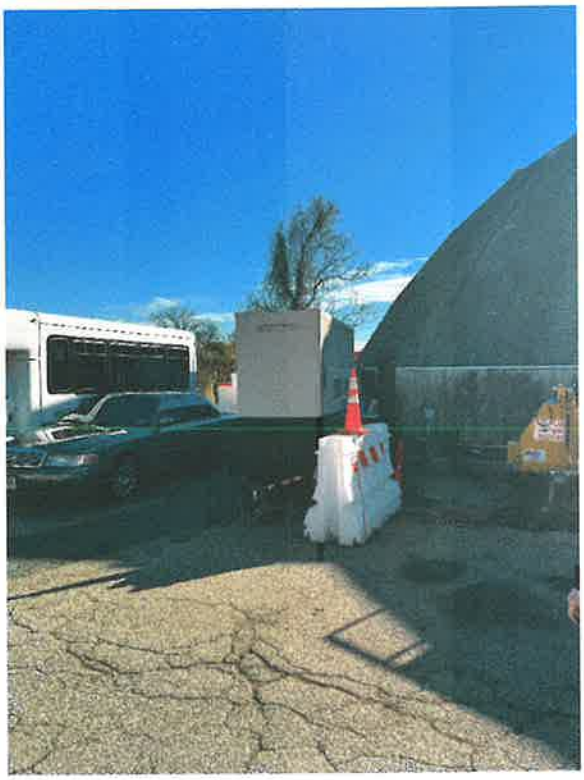


Figure 12: BULK-5 Transfer Area associated with T-006

F. BULK-6 Transfer Area: T-007- 250-gallon Shop DW AST

BULK-6 Transfer Area is located on the northside of the mechanic's garage. Any Spill resulting from this tank would move in a general sheet flow to parking area.

Figure 13: BULK-6 Transfer Area associated with T-007

H. Inventory and Spill Calculations - 112.7(a)(3); 112.7(b)

The below calculations will be used for spill prevention and planning purposes. The estimated spill volumes from fuel delivery and used oil removal vehicles detailed below have been calculated using data obtained from commercial fuel vendors and is based upon the type of spill to occur from a product delivery hose rupture or disconnect. For fuel delivery, a maximum fuel rate of 100 gallons per minute and a hose diameter of 3 inches have been used, which depicts the highest potential fuel transport rate from a tanker and maximum hose diameter that is used at the site.

The fueling rate could be less at times due to fuel delivery by a smaller truck and small diameter hose. The estimated spill volume also includes the amount of fuel that could be stored in a 3-inch diameter product line with a maximum length of 50 feet. This represents the maximum length of product hose that would be used at the site. A maximum spill response time of 3 minutes has been used to reflect the time required for the vehicle operator to shut down the fuel delivery vehicle upon identification of a potential spill from the hose of those connections. An additional 10% of the estimated spill volume has been added as a safety factor to account for conditions such as rain events during product delivery. Please note that for used oil removal the estimated spill volume was calculated to be the hose volume plus the 10 percent safety factor.

Maximum Hose Diameter = 3 inches (0.25 feet)
Maximum Hose Length = 50 feet
Maximum Flow (Pumping) Rate = 100 gallons/minute
Estimated Driver Response Time = 3 minutes
1 Cubic Foot = 7.48 gallons

Oil Transfer Hose Volume	Estimated Spill Volume Fuel Delivery
= ¶/4 (Hose Diameter)^2 (Hose Length) = 0.785 (0.0625) (50) = 2.46 cubic feet = 18.40 gallons	= ((Flow Rate) (Response Time) + (Hose Volume)) 10% Safety Factor = ((100) (3) + (18.40)) 1.10 = 350.24 gallons **= 351 gallons**
Estimated Spill Volume Used Oil Removal (50' hose length)	Estimated Spill Volume Routine Vehicle Fueling
= (Hose Volume) 10% Safety Factor = (18.40 gallons) X 1.10 safety factor = 20.24 **= 21 gallons**	= Max pumping rate of fuel dispenser x estimated vehicle driver response time = 10 gallons per minute x 2 minutes = 20 gallons **= 20 gallons**

Aboveground Storage Tanks - 112.7(a)(3); 112.7(b) – Spill Estimates

Tank	Existing Spill Controls	Estimated Spill Direction & Volume Estimates	Existing Containment Details
T-001 300-gallon Waste Cooking Oil AST & T-002 300-gallon Waste Motor Oil AST	1. Spill Buckets 2. DW Tanks 3. Visual Sight Gauges 4. Hand Filled	***Waste Oil Removal by Vacuum Truck*** 1. Tank leak rates = gradual to 300 gallons 2. Bulk Transfer Vehicle releases: Up to 21 gallons 3. Spill from either AST has potential to flow into nearby storm drains. Storm drain covers are required while emptying tanks. 4. No piping is present.	1. DW Tanks 2. Storm drain covers needed for transfer area
T-003 10,000-gallon Gasoline AST T-004 10,000-gallon Diesel AST	1. High Level Alarm 2. DW Tanks 3. Spill Bucket 4. Spill Kits 5. Emergency Stop 6. Delivery Containment Area	***Tanker deliveries to Fueling Island Tanks with drive-in concrete containment area.*** 1. Tank leak rates = gradual to 10,000 gallons 2. Bulk Transfer Vehicle releases = up to 351 gallons 3. Release from the tank area will be contained within the surrounding concrete graded apron which drains to a dedicated containment sump. 4. Dispensers and piping are immediately adjacent to the tanks and share the same controls.	1. Double Wall ASTs 2. ConVault Tanks 3. High Level Alarms 4. Concrete containment apron surrounding fueling island with collection sump.
T-005 300-gallon Generator Belly Tank T-006 300-gallon Generator Belly Tank	1. Spill Bucket 2. DW Tanks 3. Visual Sight Gauge	***Delivery of diesel fuel to two (2) emergency generators*** 1. Tank leak rates = gradual to 300 gallons 2. Bulk Transfer Vehicle releases = up to 351 gallons 3. Release from the tank area will be contained within the containment. 4. Release from the associated piping system will flow indoors onto concrete surface of maintenance garage.	1. DW Tanks 2. Absorbent booms needed for transfer areas

Tank	Existing Spill Controls	Estimated Spill Direction & Volume Estimates	Existing Containment Details
T-007 250-gallon Waste Motor Oil Mechanics Garage	1. DW Tank 2. Stored indoors 3. Hand Filled	***Waste Oil Removal by Vacuum Truck*** 1. Tank leak rate = gradual to 250 gallons 2. Bulk Transfer Vehicle release = up to 21 gallons 3. Release from the tank area will be contained within the containment. 4. Release from the associated piping system will flow indoors onto concrete surface of maintenance garage.	1. DW Tank 2. Hand Filled 3. Tank located inside

55-Gallon Drum Storage

Product	Location	Existing Conditions and Storage Area	Spill Control Features
Various Motor Oils	Mechanics Garage	Quantity Stored: ~20 drums are stored in the garage Storage Location Details: These drums are staged on an impervious concrete surface Drum Failure: Up to 55 gallons Rate: Gradual to Instantaneous	Flow Direction: Radial flow outwards in all directions, contained within building. Spill Control Features: Spill Pallet

Bulk Oil Transfer Areas – Spill Estimates and Controls

Area	Estimated Spill Volumes and Flow Direction	EXISTING SPILL CONTROL FEATURES
BULK-001 Waste Cooking Oil Removal	• Bulk Oil Transfer potential release: Up to 21 gallons • Projected Spill Direction: Spill from calculated potential release will flow 25 feet northwest as shown on the attached site plan. • Drainage area is to the northwest	• None - See recommended facility improvements.
BULK-002 Used Oil Removal	• Bulk Oil Transfer potential release: Up to 21 Gallons • Projected Spill Direction: Spill from calculated potential release will flow 10 feet northwest as shown on the attached site plan.	• None - See recommended facility improvements.
BULK-003 Diesel & Gasoline Deliveries	• Bulk Oil Transfer potential release: Up to 350 gallons • Projected Spill Direction: Spill from calculated potential release will flow northwest as shown on the attached site plan. • Drainage area is to the northwest	• Existing concrete containment apron and sump are present to capture likely release.
BULK-004 Diesel delivery to Generator	• Bulk Oil Transfer potential release: Up to 21 Gallons • Projected Spill Direction: Spill from calculated potential release will flow northwest as shown on the attached site plan.	• None - See recommended facility improvements.
BULK-005 Diesel Delivery to portable Generator	• Bulk Oil Transfer potential release: Up to 350 gallons • Projected Spill Direction: Spill from calculated potential release will flow northwest as shown on the attached site plan. • Drainage area is to the northwest	• None - See recommended facility improvements.
BULK-006 Used Oil Removal from Mechanics Garage	• Bulk Oil Transfer potential release: Up to 21 Gallons • Projected Spill Direction: Spill from calculated potential release will flow northwest as shown on the attached site plan.	• Local flat topography and spill materials are sufficient to control small expected release during removal.

I. SPILL PREVENTION AND RESPONSE

Discharge Prevention

a. SPCC Features and Operating Procedures - 112.7(a)(3) & 112.7(h)(2) & (3)

Employees are trained to implement spill prevention practices for work with and around oil sources. Personnel shall always use common sense and rely on good spill prevention practices to minimize the potential for a release of oil. For example, the following standard oil handling practices are recommended:

1. Keep container lids securely fastened at all times.
2. Keep all portable containers storing petroleum in a secured location when not in use.
3. Return portable sources to their storage location after use.
4. Use pads, drip pans, and funnels when transferring oil products from a portable container.
5. Protect oil sources from damage from moving equipment.
6. Store all oil containers 55 gallons and larger on appropriate spill pallets or within containment.
7. Loading and unloading of oil products shall always be attended.

Maplewood DPW is responsible for all activities performed within the boundaries of the Facility and will ensure appropriate contractual language is included in all contracted oil vendor agreements. Annual SPCC employee training will include Vendor observation guidelines.

Spill prevention during oil deliveries (off-loading) is primarily the responsibility of the vendor/supplier ensuring the proper operation of all bulk delivery vehicles, until the product is safely in the tank or vessel. Maplewood will ensure all appropriate pre-deployed spill control measures are in place whether by contractual obligation of the vendor or by trained Maplewood DPW employees.

b. Supplier Approval 112.7(h)(2) and (3)

In the event management changes the fuel supplier and brings a new supplier onsite, the facility will ensure that the vendor understands the site layout, knows the protocols for entering the site and unloading product, and has the necessary spill equipment on board to respond to a minor spill from the vehicle. Major/Significant oil spill response is still the responsibility of the site, and it is the site personnel's responsibility to implement the identified measures in this Plan. Management must also ensure the vendor has all required DOT approvals and certification for oil transportation and delivery (49 CFR Part 178, Subpart J).

This ***Supplier Approval*** process ensures that the vendor meets the minimum requirements and regulations for tank truck unloading as established by the United States Department of Transportation.

Identified Fuel Suppliers	
Diesel Supplier	Current Vendor Information is maintained by the Purchasing Department. All approved and contracted oil vendors must agree to the existing Maplewood DPW terms which include all appropriate oil handling and
Motor Oil Supplier	
Used Oil Removal Vendor	

	spill prevention measures as detailed in this plan. Vendor fueling requirements are included in the Annual Maplewood DPW SPCC Employee Training program.

c. Conformance with State and Local Applicable Requirements - 112.7(j)

All bulk storage tanks at this facility comply with local and state regulations. New Jersey does not regulate, nor require, registration for aboveground bulk oil storage tanks. Local approval has been obtained for the installation and construction of the oil tanks and storm water collection system.

d. Tests and Inspections - 112.7(e); 112.7(i)

The personnel at the facility shall perform testing, inspection, and maintenance of all oil equipment to keep it performing in an efficient and environmentally sound manner. The tests and inspections shall be performed as discussed in the following subsections.

e. Brittle Fracture Evaluation (40 CFR 112.7(i))

There are no field-constructed tanks at Maplewood DPW Facility. All tanks and equipment have been specified and installed with all applicable UL and NFPA certifications where applicable. Based on existing site conditions and equipment this section is not applicable.

f. Inspecting ASTs & Oil-Filled Equipment

Facility personnel must visually inspect all ASTs and oil-filled equipment (tanks, containers, equipment, and aboveground piping systems) monthly during operating hours. The ASTs shall be monitored monthly for spills and all electronic monitoring devices should be checked for proper operation. The results of all inspections and monthly leak detection monitoring shall be recorded on the ***AST Inspection Report***, as included in the appendices. The report shall be kept for at least three years in a file maintained onsite. Oil-Filled equipment shall be also monitored monthly and the monthly inspection results shall be included on the AST Inspection report.

Monthly inspections include observations of the exterior of the tank for signs of deterioration or spills, observations of the tank foundation and supports for signs of instability, and observations of the vent, fill, and product pipes for signs of poor connection or failure, which could cause a spill.

In addition to these inspections, the facility will verify the integrity of each tank system every ten years, or more often as deemed necessary by the inspection results. Integrity testing will be conducted in accordance with an industry standard procedure such as STI – SP001-00 or API 653 or appropriate equivalent. The results of the integrity inspections shall be maintained on-site for the life of the system.

g. Tank Maintenance

All oil tank and piping problems shall be immediately reported to the onsite supervisor. Visible oil spills (leaks) that cause a loss of oil from tank walls, piping, or other components shall be repaired or replaced immediately

to prevent the potential for a major spill from the source. This is especially important for sources located outside or near drains or catch basins that discharge to the environment.

h. Construction - 112.8(c)(1)

All oil tanks used at this facility are constructed of steel, in accordance with industry specifications as described above. The design and construction of all bulk storage containers are compatible with the characteristics of the oil product they contain, and within temperature and pressure conditions.

i. Corrosion Protection - 112.8(c)(4)

There are no underground steel tanks applicable to cathodic protection requirements, all aboveground tanks are coated/painted to resist rust and monthly tank inspections include observations of rust and tank damage.

j. Partially Buried and Bunkered Storage Tanks - 112.8(c)(5)

This section is not applicable since there are no partially buried or bunkered storage tanks at this facility.

k. Visible Discharges - 112.8(c)(10)

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, rivets, and bolts – are quickly corrected upon discovery.

Identified small discharges of oil are handled in accordance with Section 3.2 of this plan (Emergency Response) and disposed of according to the waste disposal method described in this Plan. All equipment and oil storage containers on-site are inspected monthly for signs of damage and potential spills.

l. Heating Coils - 112.8(c)(7)

There are no oil-containing heating coils on-site at the Maplewood DPW Facility as detailed under 112.8(c)(7).

m. Mobile and Portable Containers - 112.8(c)(11)

There are no mobile/portable containers stored on-site at the facility.

n. Secondary Containment Inspections & Drainage of Diked Areas - 112.8(c)(3)

Where applicable, the secondary containment space for each AST will be visually inspected. These inspections will take place during the required monthly site inspections. There are no areas on-site with external secondary containment systems subject to rainwater accumulation on a normal basis. Inspections for these areas will be included on the **Monthly Inspection Sheet**.

o. Effluent Treatment Facilities - 112.8(c)(9)

There are no effluent treatment facilities located at the Maplewood DPW Facility as defined under 112.8(c)(9) which might require ongoing periodic inspections for the collection of oils and inspect for system upsets which could cause a discharge.

p. Transfer Operations, Pumping and In-Plant Processes - 112.8(d)

There is no buried piping on-site at the Maplewood DPW Facility associated with a bulk storage container. The visual condition of all visible piping systems is inspected monthly, and records are maintained onsite.

Fill port piping associated with each bulk storage tank is capped and sealed when not in use. All relevant pipe supports at the Maplewood DPW Facility have been installed as such to minimize abrasion and corrosion and allow for expansion and contraction.

Maplewood DPW performs monthly tank, piping, container, spill kit and transfer area inspections. These inspections include where applicable all aboveground valves, piping, and appurtenances. During each inspection Maplewood DPW trained personnel assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Inspections for these areas will be included on the **Monthly Inspection Sheet**.

There are no aboveground piping runs on-site which cross over, impact or otherwise impede any vehicle travel areas. All piping is installed flush along walls and on each respective bulk storage tank. All vehicles are warned via signage to drive cautiously when entering the main area of the Maplewood DPW Facility.

q. Training - 112.7(f)

Maplewood DPW shall provide SPCC spill training for personnel involved with handling oil products or observing oil transfer operations. As required by Rule, the site supervisor or operations manager shall arrange for annual training, which shall include the following training topics:

- Rules and regulations pertaining to the use and storage of oil products.
- Inspection, operation and maintenance of spill equipment, and oil storage and dispensing equipment.
- Facility requirements relative to bulk product deliveries and removals.
- Procedures for product transfer to vehicles, equipment and portable containers.
- Discussions of spill events or equipment failure,
- Spill response and cleanup.
- Spill notification, record keeping; and Spill prevention practices.

Records of attendance at training and topics covered shall be maintained onsite for a period of three years.

r. Documentation for Training

The annual SPCC training shall be documented to include the instructor's name, course outline, date, attendant's names and signatures, and corrective action list for areas in need of improvement, if any.

s. Security - 112.7(g)

The entrances of the Maplewood DPW are all gated. The gates operate on a time schedule and are open during normal working hours when the facility is attended. The gates are closed on weekends but are accessible with an access card. There is also camera surveillance of the site. In a state of emergency, the gate is closed 24 hours and only an access card is allowed.

All deliveries must be scheduled ahead of time and coordinated through the main gate. Building lights illuminate the storage areas of the aboveground storage tanks. When the system is not operating, drain valves and any other valves that will permit outward flow from the tank are securely locked in the closed position.

J. Emergency Response

The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by State or Federal laws. It is imperative that action be taken to respond to a spill once it has occurred. In the event of an oil spill, depending on the volume and characteristics of the material released, spill response events have been defined as either a "Minor Spill Response" or "Major Spill Response" ("Spill Emergency").

A list of Emergency Contacts is included in the Appendix E.

Spill Kits located on-site at various locations near oil storage and transfer areas can contain the following items, this list should be used as guidance for purchasing and/or restocking spill kits at the site:

- Oil Absorbent Materials such as Speedy Dry, socks, pads, and pillows.
- Personal protective equipment such as gloves, goggles, and Tyvek suits.
- Containers and bags to store and dispose of oil impacted materials.

a. Minor & Major Spill Response - 112.7(a) (3) (iv) & 112.7(a) (3) (iv)

A "**Minor Spill Response**" is defined as one that poses no significant harm to human health or the environment. These spills involve less than 5 gallons and can usually be cleaned up by trained personnel. Other characteristics of a minor spill include the following:

- The spilled material is easily stopped or controlled at the time of the spill; the spill is localized.
- The spilled material is not likely to reach surface water or groundwater.
- There is little danger to human health; and there is little danger of fire or explosion.

In the event of a minor spill the following guidelines shall apply:

- Immediately notify the facility supervisor or designee.
- Call the New Jersey Department of Environmental Protection (1-877-927-6337) within 15 minutes if the spill has impacted soils, groundwater, or surface waters of the state.
- Under the direction of the facility supervisor or designee, contain the spill with spill response materials and equipment.
- Place spill debris in properly labeled waste containers.
- Complete the **Maplewood DPW Spill / Incident Report** and send to the Regulatory Compliance Manager.

A "**Spill Emergency**" is defined as one involving a spill that cannot be safely controlled or cleaned up by trained personnel using available on-site spill response equipment. Characteristics include the following:

- The spill is large enough to spread beyond the immediate spill area.
- The spilled material enters surface water or groundwater (regardless of spill size).
- The spill requires special training and equipment to cleanup.

In the event of a spill emergency, the following guidelines shall apply:

- All workers shall immediately evacuate the spill site and move to a safe distance away from the spill.
- Immediately notify the facility supervisor or designee of the spill.
- Facility supervisor or designee shall call for medical assistance if workers are injured (no worker shall engage in rescue operations unless they have been properly trained and equipped).
- Facility supervisor or designee shall notify, if necessary, the local Fire Department or Police Department by calling 911.
- Facility supervisor or designee shall immediately contact the New Jersey Department of Environmental Protection (1-877-927-6337) within 15 minutes and the National Response Center (1-800-424-8802). Document the telephone calls on the Maplewood DPW Spill / Incident Report.
- Facility supervisor or designee will coordinate cleanup and seek assistance from a cleanup contractor as necessary.
- Complete the **Maplewood DPW Spill / Incident Report** and send to the Regulatory Compliance Manager.

b. Waste Disposal [112.7(a) (3) (v)]

Wastes resulting from a minor spill response will be containerized in impervious bags, drums or other sealed containers. The waste will be removed from the site by a licensed waste hauler to a permitted facility. The timeframes and procedures for on-site storage shall comply with the NJDEP Solid and Hazardous Waste Regulations.

Wastes resulting from a major spill response will be removed and disposed of by a licensed cleanup contractor.

K. Notification and Reporting - 112.7(a)(4)

In the event of a minor spill, Management or their designee should complete a written **Maplewood DPW Spill / Incident Report**. This form details the time, material, and quantity released.

If a major spill occurs the designated responsible party shall provide written information to the EPA Regional Administrator as required by the SPCC Plan rules, where necessary. A copy of this information must also be provided to the appropriate NJDEP Bureau deemed responsible for oversight of the spill.

In accordance with the reporting requirements detailed in 40 CFR 112.7, if the site discharges more than 42 gallons of oil in each of two discharges over a 12-month period, the facility would be required to report each spill to the National Response Center (NRC), clean up the spill, and submit a report to the EPA Regional Administrator, and may be required to amend its Plan. The same is true if the facility has a single discharge as described of more than 1,000 gallons.

Any size discharge (i.e., one that creates a sheen, emulsion, or sludge) that affects or threatens to affect navigable waters or adjoining shorelines must be reported immediately to the National Response Center (1-800-424-8802). The Center is staffed 24 hours a day. The Maplewood DPW Spill / Incident Report form is included in Appendix F to facilitate reporting. Also, the NJDEP should be notified through their hotline at 1-877-WARNDEP (1-877-927-6337). The person reporting the discharge must provide the following information. **This information is included in the Maplewood DPW Spill / Incident Report included in this plan:**

- Name, location, organization, and telephone number
- Name and address of the party responsible for the incident
- Date and time of the incident
- Location of the incident
- Source and cause of the release or discharge
- Types of material(s) released or discharged
- Quantity of materials released or discharged
- Danger or threat posed by the release or discharge
- Number and types of injuries (if any)
- Media affected or threatened by the discharge (i.e., water, land, air)
- Weather conditions at the incident location
- Any other information that may help emergency personnel respond to the incident

In addition to the above reporting, 40 CFR 112.4 requires that information be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator. The following information must be submitted to the EPA Regional Administrator within 60 days of a reportable spill:

- Name of the facility.
- Name of the owner/operator.
- Location of the facility.
- Maximum storage or handling capacity and normal daily throughput.

- Corrective action and countermeasures taken, including a description of equipment repairs and replacements.
- Description of facility, including maps, flow diagrams, and topographical maps.
- Cause of the discharge(s) to navigable waters and adjoining shorelines, including a failure analysis of the system and subsystem in which the failure occurred.
- Additional preventive measures taken or contemplated to minimize possibility of recurrence; and
- Other pertinent information requested by the Regional Administrator.

USEPA Regional Administrator:
US EPA Region 2
290 Broadway
New York, New York 10007-1866
Attn: Regional Administrator
Re: SPCC Reportable Discharge

a. Spill Notification Forms

After making the appropriate communications with Regulatory Agencies and after the containment of the spill, a *Spill Notification Form* (**Maplewood DPW Spill / Incident Report**) included in Appendix F, shall be completed and kept onsite with this plan. The Maplewood DPW Spill / Incident Report includes a checklist to document the proper notification of federal, New Jersey, and local agencies. The form shall be filed by facility name and maintained onsite while Maplewood DPW owns and/or operates this facility. When completed, the SPCC coordinator should keep the *Maplewood DPW Spill / Incident Report* on file for a period of at least three (3) years for future USEPA inspections.

b. Area Plans

The United States Environmental Protection Agency (USEPA) and Coast Guard (USCG) administer Area Plans for spill contingency response by Region throughout the United States. The USCG covers coastal areas, and USEPA covers inland areas. In a major spill event, contacting the National Response Center hotline at **(800) 424-8802** will trigger assistance from the appropriate agency, if needed.

FACILITY IMPROVEMENTS

The Professional Engineer's certification of this plan is contingent on the following facility improvements being maintained for compliance with the SPCC regulation 40 CFR 112. The below recommendations or their equivalents are needed for this plan to be compliant with existing SPCC regulations.

The below recommended upgrades do not include the routine required tank and container inspection program as detailed earlier in this plan. Inspection checklists have been provided and must be implemented for the listed tanks and containers in this plan **to** achieve full compliance.

All recommended improvements are subject to change based on approval of Management.

IMPROVEMENS MADE AT SITE 3-11-2022
These improvements must be implemented in order to maintain the PE Certification.

Aboveground Storage Tanks – Needed Upgrades

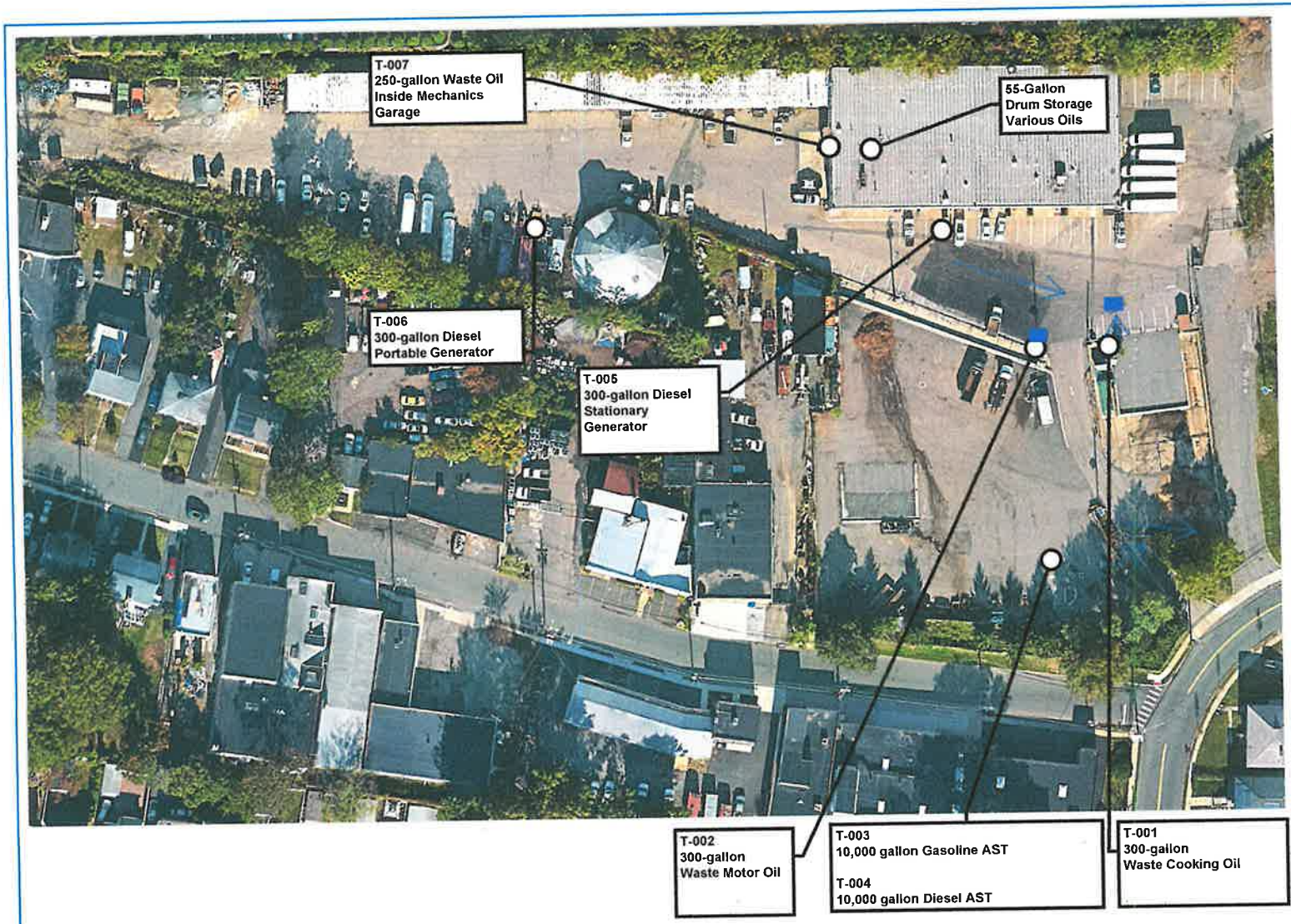
Tanks		Needed Improvements
T-001 T-002	300-gallon - Waste Cooking Oil AST 300-gallon - Waste Motor Oil AST	• Install/Repair Visual Sight Gauge or Level Gauge. • Stage spill kit near each tank. • Conduct monthly inspections.
T-003 T-004	10,000-gallon – Gasoline AST 10,000-gallon – Diesel AST	• Ensure fuel delivery vehicle parks on the graded concrete containment apron surrounding the fueling island. • Conduct monthly inspections.
T-005 T-006	300-gallon - Generator Belly Tank 300-gallon – Portable Generator Belly Tank	• Stage spill kit near each tank. • Conduct monthly inspections.
T-007	250-gallon - Waste Motor Oil Mechanics Garage	• Install/Repair Visual Sight Gauge. • Stage spill kit near tank. • Conduct monthly inspections.

Bulk Transfer Areas – Needed Upgrades

Bulk Transfer Areas		Needed Improvements
BULK-001 BULK-002	Waste Cooking Oil Removal Used Oil Removal	• Stage storm drain mat near tank in watertight container. • Deploy drain cover before tank is emptied.
BULK-003	Fueling Island - Diesel & Gasoline Deliveries	• Ensure fuel delivery vehicle parks within the containment basin at fueling island. • Add signage directing tanker where to park & deliver fuel.
BULK-004 BULK-005	Diesel deliveries to Stationary Generator Diesel deliveries to portable Generator	• Stage storm drain mat near tank in watertight container. • Deploy drain cover before tank is filled.
BULK-006	Used Oil Removal from Mechanics Garage	• Stage a drum of oil dry (absorbent) near tank emptying area.

APPENDIX A

Facility Plans
40 CFR 112.7(a)(3)



CHAPMAN INC
ENVIRONMENTAL SERVICES

001				
NO.	DATE	REVISIONS	BY	CHECKED

Maplewood Township

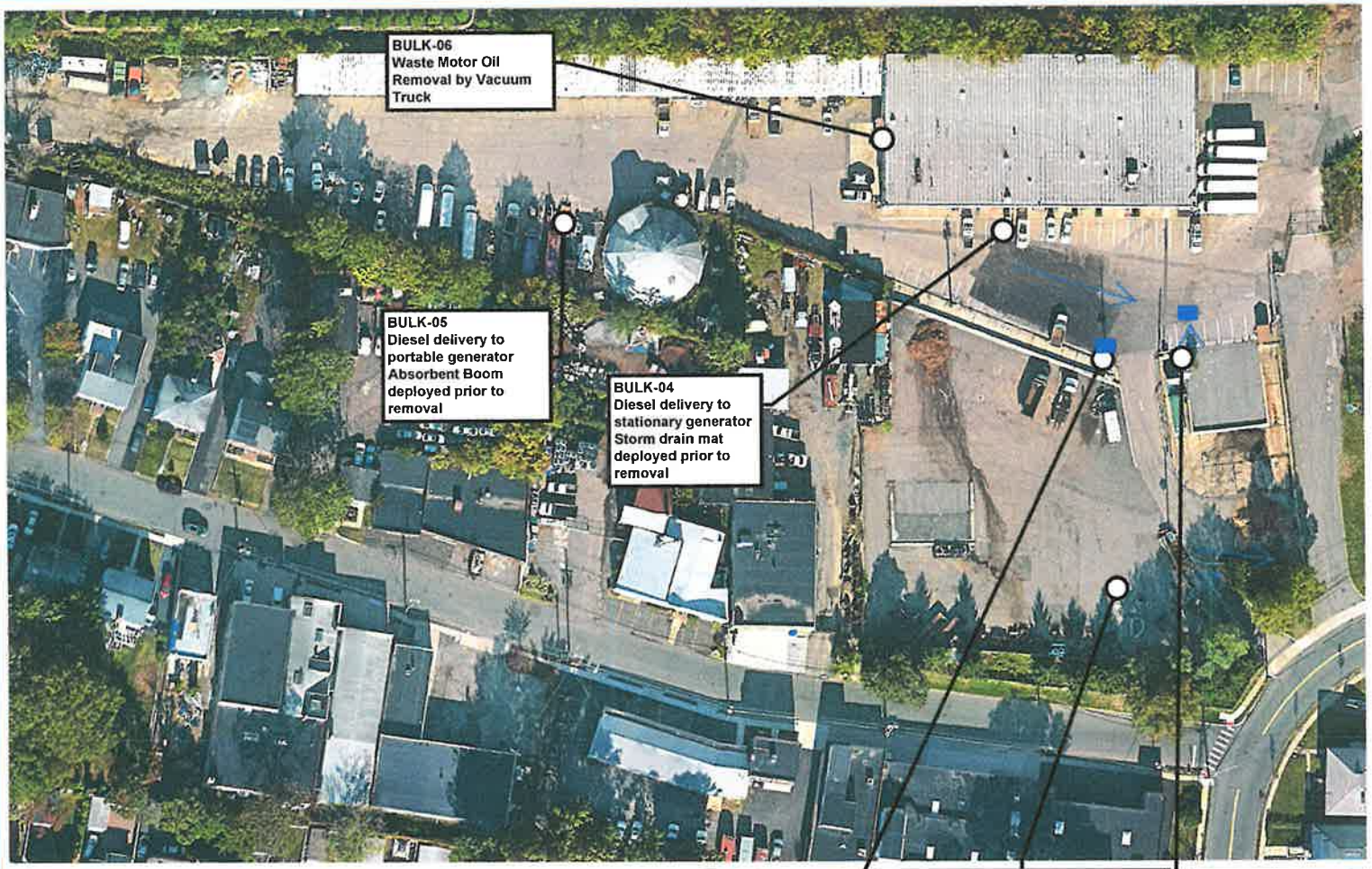
Township of Maplewood
Department of Public Works
359 Boyden Ave., Maplewood, NJ
US EPA 40 CFR 120
Spill Prevention Control and Countermeasures Plan

Petroleum Storage Tank Location Plan

Chapman Environmental Services
One Industrial Way West
Building A, Suite N
Eatontown, NJ 07724

ENGINEER:

LICENSED PROFESSIONAL ENGINEER STATE OF:	PE LICENSE NO.	DATE OF LICENSE:	DRAWING:
DESIGNED BY	DRAWN BY	CHECKED BY	
PROJECT NO.	CADD FILE	SCALE:	SHEET



CHAPMAN INC
ENVIRONMENTAL SERVICES

NO.	DATE	REVISIONS	BY	CHECKED
001				

Maplewood Township

Township of Maplewood
Department of Public Works
359 Boyden Ave., Maplewood, NJ
US EPA 40 CFR 120
Spill Prevention Control and Countermeasures Plan

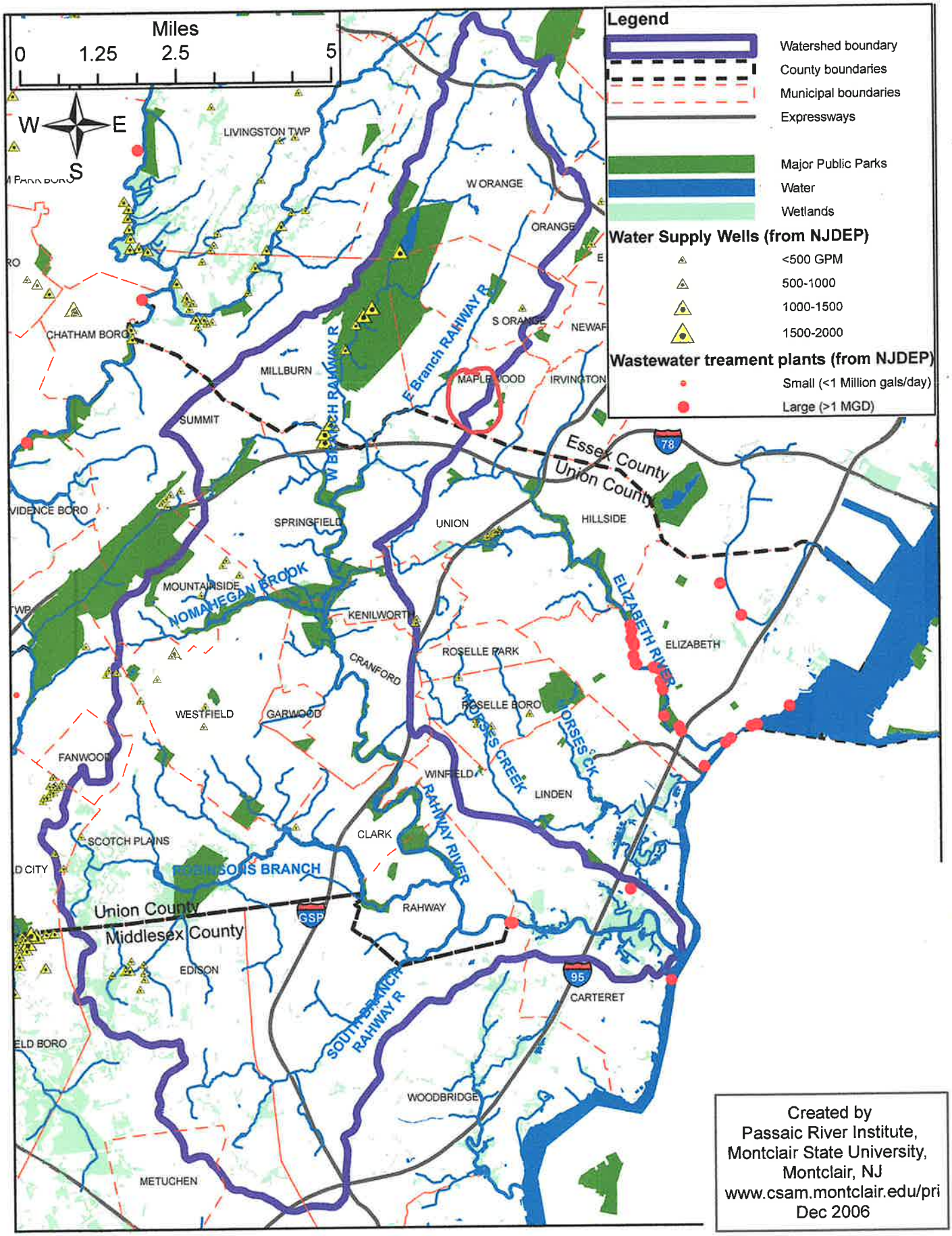
Petroleum Bulk Transfer Area Location Plan

Chapman Envi-ronmental Services
One Industrial Wat West
Building A, Suite N
Eatontown, NJ 07724

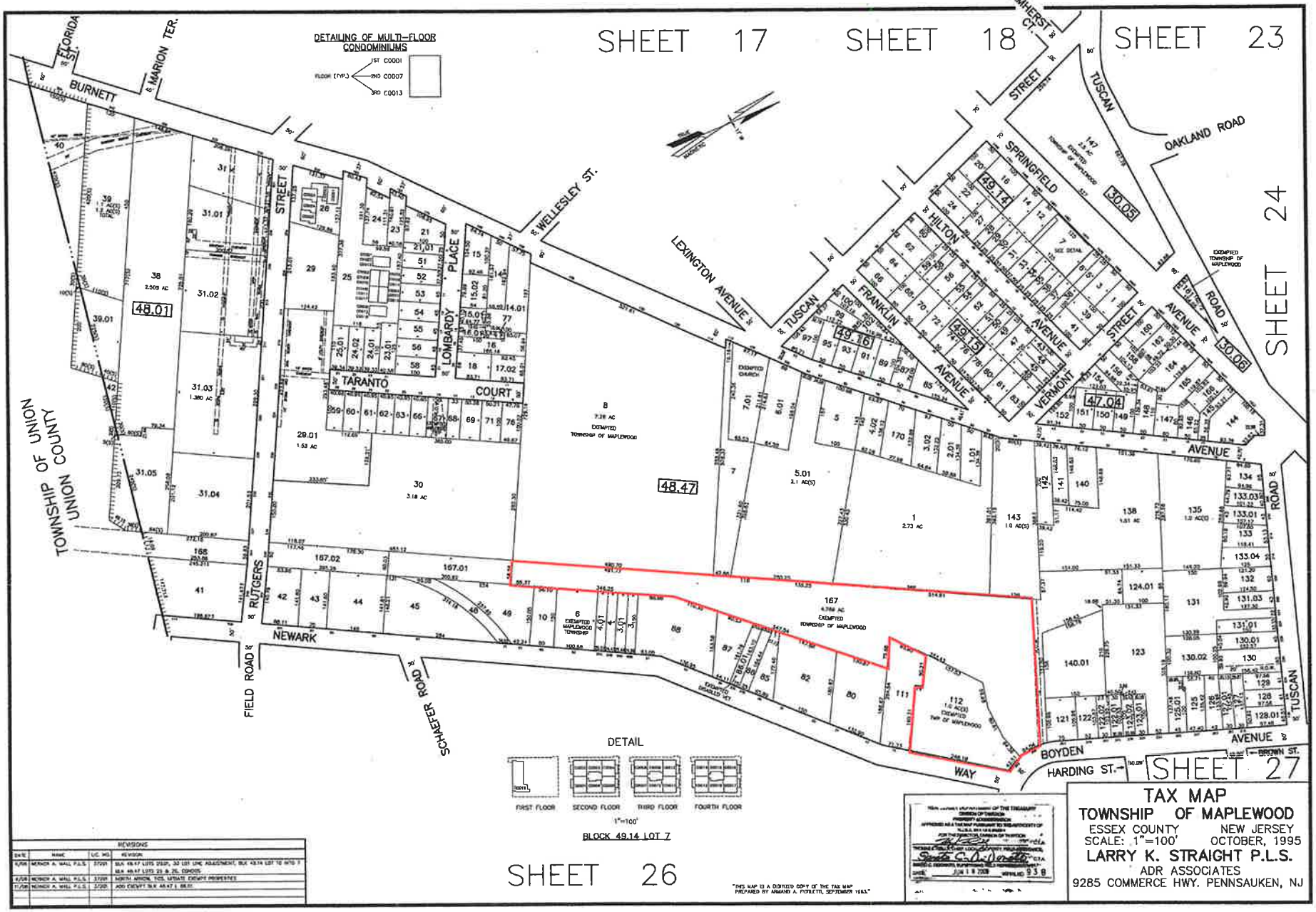
ENGINEER:

LICENSED PROFESSIONAL ENGINEER STATE OF:	PE LICENSE NO.	DATE OF LICENSE:	DRAWING:
DESIGNED BY	DRAWN BY	CHECKED BY	
PROJECT NO.	CADD FILE	SCALE:	SHEET

Rahway River Watershed, Essex, Union and Middlesex, NJ



Created by
Passaic River Institute,
Montclair State University,
Montclair, NJ
www.csam.montclair.edu/pri
Dec 2006


SHEET 17
SHEET 18
SHEET 23
SHEET 24
SHEET 26
SHEET 27
DETAILING OF MULTI-FLOOR CONDOMINIUMS
1ST C0001
FLOOR (TYP.)
2ND C0007
3RD C0013
FLORIDA ST.
BURNETT
S. MARION TER.
S. WELLESLEY ST.
LEXINGTON AVENUE
AMHERST CT.
TUSCAN STREET
OAKLAND ROAD
SPRINGFIELD AVENUE
HILTON AVENUE
FRANKLIN AVENUE
VERMONT AVENUE
TUSCAN ROAD
TUSCAN AVENUE
LOMBARDY PLACE
TARANTO COURT
RUTGERS STREET
NEWARK FIELD ROAD
SCHAEFER ROAD
BOYDEN WAY
HARDING ST.
BROWN ST.
TOWNSHIP OF UNION
UNION COUNTY
48.01
48.47
49.14
49.16
49.15
30.05
30.06
47.04
DETAIL
FIRST FLOOR
SECOND FLOOR
THIRD FLOOR
FOURTH FLOOR
1"=100'
BLOCK 49.14 LOT 7
"THIS MAP IS A DISTILLED COPY OF THE TAX MAP PREPARED BY ARMAND A. FIORLETTI, SEPTEMBER 1983."
REVISIONS
TAX MAP
TOWNSHIP OF MAPLEWOOD
ESSEX COUNTY NEW JERSEY
SCALE: 1"=100' OCTOBER, 1995
LARRY K. STRAIGHT P.L.S.
ADR ASSOCIATES
9285 COMMERCE HWY. PENNSAUKEN, NJ

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE

TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

TOWNSHIP OFFICIALS

Mayor
Frank E. McGehee

Deputy Mayor
Dean Dafis

Township Committee
Nancy Adams
Victor De Luca
Gregory Lembrich

Township Administrator
Sonia A. Viveiros, M.P.A., Q.P.A.

Township Attorney
Roger J. Gastanaga, Esq.

Township Clerk
Elizabeth J. Firtzen

Maplewood Township Engineer & Director of Public Works
Paul J. Kilmer P.E., P.P., C.M.E.
201-452-9603

UTILITY CONTACTS

Fire Department
Maplewood Fire Department
105 Dunnell Road
Maplewood, NJ 07040
973-762-3400

Police Department
Maplewood Police Department
1618 Springfield Avenue
Maplewood, NJ 07040
973-762-6500

Electric
P.S.E.&G., Electric Division
427 Weston Canal Road
Somerset, NJ 08873
201-393-2830

Gas
P.S.E.&G., Gas Division
427 Weston Canal Road
Somerset, NJ 08873
973-414-1548

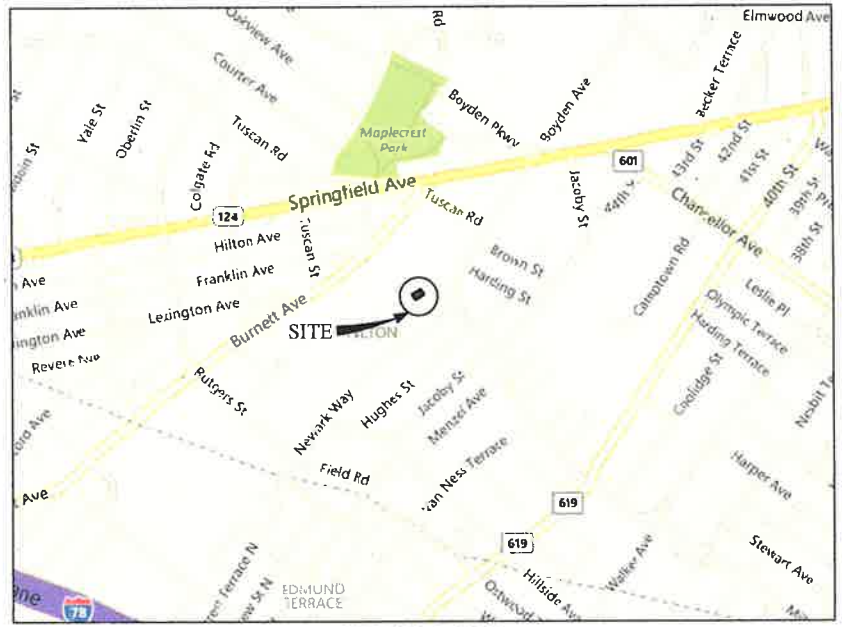
Water
NJ American Water Company
1341 North Avenue
Plainfield, NJ 07062
800-552-6987

Cable
Comcast Cable
800 Rahway Avenue
Union, NJ 07083
732-902-7444

Verizon Communications
445 Georges Road
North Brunswick, NJ 08902
973-442-5148

INDEX OF SHEETS

Sheet No.	Description	Revision Date
1.	COVER SHEET	ORIGINAL SUBMISSION
2.	EXISTING CONDITIONS AND DEMOLITION PLAN	ORIGINAL SUBMISSION
3.	OVERALL LAYOUT PLAN	ORIGINAL SUBMISSION
4.	FUEL STATION LAYOUT PLAN	ORIGINAL SUBMISSION
5.	GRADING AND DRAINAGE PLAN	ORIGINAL SUBMISSION
6.	FUEL PIPING PLAN	ORIGINAL SUBMISSION
7.	ELECTRICAL PLAN	ORIGINAL SUBMISSION
8.	SOIL EROSION AND SEDIMENT CONTROL PLAN	ORIGINAL SUBMISSION
9.	SOIL EROSION AND SEDIMENT CONTROL DETAILS	ORIGINAL SUBMISSION
10-13.	CONSTRUCTION DETAILS	ORIGINAL SUBMISSION



AREA MAP

GRAPHIC SCALE
1 inch=500 feet

COVER SHEET NOTES:

1. PROJECT KNOWN AND DESIGNATED AS TAX MAP BLOCK 48.47, LOT 167, AS SHOWN ON THE CURRENT TAX ASSESSMENT MAPS OF THE TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY, TAX MAP SHEET 22.
2. BOUNDARY INFORMATION AND HORIZONTAL DATUM NAD 1983 IS BASED UPON A SURVEY ENTITLED "BOUNDARY SURVEY TOWNSHIP OF MAPLEWOOD DEPARTMENT OF PUBLIC WORKS TAX LOTS 112 & 167 BLOCK 48.47 SITUATED IN TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY" PREPARED BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING, LANDSCAPE ARCHITECTURAL, P.C., DATED DECEMBER 18, 2019.
3. TOPOGRAPHY AND VERTICAL DATUM NAVD 1988 IS BASED UPON A SURVEY ENTITLED "TOPOGRAPHIC SURVEY TOWNSHIP OF MAPLEWOOD DEPARTMENT OF PUBLIC WORKS TAX LOTS 112 & 167 BLOCK 48.47 SITUATED IN TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY" PREPARED BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING, LANDSCAPE ARCHITECTURAL, P.C., DATED DECEMBER 18, 2019.
4. HORIZONTAL DATUM: NAD 1983. VERTICAL DATUM: NAVD 1988
5. THIS PLAN SET CONSISTS OF 13 SHEETS. INDIVIDUAL PAGES SHALL NOT BE UTILIZED FOR CONSTRUCTION ON THEIR OWN AS NOTES AND INFORMATION PROVIDED ON OTHER SHEETS MAY IMPACT WORK REQUIREMENTS. CONTRACTOR SHALL REVIEW AND UTILIZE ENTIRE PLAN SET FOR CONSTRUCTION.
6. CENTER OF SITE COORDINATES: 40°43'17"N 74°15'23"W.
7. OWNER:
   TOWNSHIP OF MAPLEWOOD
   574 VALLEY STREET
   MAPLEWOOD, NJ 07040-2669
8. CONTRACTOR SHALL ENSURE THAT ALL MATERIALS SHALL BE DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS.
9. CONTRACTOR SHALL TAKE ALL NECESSARY ACTIONS TO PROTECT ALL STRUCTURES NEAR THE EXCAVATION THAT ARE NOT INDICATED TO BE REMOVED.
10. THE CONTRACTOR SHALL REMOVE OR REPLACE ANY AFFECTED SIGNAGE OR PAVEMENT MARKINGS DISTURBED DURING CONSTRUCTION.

NOTICE TO CONTRACTOR

ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF WORK AREA ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE CONTRACTOR IS ADVISED TO VERIFY, IN THE FIELD, ALL THE FACTS CONCERNING THE LOCATION OF THESE UTILITIES AND OTHER CONSTRUCTION OBSTACLES PRIOR TO THE START OF CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY EFFECT THE PROJECT DESIGN.

THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT PRIOR TO THE START OF CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	REVISIONS		

DESIGNED BY: SS
DRAWN BY: KPD
CHECKED BY: RFD

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04397100
2/12/2021
DATE

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
26 Columbia Turnpike
Florham Park, New Jersey 07932
TEL: 973-240-1600
FAX: 973-240-1616
www.matrixnewworld.com
NEW JERSEY CERTIFICATE OF AUTHORIZATION NO. 24GA27924600

COVER SHEET

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-562
DATE: 09/10/2020
SCALE: AS SHOWN

SHEET 1 OF 13

Plotted: 2/24/2021 1:23 PM, By: Emmanuel Sanchez
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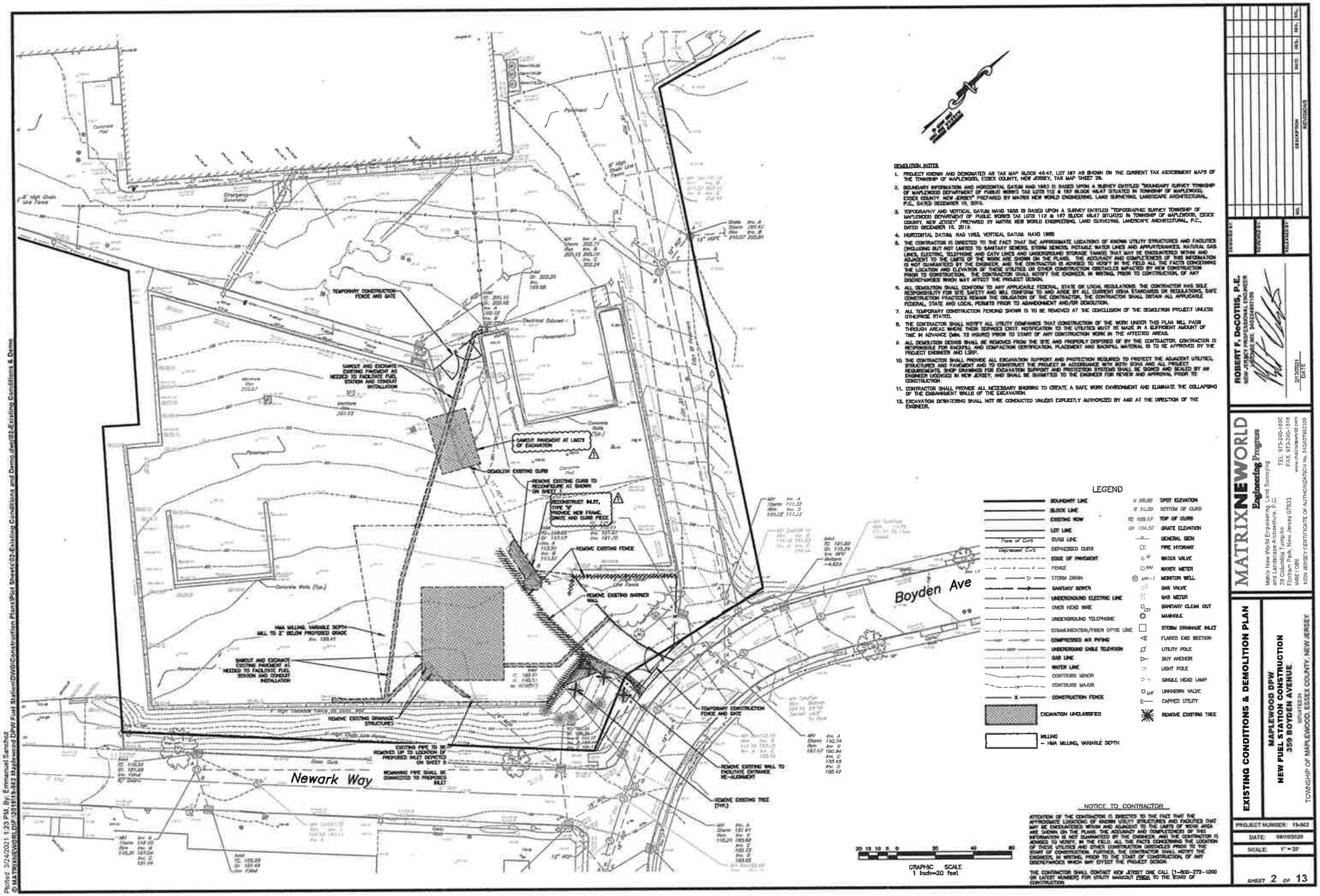

NO.	DESCRIPTION	DATE	APP'D	REV'D
	REVISIONS			

DESIGNED BY:
DRAWN BY:
CHECKED BY:

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04091700

21/30/2021
DATE

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture P.C.
28 Columbia Turnpike
Florham Park, New Jersey 07932
TEL: 973-245-1600
FAX: 973-245-1618
www.matrixnewworld.com
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27987200

EXISTING CONDITIONS & DEMOLITION PLAN

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-063
DATE: 09/10/2020
SCALE: 1" = 20'

SHEET 2 OF 13

Plotted: 3/24/2021 1:23 PM By: Emmanuel Sanchez
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OVERALL LAYOUT PLAN
MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY
PROJECT NUMBER: 19-042
DATE: 06/10/2020
SCALE: 1" = 20'
SHEET 3 OF 13
MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering | Land Surveying
and Landscape Architecture, P.L.C.
30 Columbia Turnpike
Florham Park, New Jersey 07932
MSE / DBE
TEL 973-240-1500
FAX 973-240-1618
www.matrixnewworld.com
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27952300
ROBERT F. DICCOTIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04497100
3/12/2021
DATE
RFD
RS
RFD
DESCRIPTION
REVISIONS
LEGEND
EXISTING
PROPOSED
BOUNDARY LINE
LOT LINE
RIGHT-OF-WAY
DEPRESSED CURB
EDGE OF PAVEMENT
CURB LINE
CONCRETE
FENCE
RETAINING WALL / BULKHEAD
POST SIGN
FULL DEPTH PAVEMENT
= HEAVY-DUTY ASPHALT BASE COURSE, 6" THICK
= HOT MIX ASPHALT B.B&S.H. SURFACE COURSE, 2" THICK
OVERLAY PAVEMENT
= HOT MIX ASPHALT B.B&S.H. SURFACE COURSE, 2" THICK
REINFORCED CONCRETE SURFACE COURSE, 6" THICK
NOTE: AREAS SHOWN TO RECEIVE FULL DEPTH PAVEMENT SHALL BE SAWCUT AT LIMITS
GRAPHIC SCALE
1 inch=20 feet
NOTICE TO CONTRACTOR
ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT ARE SHOWN ON THE PLANS, THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED. THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO VERIFY, IN THE FIELD, ALL THE FACTS CONCERNED, THE LOCATION OF ALL UTILITIES AND STRUCTURES, AND SHALL PROTECT THE SAME FROM INJURY OR DISTURBANCE DURING THE PROGRESS OF THE WORK. BEFORE ANY EXCAVATION IS STARTED, THE CONTRACTOR SHALL NOTIFY ALL PUBLIC UTILITIES AND PRIVATE UTILITIES WHOSE FACILITIES ARE LOCATED IN THE VICINITY OF THE WORK, AND REQUEST THAT THEY LOCATE AND MARK THEIR UNDERGROUND FACILITIES.
THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT PRIOR TO THE START OF CONSTRUCTION.
Boyden Ave
(50.0' R.O.W.)
Newark Way
(50.0' R.O.W.)
PROPOSED FUEL STATION LOCATION
PROPOSED 51'-1" X 45'-6" CANOPY
OVERLAY MILLED PAVEMENT WITH HOT MIX ASPHALT B.B&S.H. SURFACE COURSE, 2" THICK
CONSTRUCT HOT DUMP CURB TYPE 10 REVERSED RISE
CONSTRUCT CONCRETE CURB
CONSTRUCT CONCRETE SURFACE COURSE, 6" THICK
CONSTRUCT CONCRETE SURFACE COURSE, 6" THICK
RE-PAVE CONCRETE AREA WITH HEAVY-DUTY ASPHALT BASE COURSE, 6" THICK HOT MIX ASPHALT B.B&S.H. SURFACE COURSE, 2" THICK
PROPOSED FUEL DISPENSER
PROPOSED FUEL DISPENSER
PROPOSED FUEL DISPENSER

FUEL STATION LAYOUT PLAN

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE

ESTIMATED BY
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 13-021
DATE: 03/15/2020
SCALE: 1" = 10'
SHEET 4 of 13

MATRIXNEWORLD Engineering Progress

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FAX: 973-240-1816

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962100

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04237100

3/12/2021
DATE

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APP'D
1	ADDENDUM #1	3/24/21	ES	RFD

EDS/CAD/D BY: ES
RFD
RFD
EE
EDS/CAD/D BY: RFD

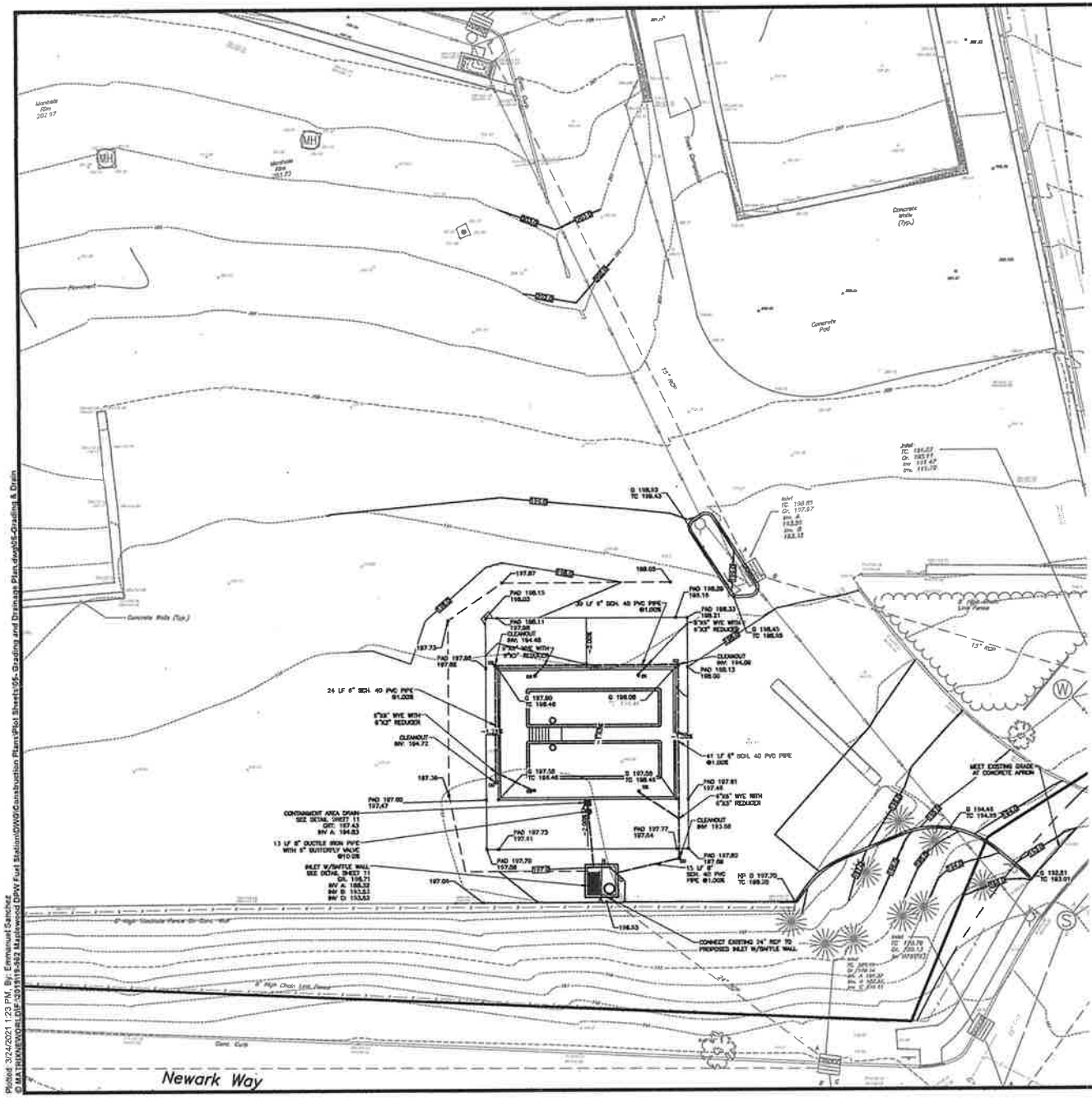
NOTICE TO CONTRACTOR

ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT ARE SHOWN ON THE PLANS, THE ACCURACY AND COMPLETENESS OF WHICH ARE NOT GUARANTEED, ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE TO MATRIX NEW WORLD ENGINEERING. THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTS CONCERNING THE LOCATION OF UTILITIES AND STRUCTURES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE OWNERS OF UTILITIES AND STRUCTURES THE CONTRACTOR SHALL NOTIFY THE OWNERS OF UTILITIES AND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS, BUT WHICH ARE ENCOUNTERED IN THE PERFORMANCE OF ANY CONSTRUCTION, IN WHICH EVENT THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT ERRORS TO THE START OF CONSTRUCTION.

GRAPHIC SCALE
1 inch=10 feet

Newark Way
Driveway Flare
Curb Cut
Curb Cut
Curb Cut
Concrete Walk (Typ.)
Curb Cut
Curb Cut
Curb Cut



LEGEND

EXISTING		PROPOSED
	BOUNDARY LINE	
	LOT LINE	
	CURB LINE	
	DEPRESSED CURB	
	EDGE OF PAVEMENT	
	PAINT LINE	
	CONCRETE	
x	FENCE	x
	GUIDE RAIL	
	RETAINING WALL/BULKHEAD	
	TREE LINE	
	CONTOURS	
	MINOR	49
5	MAJOR	50
x 55.00	SPOT ELEVATION	x 56.00
	HIGH POINT ELEVATION	x HP 55.50
	LOW POINT ELEVATION	x LP 55.50
G 55.00	GUTTER ELEVATION	G 55.00
TC 105.17	TOP OF CURB ELEVATION	TC 105.17
GR 104.50	GRATE ELEVATION	GR 104.50
RIM 100.00	RIM ELEVATION	RIM 100.00
TW 100.00	TOP OF WALL	TW 100.00
BW 98.00	BOTTOM OF WALL	BW 98.00
BD 95.00	BOTTOM OF BLOCK	BD 95.00
FF 85.00	FINISHED FLOOR ELEV.	FF 85.00
GF 85.00	GARAGE FLOOR ELEV	GF 85.00
	DRAINAGE FLOW DIRECTION	
	STORM DRAIN	
	INLET	
	DOUBLE INLETS	
	RECONSTRUCT INLET	
	REMOVE INLET	
	MANHOLE	
cb	CLEANOUT	
dt	DOWNSPOUT	

GRAPHIC SCALE
1 Inch=10 feet

NOTICE TO CONTRACTOR

ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF WORK AREA ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE CONTRACTOR IS ADVISED TO VERIFY, IN THE FIELD, ALL THE FACTS CONCERNING THE LOCATION OF THESE UTILITIES AND OTHER CONSTRUCTION OBSTACLES PRIOR TO THE START OF CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY EFFECT THE PROJECT DESIGN.

THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT PRIOR TO THE START OF CONSTRUCTION.

NO.	DESCRIPTION	DATE	DRN.	CHK.
1	ADDENDUM #1	3/24/2021	LS	RFD

DESIGNED BY: RS
DRAWN BY: RFD
RELEASED BY: RFD

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NO. 24GE04912100

3/12/2021
DATE

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NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27902300

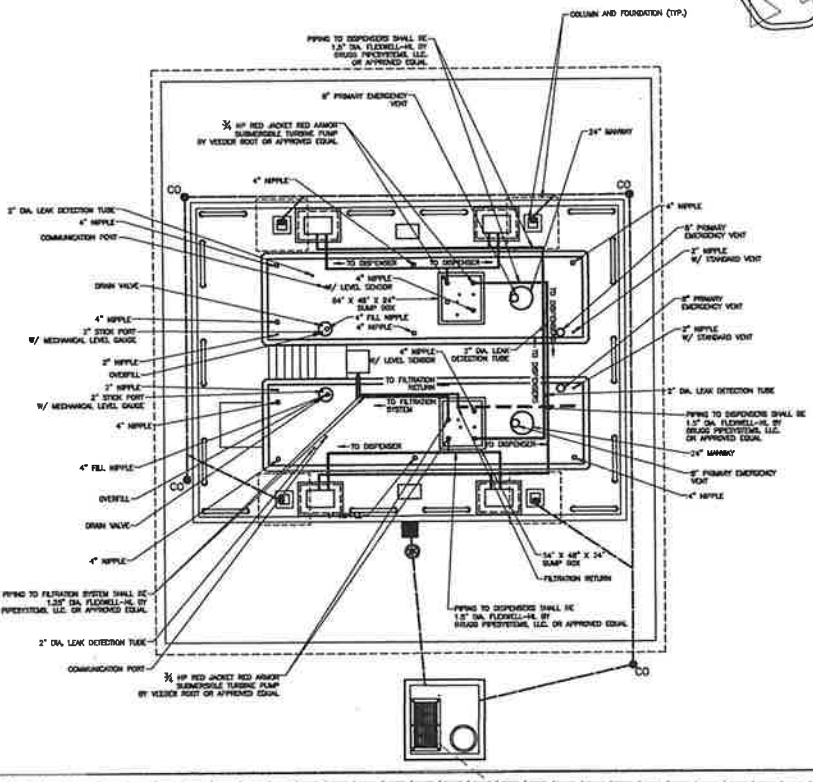
GRADING AND DRAINAGE PLAN

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 15-962
DATE: 09/19/2020
SCALE: 1" = 10'

SHEET 5 OF 13

Plotted: 3/24/2021 1:23 PM, By: Emmanuel Sanchez
© MATRIXNEWORLD P:\2015\15-962 Maplewood DPW Fuel Station\DWG\Construction Plans\Plot Sheets\05-Grading and Drainage Plan.dwg\05-Grading & Drain



GENERAL NOTES

1. PIPING AND EQUIPMENT DEPICTED HERE IS SCHEMATIC IN NATURE. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING THEIR PROPOSED LAYOUT OF ALL EQUIPMENT AND PIPING FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. GASOLINE AND DIESEL SHALL BE PROVIDED AT EACH OF THE FOUR (4) DISPENSERS.
3. ALL FUEL PIPING SHALL BE INSTALLED ABOVE GRADE IN ACCORDANCE WITH THE SPECIFICATIONS.
4. LEAK DETECTION MONITORING SHALL BE PROVIDED FOR ALL TANKS, SUMPS, DISPENSERS, AND PIPING IN ACCORDANCE WITH THE SPECIFICATIONS.

LEGEND

	BOUNDARY LINE	x 38.00	SPOT ELEVATION
	BLOCK LINE	(C 38.00)	BOTTOM OF CURB
	EXISTING ROW	TC 102.17	TOP OF CURB
	LOT LINE	GR 104.50	GRATE ELEVATION
Face of Curb	CURB LINE		GENERAL SIGN
Depressed Curb	DEPRESSED CURB	FC	FIRE HYDRANT
	EDGE OF PAVEMENT	WV	WATER VALVE
	FENCE	WM	WATER METER
	STORM DRAIN	MW-1	MONITOR WELL
	SANITARY SEWER		GAS VALVE
	UNDERGROUND ELECTRIC LINE		GAS METER
	OVER HEAD WIRE	CO	SANITARY CLEAN OUT
	UNDERGROUND TELEPHONE		MANHOLE
	COMMUNICATION/FIBER OPTIC LINE		STORM DRAINAGE INLET
	COMPRESSED AIR PIPING		FLARED END SECTION
	UNDERGROUND CABLE TELEVISION		UTILITY POLE
	GAS LINE		GUY ANCHOR
	WATER LINE		LIGHT POLE
	CONTOURS MINOR		SINGLE HEAD LAMP
	CONTOURS MAJOR	UK	UNKNOWN VALVE

GRAPHIC SCALE
1 Inch=5 feet

NOTICE TO CONTRACTOR

ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF WORK AREA ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEERS, AND THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD, ALL THE FACTS CONCERNING THE LOCATION OF THOSE UTILITIES AND OTHER CONSTRUCTION INSTALLED PRIOR TO THE START OF CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL NOTIFY THE ENGINEERS IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY AFFECT THE PROJECT DESIGN.

THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT CODES TO THE START OF CONSTRUCTION.

SEQUENCE BY	REVIEWED BY	RELEASED BY	NO.	DESCRIPTION	DRAWN BY	APP'D	REV'D
ES	RFD	RFD	1	ADDENDUM #1	ES	RFD	6/10/20

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04691100
2/12/2021
DATE

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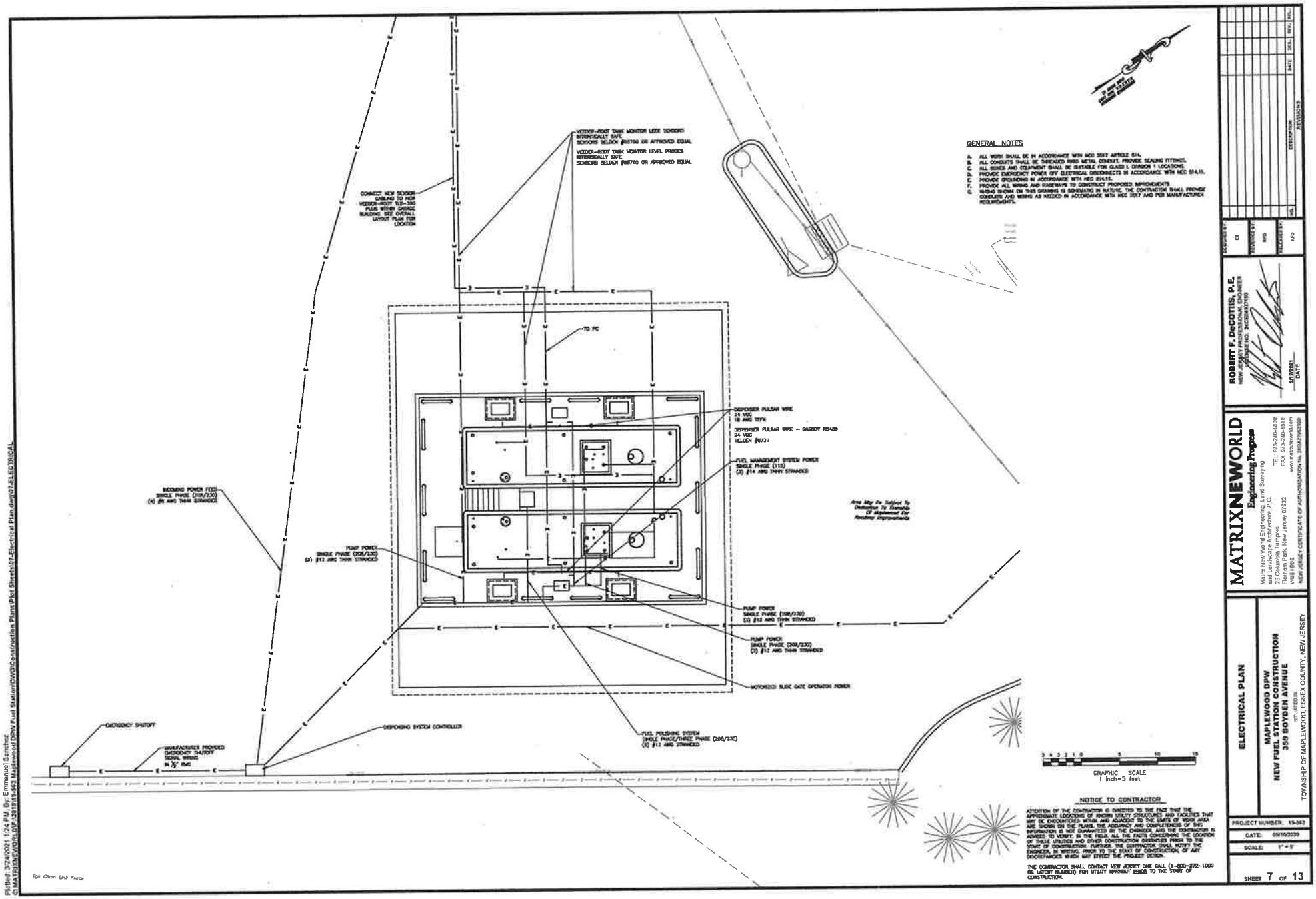
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27953300

FUEL STATION LAYOUT PLAN

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 15-062
DATE: 05/13/2020
SCALE: 1" = 5'

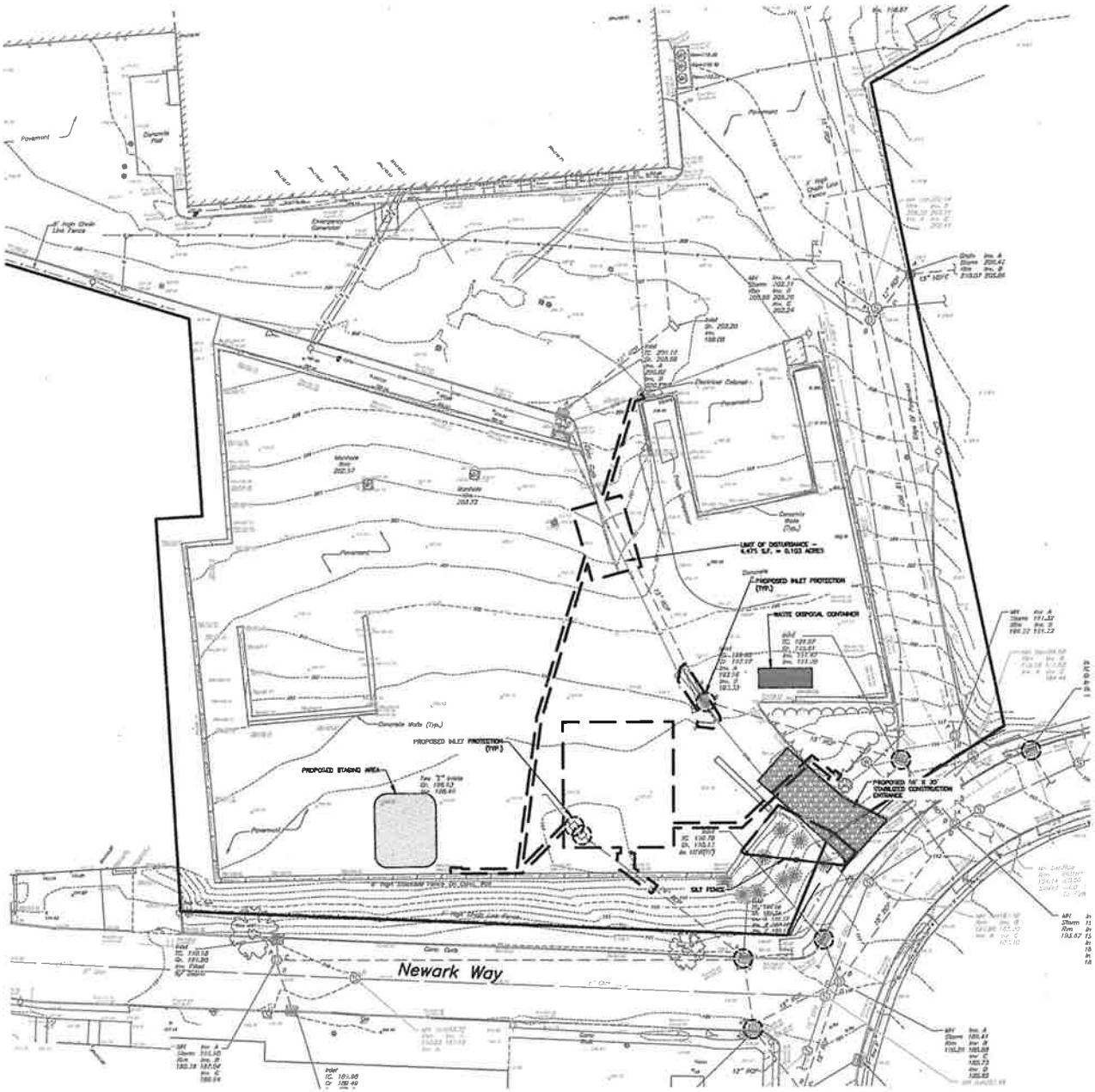
Plotted: 3/24/2021 1:24 PM, By: Emmanuel Sanchez
© MATRIXNEWORLD P:\2015\15-062 Maplewood DPW Fuel Station\DWG\Construction Plans\Plot Sheets\06-Fuel Piping Plan.dwg\06-Fuel Piping



Plotted: 3/24/2021 1:24 PM, By: Emmanuel Sanchez
G:\MATRIX\NEWORLD\JOF-3318\19-563 Maplewood DPW Fuel Station\DWG\Construction Plans\Plot Sheets\07-Electrical Plan.dwg\07-ELECTRICAL

6ft Chain Link Fence

DESCRIPTION	DATE	BY	REV.	INIT.
REVISIONS				



GENERAL CONDITIONS NOTES:

1. PROJECT KNOWN AND DESIGNATED AS TAX MAP BLOCK 68.47, LOT 187 AS SHOWN ON THE CURRENT TAX ASSESSMENT MAPS OF THE TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY, TAX MAP SHEET 35.
2. BOUNDARY INFORMATION AND HORIZONTAL DATUM NAD 1983 IS BASED UPON A SURVEY ENTITLED "BOUNDARY SURVEY TOWNSHIP OF MAPLEWOOD DEPARTMENT OF PUBLIC WORKS TAX LOTS 112 & 187 BLOCK 68.47 SITUATED IN TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY" PREPARED BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING, LANDSCAPE ARCHITECTURAL, P.C., DATED DECEMBER 18, 2019.
3. TOPOGRAPHY AND VERTICAL DATUM NAVD 1988 IS BASED UPON A SURVEY ENTITLED "TOPOGRAPHIC SURVEY TOWNSHIP OF MAPLEWOOD DEPARTMENT OF PUBLIC WORKS TAX LOTS 112 & 187 BLOCK 68.47 SITUATED IN TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY" PREPARED BY MATRIX NEW WORLD ENGINEERING, LAND SURVEYING, LANDSCAPE ARCHITECTURAL, P.C., DATED DECEMBER 18, 2019.
4. HORIZONTAL DATUM: NAD 1983, VERTICAL DATUM: NAVD 1988
5. THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES (INCLUDING BUT NOT LIMITED TO SANITARY SEWERS, STORM SEWERS, POTABLE WATER LINES AND APPURTENANCES, NATURAL GAS LINES, ELECTRIC, TELEPHONE AND CATV LINES AND UNDERGROUND STORAGE TANKS) THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF THE WORK ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTS CONCERNING THE LOCATION AND ELEVATION OF THESE UTILITIES OR OTHER CONSTRUCTION OBSTACLES IMPACTED BY NEW CONSTRUCTION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY AFFECT THE PROJECT DESIGN.

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED
		BOUNDARY LINE		MANHOLE
		LOT LINE		RECONSTRUCT MANHOLE
		SETBACK LINE		REMOVE MANHOLE
		CURB LINE		HEADWALL
		DEPRESSED CURB		FLARED END SECTION
		EDGE OF PAVEMENT		CLEANOUT
		PAINT LINE		DOWNSPOUT
		CONCRETE		WATER MAIN
		FENCE		WATER VALVE
		RETAINING WALL/BULKHEAD		WATER VALVE RISER
		CONTOURS		WATER METER
		MINOR		FIRE HYDRANT
		MAJOR		GAS MAIN
± 56.00		SPOT ELEVATION		GAS VALVE
G 56.00		GUTTER ELEVATION		GAS VALVE RISER
TC 105.17		TOP OF CURB ELEVATION		GAS METER
GR 104.50		GRADE ELEVATION		UTILITY POLE
RIM 105.00		RIM ELEVATION		GUY ANCHOR
TW 103.50		TOP OF WALL		LIMIT OF DISTURBANCE
BW 91.00		BOTTOM OF WALL		SILT FENCE
BS 85.00		BOTTOM OF SLOPE		INLET PROTECTION
FF 93.00		FINISHED FLOOR ELEV.		CONSTRUCTION ENTRANCE
GF 95.00		GARAGE FLOOR ELEV		
		STORM DRAIN		
		INLET		
		DOUBLE INLETS		

GRAPHIC SCALE
1 inch = 20 feet

NOTICE TO CONTRACTOR

ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF KNOWN UTILITY STRUCTURES AND FACILITIES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF WORK AREA ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE CONTRACTOR IS ADVISED TO VERIFY, IN THE FIELD, ALL THE FACTS CONCERNING THE LOCATION OF THESE UTILITIES AND OTHER CONSTRUCTION OBSTACLES PRIOR TO THE START OF CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY EFFECT THE PROJECT DESIGN.

THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE CALL (1-800-272-1000 OR LATEST NUMBER) FOR UTILITY MARKOUT PRIOR TO THE START OF CONSTRUCTION.

NO.	DESCRIPTION	DATE	DESIGNED BY:	EE
	REVISIONS		DRAWN BY:	MPD
			CHECKED BY:	RFD

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04691700

2/12/2021
DATE

MATRIXNEWORLD
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NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27992300

SOIL EROSION AND SEDIMENT CONTROL PLAN

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-562
DATE: 09/19/2020
SCALE: 1" = 20'

SHEET 8 OF 13

Plotted: 3/24/2021 1:24 PM, By: Emmanuel Sanchez
G:\MATRIXNEWORLD\P-2019\19-562 Maplewood DPW Fuel Station\DWG\Construction Plans\Plot Sheets\08-SESC PLAN.dwg\08-SESC Plan

CHAPMAN
ENVIRONMENTAL SERVICES

APPENDIX B

Inspection Checklists
40 CFR 112.7(e)

Oil Container Inspection Log This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12.(c)(6), and 112.12(d)(4), as applicable.			**DATE**:	
Container / Piping / Equipment	**Describe Scope (or cite Industry Standard)**	**Observations**	**Name/ Signature of Inspector**	**Records maintained separately[a]**
T-001 & T-002 Resident Waste Oil Tanks	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas. Annual inspection elements per industry inspection standards (STI-001 or API-653)			☐
T-003 & T-004 10k Gas & Diesel Tanks				☐
T-005 & T-006 Generator Diesel Tanks				☐
T-007 Mechanics Waste Oil				☐
55-Gallon Drums (Various Oils)				☐
• Piping	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil. Ensure all high-level alarms are functional			☐

[a] Indicate in the table above if records of facility inspections are maintained separately at this facility.

STI SP001 Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a certified inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a certified inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- **In the event of severe weather (snow, ice, wind storms) or maintenance (such as painting) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required immediately following the event.**

Item	Status		Comments
1.0 Tank Containment			
1.1 Water in primary tank, secondary containment, interstice, or spill container?	Yes*	No	
1.2 Debris or fire hazard in containment?	Yes*	No	
1.3 Drain valves operable and in a closed position?	Yes	No*	
1.4 Containment egress pathways clear and gates/doors operable?	Yes	No*	

2.0 Leak Detection			
2.1 Visible signs of leakage around the tank, concrete pad, containment, ringwall or ground?	Yes*	No	
3.0 Tank Attachments and Appurtances			
3.1 Ladder and platform structure secure with no sign of severe corrosion or damage?	Yes	No*	
3.2 Tank Liquid level gauge readable and in good condition?	Yes	No*	
3.3 Check all tank openings are properly sealed	Yes	No*	
4.0 Other Conditions			
4.1 Are there other conditions that should be addressed for continued safe operation or that may affect the site SPCC plan?	Yes*	No	

Additional Comments:

STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a certified inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Inspect the AST shell and associated piping, valves, and pumps including inspection of the coating for Paint Failure.
- Inspect:
  1. Earthen containment structures including examination for holes, washout, and cracking in addition to liner degradation and tank settling.
  2. Concrete containment structures and tank foundations/supports including examination for holes, washout, settling, paint failure, in addition to examination for corrosion and leakage.
  3. Steel containment structures and tank foundations/supports including examination for washout, settling, cracking, and for paint failure, in addition to examination for corrosion and leakage.
- Inspection of cathodic protection system, if applicable, includes the wire connections for galvanic systems and visual inspection of the operational components (power switch, meters, and alarms) of impressed current systems.
- Remove promptly upon discovery standing water or liquid in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility must regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a certified inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- Complete this checklist on an annual basis supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

Item	Status	Comments
1.0 Tank Containment		
1.1 Containment structure in satisfactory condition?	Yes No*	
1.2 Drainage pipes/valves fit for continued service	Yes No* N/A	
2.0 Tank Foundation and Supports		
2.1 Evidence of tank settlement or foundation washout?	Yes* No	
2.2 Cracking or spalling of concrete pad or ring wall?	Yes* No	
2.3 Tank supports in satisfactory condition?	Yes No*	
2.4 Water able to drain away from tank?	Yes No*	
2.5 Grounding strap secured and in good condition?	Yes No*	
3.0 Cathodic Protection		
3.1 CP system functional?	Yes No* n/a	
3.2 Rectifier Reading:		
4.0 Tank External Coating		
4.1 Evidence of paint failure?	Yes* No	
5.0 Tank Shell/Heads		
5.1 Noticeable shell/head distortions, buckling, denting or bulging?	Yes* No	
5.2 Evidence of shell/head corrosion or cracking?	Yes* No	
6.0 Tank Manways, Piping and Equipment within Secondary Containment		
6.1 Flanged connection bolts tight and fully engaged with no sign of wear or corrosion?	Yes No*	
7.0 Tank Roof		
7.1 Standing water on	Yes* No	
7.2 Evidence of coating roof? cracking, crazing, peeling, blistering?	Yes* No	
7.3 Holes in roof?	Yes* No	

Item	Status		Comments
8.0 Venting			
8.1 Vents free of obstructions?	Yes	No*	
8.2 Emergency vent operable? Lift as required?	Yes	No*	
9.0 Insulated Tanks			
9.1 Insulation missing?	Yes*	No	
9.2 Are there noticable areas of moisture on the insulation?	Yes*	No	
9.3 Mold on insulation?	Yes*	No	
9.4 Insulation exhibiting damage?	Yes*	No	
9.5 Is the insulation sufficiently protected from water intrusion?	Yes	No*	
10.0 Level and Overfill Prevention Instrumentation of Shop-Fabricated Tanks			
10.1 Has the tank liquid level sensing device been tested to ensure proper operation?	Yes	No*	
10.2 Does the tank liquid level sensing device operate as required?	Yes	No*	
10.3 Are overfill prevention devices in proper working condition?	Yes N/A	No*	
11.0 Electrical Equipment			
11.1 Are tank grounding lines in good condition?	Yes N/A	No*	
11.2 Is electrical wiring for control boxes/lights in good condition?	Yes N/A	No*	

Additional Comments:

Oil-Handling Personnel **ANNUAL Training and Briefing Log**	**Date**

Scope	The site supervisor or operations manager shall arrange for annual training, which shall include the following training topics: 1. An introduction to pollution control laws; 2. Rules and regulations pertaining to the use and storage of petroleum products; 3. Inspection, operation and maintenance of spill equipment, and petroleum storage and dispensing equipment; 4. Facility requirements relative to bulk product deliveries and removals; 5. Procedures for product transfer to vehicles, equipment and portable containers; 6. Discussions of spill events or equipment failure, and updates made to the SPCC plan to

Attendees – Sign in Sheet

Name	*Title*	*Signature*

CHAPMAN
ENVIRONMENTAL SERVICES

APPENDIX C

Spill Notification Form
40 CFR 112.7(a)(4)

Part A: Basic Spill Data			
Person completing this form		Person who discovered spill	
Type of Spilled Substance		Estimated Volume of Spill	
Date, time and duration of Spill		Location of Spill	
Spill Description			
Area Impacted by Spill			
Description of Spill Cleanup			

Part B: Regulatory Agency Notification Checklist		
If the oil spill impacts surface waters, ground waters or soils of the State of New Jersey		
NJ Department of Environmental Protection 1-877-927-6337 1-877-WARNDEP	Date and Time of call	
	NJDEP Case #	
	Name of Operator	
If the oil spill reaches a navigable water body or adjoining shoreline of the United States		
NJ Department of Environmental Protection 1-877-927-6337	Date and Time of call	
	NJDEP Case #	
	Name of Operator	
National Response Center 1-800-424-8802	Date and Time of call	
	Incident Case #	
	Name of Operator	

Send a copy of this form to the onsite supervisor or designee. This form shall be filed by facility name and maintained.

CHAPMAN ENVIRONMENTAL SERVICES

APPENDIX D

Specifications & Safety Data Sheets

SPENT COOKING OIL ONLY
WARNING
(855) 327-7761
(866) 656-2145
DAR PRO

PLEASE BE PREPARED TO SHOW
YOUR ID, DRIVERS LICENSE, OR A
UTILITY BILL AS A MAPLEWOOD
RESIDENT.
USED OIL ONLY
RECYCLE USED MOTOR OIL HERE
PLEASE DUMP YOUR OWN OIL

CAT

USED OIL ONLY

HUDSON–ESSEX–PASSAIC SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THIS "NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" 7TH EDITION LAST REVISED JULY 2017, EFFECTIVE DECEMBER 2017. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, MAY BE REQUIRED TO BE TEMPORARILY MULCHED, AND SEEDED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER FOR APPROVAL AS THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREIN PERMANENT REVEGETATION IS ESTABLISHED.
3. SEEDING DATES: THE FOLLOWING SEEDING DATES ARE BEST RECOMMENDED TO ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE REGION: SPRING 3/1–5/15 FALL 8/15–10/1.
4. SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.
5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ADOPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
6. MULCH MATERIALS SHALL BE UN-ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF OF 70–90 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TO EQUAL OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
7. ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR, ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
8. THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY. IN-HOUSE OR ANY OTHER CONSTRUCTION AGENCY. CONTACT THE DISTRICT AT 862–232–4500 TO REQUEST A FINAL INSPECTION, GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTORATION MEASURES. A PERFORMANCE BOND MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SHOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED.
9. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN SAME UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAIN SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING. THE USE OF DEWATERING OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR CONTROL BAGS.
10. ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE-SEEDING, SODDING OR PLANTING. A DEPTH OF 5.0 INCHES TOPSOIL IS TO BE PLACED, IS REQUIRED, AS PER THE STANDARDS FOR TOPSOILING AND LAND GRADING, EFFECTIVE DECEMBER 2017.
11. ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.
12. A CRUSHED STONE WHEEL CLEANING TRACKING PAD IS TO BE INSTALLED AT ALL SITE EXITS USING 2 1/2"–1" CRUSHED ANGULAR STONE (ASTM 3 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6 INCHES. ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.
13. STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THOSE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
14. THE HUDSON–ESSEX–PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

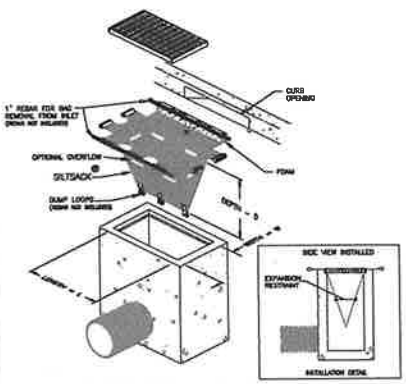
CONSTRUCTION SEQUENCE

EXACT TIMING FOR DEVELOPMENT OF THIS PROJECT IS NOT KNOWN AT THIS TIME, HOWEVER, IT IS ANTICIPATED THAT CONSTRUCTION WILL PROCEED CONTINUOUSLY SINCE THE REQUIRED APPROVALS ARE SECURED. ITEMS AND DURATIONS OF CONSTRUCTION WILL OCCUR APPROXIMATELY AS FOLLOWS:

	PHASE	DURATION
1.	TEMPORARY SOIL EROSION FACILITIES	IMMEDIATELY(1 DAY)
2.	CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE	IMMEDIATELY(1 DAY)
3.	INSTALL SILT FENCE	IMMEDIATELY(1 DAY)
4.	ROUGH CLEARING AND GRADING	3 WEEKS
5.	INSTALLATION OF CONDUIT AND ELECTRICAL WORK	2 WEEKS
6.	STORM STRUCTURE AND PIPE INSTALLATION	2 WEEKS
7.	STEEL CANOPY CONSTRUCTION	3 WEEKS
8.	INSTALLATION OF FUEL PIPING	2 WEEKS
9.	FUEL TANK INSTALLATION	1 WEEK
10.	CURB AND CONCRETE PAD CONSTRUCTION	2 WEEKS
11.	FINAL PAVEMENT COURSE	1 WEEK
12.	MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES	CONTINUOUSLY
13.	SITE RESTORATION	1 WEEK

* TEMPORARY STOCKPILES WHICH ARE TO BE REMOVED FROM THE SITE WITHIN 14 DAYS MAY BE LEFT UN-SEEDED, PROVIDED THAT DUST CONTROL MEASURES SPECIFIED HEREIN ARE FOLLOWED.

**TEMPORARY SEEDING SHALL ALSO BE PERFORMED WHEN NECESSARY IN ACCORDANCE WITH NOTE NO. 2 OF THE SOIL EROSION AND SEDIMENT CONTROL NOTES.



SILTSACK INLET PROTECTION DETAIL
NOT TO SCALE

STANDARD FOR STABILIZATION WITH MULCH ONLY

DEFINITION

STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS.

PURPOSE

TO PROTECT EXPOSED SOIL SURFACES FROM EROSION DAMAGE AND TO REDUCE OFFSITE ENVIRONMENTAL DAMAGE.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO EROSION, WHERE THE SEASON AND OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION-RESISTANT COVER OR WHERE ESTABLISHMENT IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM.

METHODS AND MATERIALS

I. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR APPLYING AND ANCHORING MULCH. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING, PAGE 19-1.

B. EMPLOY ASSOCIATED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS AND WATERWAYS. SEE STANDARDS 11 THROUGH 43.

II. PROTECTIVE MATERIALS

A. UNROTTED SMALL-GRAIN STRAW, HAY OR SILT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 70 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS OR NETTING. WOOD CHIPS, OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.

B. ASPHALT EMULSION OR CUTBACK ASPHALT IS RECOMMENDED AT THE RATE OF 800 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE SMALL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.

C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED – UNDER SUITABLE CONDITIONS AND IN SUFFICIENT QUANTITIES.

D. WOOD-FIBER OR PAPER-FIBER MULCH AT A RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER OR HYDROMULCHER.

E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON OR PLASTIC, MAY BE USED.

F. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED.

G. GRAVEL, CRUSHED STONE OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.

III. MULCH ANCHORING

A. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

B. PEG AND TWINE – DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. TWINE MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE SOLID TURNS.

C. MULCH NETTINGS – STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER HAY OR STRAW MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.

D. MULCH ANCHORING TOOL – A TRACTOR-DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. TOOL PENETRATION SHOULD BE ABOUT 2 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE DONE ON THE CONTOUR.

E. LIQUID MULCH BINDERS

1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
2. USE OF ONE OF THE FOLLOWING:
   a. EMULSIFIED ASPHALT – (SS-1, CSS-1,CSS-1, MS-2, MS-1, RS-2, CRS-1 AND CRS-2).
      APPLY 0.04 GAL/SQ.YD. OR 184 GAL/ACRE ON FLAT SLOPES AND SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH USE 0.075 GAL/SQ. YD. OR 345 GAL/ACRE.
   b. ORGANIC AND VEGETABLE BASED BINDERS – NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
   c. SYNTHETIC OR ORGANIC BINDERS – BINDERS SUCH AS CURANOL, DCA-70, PETRO-SET AND TERRA-TACK MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS.

NOTE:
ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

STANDARD FOR SEEDING SPECIFICATIONS

TEMPORARY SEEDING

TEMPORARY VEGETATIVE COVER SHALL CONSIST OF POTENTIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUND PER 1,000 SQ. FT. (40 lbs/ac.). IN ACCORDANCE WITH TABLE 7-1, PAGE 7-3.
LIMESTONE (PULVERIZED DOLOMITIC LIMESTONE) TO BE APPLIED AT THE RATE OF 90 POUNDS PER 1,000 SQ. FT. (2 TONS/ac.) AS IDENTIFIED AT THE RATE OF 45 lbs/1,000 SQ. FT. (1 TON/ac.) IN ACCORDANCE WITH TABLE 7-1, PAGE 7-3.
FERTILIZER (10–20–10 OR EQUIVALENT) AT THE RATE OF 11 lbs/1,000 SQ. FT. (500 lbs/ac.) OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN, IN ACCORDANCE WITH PARAGRAPH 3A, PAGE 7-1.

MULCH-HAY IS REQUIRED ON ALL REGRADED AND SHALL BE ACCOMPLISHED AS FOLLOWS

1. MULCH MATERIALS SHOULD BE UNROTTED SALT HAY, HAY, OR SMALL GRAIN STRAW AT A RATE OF 1–1/2 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1,000 SQUARE FOOT. MULCH SHOULD BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85 PERCENT OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND SPREAD MULCH, SPACE AREA INTO APPROXIMATELY 500 SQUARE FOOT SECTIONS AND DISTRIBUTE TO 70 TO 90 POUNDS WITHIN EACH SECTION.
2. MULCH ANCHORING SHALL BE ACCOMPLISHED USING EITHER PEG AND TWINE, MULCH NETTING, MULCH-ANCHORING COULTER TOOL OR LIQUID MULCH-BINDERS, PER THE ACCOMPANYING SPECIFICATIONS WITH MULCH ONLY SPECIFICATION.

* OPTIMUM SEEDING DATES: 3/1 – 5/15 AND 8/15 – 10/1

PERMANENT SEEDING

1. TOPSOIL TO BE PLACED TO A DEPTH OF 4 INCHES ON EXPOSED SOILS UPON COMPLETION OF FINAL GRADING.
2. SEED IS TO BE UNIFORMLY APPLIED TO THE NORMAL DEPTH OF 1/4 INCH TO 1/2 INCH (DEEPER WHERE SEEDBED IS OF SEED MIXTURE 17, AS SHOWN ON PAGE 4-13 IN THE SOIL EROSION STANDARDS. THE SEEDING RATE SHALL BE:

SEED MIXTURE	PLANTING RATE LBS PER ACRE	LBS PER 1,000 SF
HARD FESCUE	120	2.7
CREEPING FESCUE	30	0.7
PERENNIAL RYEGRASS	10	0.25

* OPTIMAL SEEDING DATES: 3/1 – 4/30 AND 8/10 – 10/15

3. MULCHING WILL BE ACCOMPLISHED PER THE BELOW TEMPORARY SEEDING SPECIFICATIONS.

*MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SOIL CAN BE IRRIGATED.

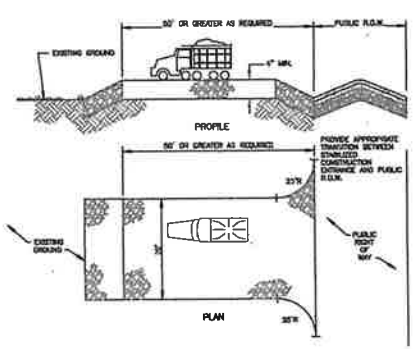
SOIL PREPARATION

SUITABLE EQUIPMENT WILL BE USED TO PREPARE A REASONABLE, UNIFORM, FINE SEED BED TO A MINIMUM DEPTH OF 4 INCHES.

APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10–20–10 OR EQUIVALENT WITH SOIL WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIME SHALL BE PULVERIZED DOLOMITIC LIMESTONE, CALCIUM CARBONATE IN THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE FOLLOWING TABLE IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES:

SOIL TEXTURE	TONS/ACRE	LBS./1000 SQ. FT.
CLAY, CLAY LOAM, & HIGHLY ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT.



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

STANDARD FOR STORM SEWER INLET PROTECTION

DEFINITION

A TEMPORARY BARRIER AND SETTLING FACILITY INSTALLED AT A STORM SEWER INLET.

PURPOSE

THE PURPOSE OF STORM SEWER INLET PROTECTION IS TO INTERCEPT AND RETAIN SEDIMENT, THUS PREVENTING THE ENTRANCE OF SEDIMENT INTO THE STORM SEWER SYSTEM.

CONDITIONS WHERE PRACTICE APPLIES

1. CONTRIBUTING DRAINAGE AREA IS 3 ACRES OR LESS.
2. A STORM SEWER OR THE OUTLET CHANNEL OF A STORM SEWER NEEDS PROTECTION FROM SEDIMENT.
3. TRAFFIC WILL NOT OBSTRUCT OR CAUSE CONSTANT MAINTENANCE OF THE STORM SEWER INLET PROTECTION.
4. A TRAFFIC HAZARD WILL NOT BE CREATED.
5. A FLOODING PROBLEM WILL NOT BE CREATED.

WATER QUALITY ENHANCEMENT

THE PRIMARY BENEFIT TO WATER QUALITY IS REMOVAL OF SEDIMENT FROM STORMWATER RUNOFF PRIOR TO ENTERING THE STORM SEWER SYSTEM, AS AN ADDED BENEFIT, OTHER FLOATABLE DEBRIS, SUCH AS VEGETATIVE MATTER AND LITTER MAY ALSO BE FILTERED OUT OF THE RUNOFF.

DESIGN CRITERIA

THE FOLLOWING APPLIES TO ALL METHODS OF STORM SEWER INLET PROTECTION:

1. MUST SLOW THE STORM WATER, PROVIDE THE COARSE SEDIMENT PARTICLES A CHANCE TO SETTLE, AND PROVIDE AN AREA TO RETAIN THE PARTICLES THAT HAVE SETTLED.
2. IN ALL CASES, THE INLET PROTECTION SHOULD NOT COMPLETELY CLOSE OFF THE UNIT.
3. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.

OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.

INSPECTIONS SHALL BE FREQUENT, MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARD THE INLET HAS BEEN STABILIZED.

DUST CONTROL NOTE

DUST GENERATION SHALL BE CONTROLLED ON A CONSTANT BASIS BY WETTING THE SURFACE AND/OR APPLICATION OF CALCIUM CHLORIDE.

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GAL/ACRE
ASPHALT EMULSION	7:1	STRAIGHT STREAM	1,200
CALCIUM CHLORIDE	1:1 & 3:1	FINE SPRAY	1,200
WATER BY WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) – SPRAY ON POLYACRYLAMIDE (PAM) – DRY GRANULAR	ALL MATERIALS TO BE MIXED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. APPLY AT RATES AND DILUTIONS SUFFICIENT TO PREVENT DUST AND BLOWING SOIL FROM LEAVING THE SITE.		
ACCELERATED TURF MIXTURE SEEDING	SEE SEEDING SPECIFICATIONS ON SHEET 9		

ADDITIONAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. THE PROPERTY OWNERS SHALL ASSUME THIS RESPONSIBILITY AFTER CONSTRUCTION IS COMPLETED AND CERTIFICATES OF OCCUPANCY ARE ISSUED.
2. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ROADWAYS CLEAN AT ALL TIMES. ANY SEDIMENT SPILLED OR TRACKED ON THE ROADWAY WILL BE CLEANED UP IMMEDIATELY, OR AT MINIMUM, BY THE END OF EACH WORK DAY.
4. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON INDIVIDUAL SITES SHALL APPLY TO ANY SUBSEQUENT OWNERS.
5. STEEP SLOPES TO RECEIVE A TEMPORARY REGRADING IN CONJUNCTION WITH STRAW MULCH OR SUITABLE EQUAL. ONLY ANCHORING METHOD # NOTE NO. 6 OF SOIL EROSION & SEDIMENT CONTROL NOTES.)
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND APPLICATION RATES AT THE REQUEST OF THE OCEAN COUNTY SOIL CONSERVATION DISTRICT.
7. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
8. IMMEDIATELY AFTER THE COMPLETION OF GRADING AND STOCKPILING OF TOPSOIL, SEED THE STOCKPILE WITH ANNUAL RYE GRASS. STABILIZE TOPSOIL STOCKPILES WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING.
9. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
10. BASIN CONSTRUCTION AND STABILIZATION MUST BE PRIOR TO OR CONCURRENT WITH ROUGH GRADING IN THE CONSTRUCTION SEQUENCE.
11. SOIL STOCKPILE ARE NOT TO BE LOCATED WITHIN FIFTY FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHOULD BE PROTECTED BY A HAY BARRIER OR SEDIMENT FENCE.
12. ALL SOIL EROSION AND SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
13. THE SITE SHALL BE STABILIZED AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
14. ALL CATCH BASIN INLETS WILL BE PROTECTED DURING CONSTRUCTION (SEE DETAILS THIS SHEET).
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTRATION DEVICE. THE SEDIMENT FILTER MUST BE CHANGED OF FILTERING THE SEDIMENT AND BE PLACED SO AS NOT TO CAUSE EROSION OF THE DOWNSTREAM AREA.

NO.	DESCRIPTION	DATE	BY	APP'D
	REVISIONS			

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE04597100

05/03/2021
DATE

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
26 Columbia Turnpike
Florham Park, New Jersey 07932
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SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SITUATED IN
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-043
DATE: 09/10/2020
SCALE: AS SHOWN

SHEET 9 OF 13

NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27945500

Plotted: 3/24/2021 1:25 PM, By: Emmanuel Sanchez
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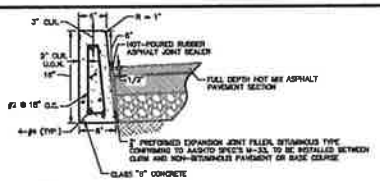
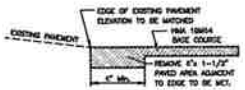
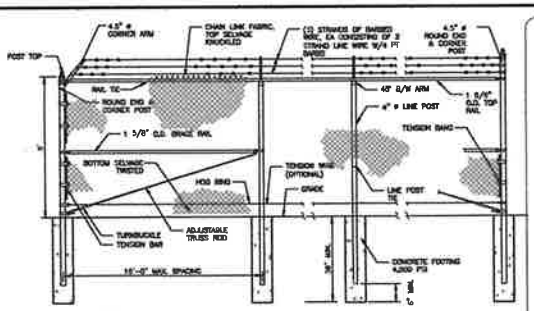


NOTES:
1. ALL WORKMANSHIP, METHOD AND MATERIALS TO BE IN ACCORDANCE WITH N.J.D.O.T. STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION
2. CONCRETE TO BE NJDOT CLASS "B" (AIR ENTRAINED).
3. TRANSVERSE JOINTS ½" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WITH PREFORMED, BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213, RECESSED ½" FROM THE FRONT FACE AND TOP OF THE CURB.
4. DUMMY JOINTS (TOOLED) SHALL BE INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.
5. WIDTH OF JOINT FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT LESS ½".

REINFORCED CONCRETE CURB
NOT TO SCALE

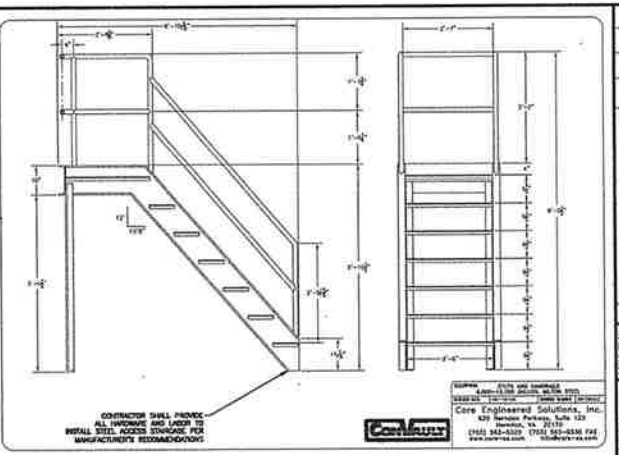


KEYWAY
NOT TO SCALE

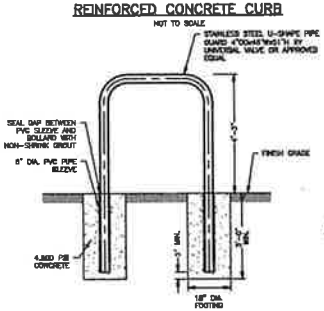


NOTES:
1. WIRE MESH SHALL BE 1-1/4" MESH, 6 GAUGE GALVANIZED (ZINC) COATED STEEL CHAIN LINK FABRIC PER ASTM A392, WITH KNUCKLED SELVAGE ON TOP AND TWIST ON BOTTOM (KT).
2. FENCE FRAMEWORK RAIL AND POST SHALL BE HOT DIP GALVANIZED STEEL PIPE, 18 GAUGE, CLASS 1 ZINC COATED PER ASTM 1043 GROUP 1A FOR SCHEDULE 40 RIGHID PIPE, WITH REGULAR STEEL YIELD STRENGTH OF 50,000 PSI PER ASTM F1083.
3. BAR LENGTH AND POST HEIGHT ABOVE GRADE PER FENCE HEIGHT AND MANUFACTURER'S SPECIFICATIONS. FENCE HEIGHT AS SPECIFIED ON THE PLAN.
4. END AND CORNER POST TOP SHALL BE DOME SHAPE.
5. BARBED WIRE PER ASTM A121, FACING EXTERIOR OF THE PROPERTY. MESH TYPE & COLOR TO MATCH FENCE.
6. FOOTING WIDTH TO BE (4) X POST WIDTH, MINIMUM DEPTH 36", 4,000 PSI CONCRETE.

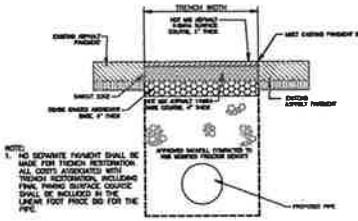
CHAIN LINK FENCE W/BARBED WIRE
NOT TO SCALE



STEEL ACCESS STAIRCASE
NOT TO SCALE



U-SHAPED BOLLARD DETAIL
NOT TO SCALE

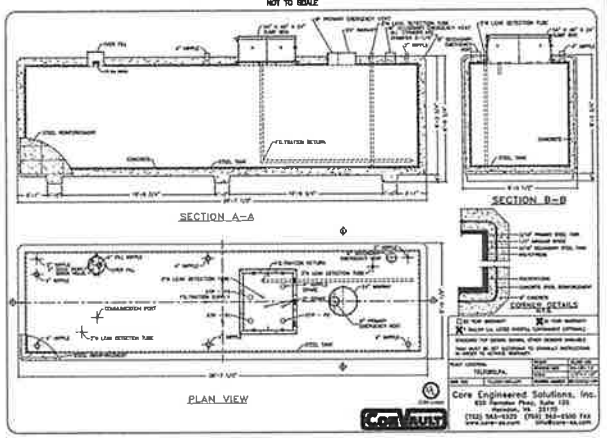


NOTE:
1. NO SEPARATE PAYMENT SHALL BE MADE FOR TRENCH RESTORATION. ALL COSTS ASSOCIATED WITH TRENCH RESTORATION, INCLUDING FINAL PAVING SURFACE COURSE SHALL BE INCLUDED IN THE LINEAR FOOT PRICE BID FOR THE PIPE.

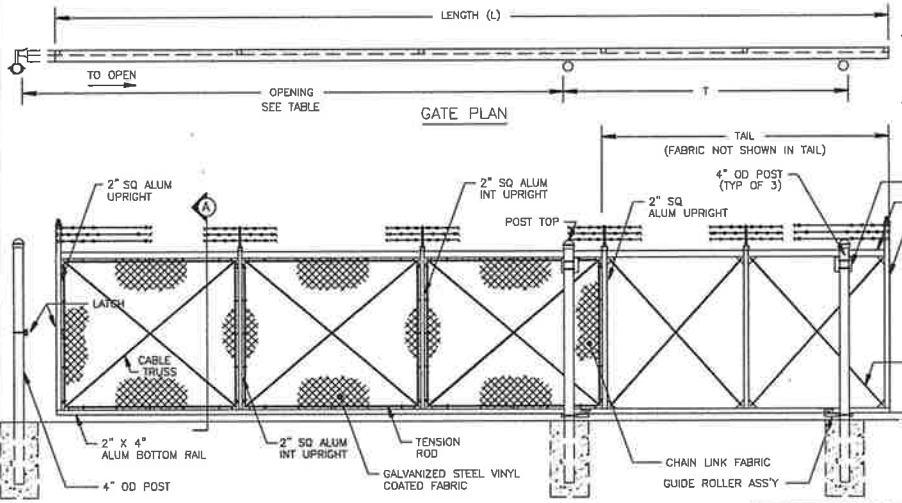
TRENCH RESTORATION IN AREAS OF ASPHALT PAVEMENT
NOT TO SCALE

NOTE:
DENSE-GRADED AGGREGATE AND SUBGRADE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY

FULL DEPTH HOT MIX ASPHALT PAVEMENT SECTION
NOT TO SCALE



CONVAULT 10,000 GALLON FUEL TANK
NOT TO SCALE

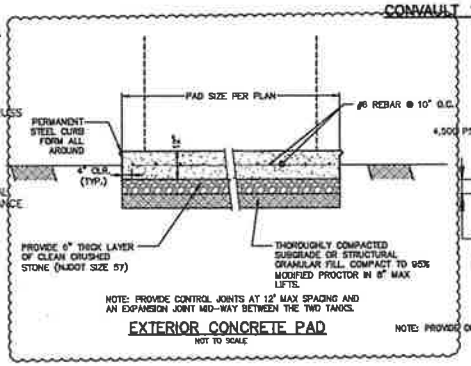


GATE PLAN

NOTES:
1. GATES SHOWN MANUFACTURED BY MASTER HALCO OR APPROVED EQUAL.
2. GATES WILL BE OPERATED ELECTRICALLY. COORDINATE WITH GATE-OPERATOR MANUFACTURER FOR HARDWARE MODIFICATIONS.
3. GATE POSTS SHALL BE 4" DIAMETER MINIMUM, BUT ARE SUBJECT TO INCREASE DEPENDING ON OPENING SIZE AND LOADING REQUIREMENTS. FOOTINGS SHALL BE 4-TIMES THE DIAMETER OF THE POSTS MINIMUM AND 48" DEEP.
4. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR GATES, OPERATORS, HARDWARE, POSTS, FOOTINGS, ETC. TO THE ENGINEER FOR APPROVAL.

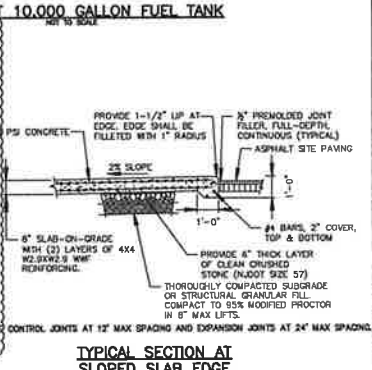
NOM HEIGHT (H)
6'-0"
OPENING
30'-0"

CHAIN LINK GATE W/BARBED WIRE
NOT TO SCALE



NOTE: PROVIDE CONTROL JOINTS AT 12' MAX SPACING AND AN EXPANSION JOINT MID-WAY BETWEEN THE TWO TANKS.

EXTERIOR CONCRETE PAD
NOT TO SCALE



NOTE: PROVIDE CONTROL JOINTS AT 12' MAX SPACING AND EXPANSION JOINTS AT 24' MAX SPACING.

TYPICAL SECTION AT SLOPED SLAB EDGE
NOT TO SCALE

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM #1	12/2021	ES

DESIGNED BY: ES
DRAWN BY: AVD
CHECKED BY: AVD

ROBERT F. DeCOTIIS, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE05039100
2/12/2021
DATE

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Florham Park, New Jersey 07932
TEL 973-240-1800
FAX 973-240-1818
www.matrixnewworld.com
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300
MBE / DBE

CONSTRUCTION DETAILS

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
BOUNDED BY
TOWNSHIP OF MAPLEWOOD, ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-963
DATE: 09/10/2020
SCALE: AS SHOWN

SHEET 10 OF 13

Plotted: 3/24/2021 1:25 PM, By: Emmanuel Sanchez
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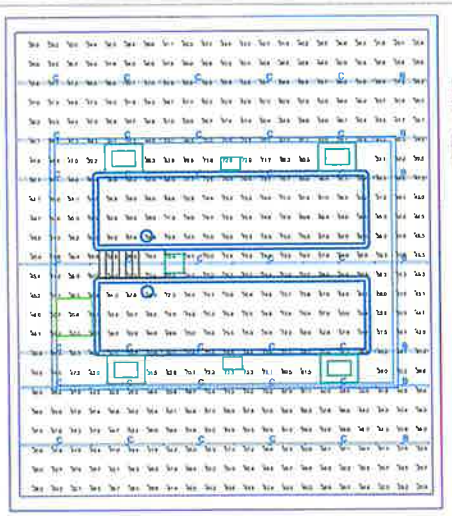


Luminaire Schedule

Symbol	Qty	Label	Description
	7	B	701912-L650KC3I18 - 8' HighLINER 3
	55	C	701912-L650KC3I18 - 8' HighLINER 3

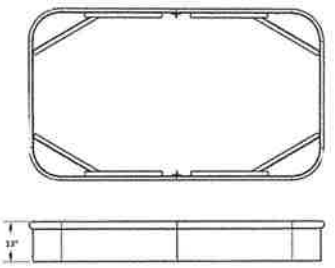
Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Canopy Fuel_at Grade	Illuminance	Fc	53.75	75.8	25.8	2.08	2.94

SloanLED

DPW Fuel Canopy

LIGHTING PLAN
NOT TO SCALE

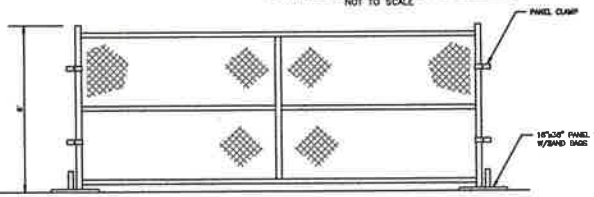


3CK-4348 SS Stainless Steel Island

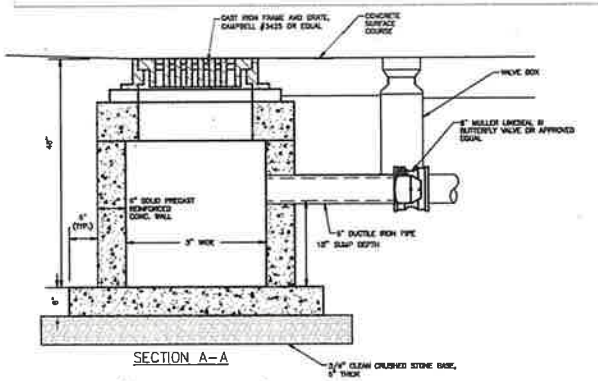
6" Radius Corners

NOTES:
1. ISLAND FORM SHALL BE 3CK-4348-SS BY UNIVERSAL VALVE COMPANY OR APPROVED EQUAL.
2. SEE SHEET 4 FOR ISLAND DIMENSIONS.

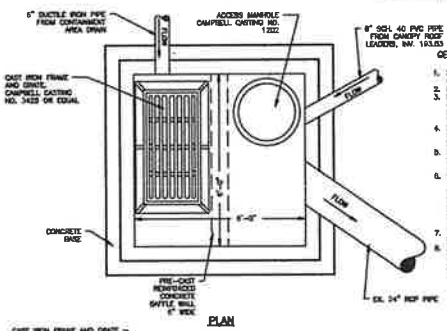
STAINLESS STEEL ISLAND FORM
NOT TO SCALE



TEMPORARY CONSTRUCTION FENCE DETAIL
NOT TO SCALE

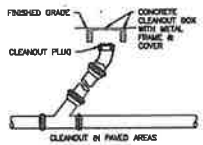


SECTION A–A



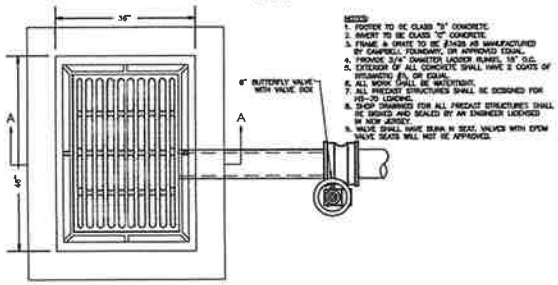
PLAN

GENERAL NOTES:
1. FOOTER TO BE NJDOT CLASS "B" CONCRETE.
2. INVERT TO BE CLASS "C" CONCRETE.
3. WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER.
4. FRAME AND GRATE TO BE NO. 3425 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR EQUAL.
5. PROVIDE 3/4" DIAMETER POLYPROPYLENE LADDER RUNGS, 12" ON CENTER.
6. WHEN ADDITIONAL DEPTH IS SCHEDULED, WALLS BELOW THE DEPTH OF 6'-0" MEASURED FROM THE INLET GUTTER TO INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSION SHALL BE INCREASED TO 12" IN WIDTH AND TO 12" IN DEPTH.
7. ALL PRECAST STRUCTURES SHALL BE DESIGNED FOR HS-20 LOADING.
8. SHOP DRAWINGS FOR ALL PRECAST STRUCTURES SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN NEW JERSEY.



NOTE:
CONTRACTOR IS TO INSTALL CLEANOUT AT ANY PIPING ANGLE CHANGES AND AT EVERY 50' IN PIPING RUNS GREATER THAN 100' IN LENGTH.

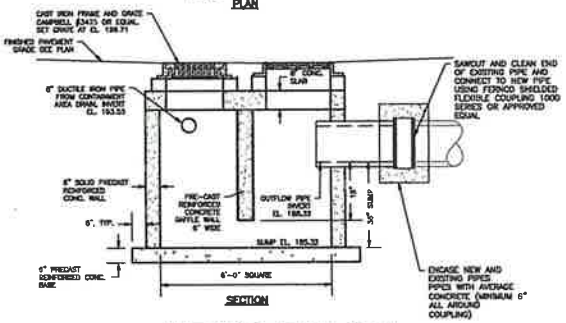
EXTERIOR CLEANOUT
NOT TO SCALE



NOTES:
1. FOOTER TO BE CLASS "B" CONCRETE.
2. INVERT TO BE CLASS "C" CONCRETE.
3. FRAME & GRATE TO BE #3425 AS MANUFACTURED BY CAMPBELL FOUNDARY, OR APPROVED EQUAL.
4. PROVIDE 3/4" DIAMETER LADDER RUNGS, 18" O.C.
5. EXTERIOR OF ALL CONCRETE SHALL HAVE 2 COATS OF BITUMASTIC #5, OR EQUAL.
6. ALL WORK SHALL BE WATERTIGHT.
7. ALL PRECAST STRUCTURES SHALL BE DESIGNED FOR HS-20 LOADING.
8. SHOP DRAWINGS FOR ALL PRECAST STRUCTURES SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN NEW JERSEY.
9. VALVE SHALL HAVE BUNA-N SEAT. VALVES WITH EPDM VALVE SEATS WILL NOT BE APPROVED.

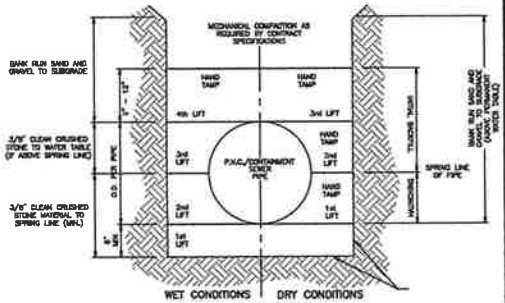
PLAN VIEW

CONTAINMENT AREA DRAIN
NOT TO SCALE



SECTION

INLET W/BAFFLE WALL DETAIL
NOT TO SCALE



WET CONDITIONS DRY CONDITIONS

RIGID PIPE BEDDING
NOT TO SCALE

NO.	DESCRIPTION	DATE	APP'D	REVISIONS
1				
2				
3				
4				
5				

ISSUED BY	DS	
REVIEWED BY	RFD	
RELEASED BY	RFD	

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2/12/2021
DATE

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CONSTRUCTION DETAILS

MAPLEWOOD DPW
NEW FUEL STATION CONSTRUCTION
359 BOYDEN AVENUE
SCALE: 1/8"

TOWNSHIP OF MAPLEWOOD ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 19-942
DATE: 09/10/2020
SCALE: AS SHOWN

SHEET 11 OF 13

Plotted: 2/24/2021 1:25 PM, By: Emmanuel Sanchez
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USED OIL

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **USED OIL**

SYNONYMS: Waste oil; Used lubricating oil; Oil and water mixture

PRODUCT PART NUMBER(S): Not applicable.

PRODUCT USE: Oil or water mixture for re-refining or reprocessing.
If this product is used in combination with other products, refer to the Material Safety Data Sheets for those products.

These numbers are for emergency use only. If you desire non-emergency product information, please call a phone number listed below.

24-HOUR EMERGENCY PHONE NUMBERS
MEDICAL AND TRANSPORTATION (SPILL):

1-800-468-1760

MANUFACTURER/ SUPPLIER: Safety-Kleen Systems, Inc.
5400 Legacy Drive
Cluster II, Building 3
Plano, Texas 75024
USA
1-800-669-5740
www.Safety-Kleen.com

TECHNICAL INFORMATION: 1-800-669-5740 Press 1 then 1 then Extension 7500

MSDS FORM NUMBER: 81451

ISSUE: September 20, 2007

ORIGINAL ISSUE: January 15, 1990

SUPERSEDES: June 11, 2007

PREPARED BY: Product MSDS Coordinator

APPROVED BY: MSDS Task Force

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

				OSHA PEL		ACGIH TLV®			
WT%	NAME	SYNONYM	CAS NO.	TWA	STEL	TWA	STEL	LD[a]	LC[b]
80 to 100	Lubricating oils, used	Used oil	70514-12-4	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 20*	Water/solids	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 10*	Hydrocarbon solvents. May include gasoline, diesel fuel, jet fuel, mineral spirits, etc.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.5*	Metals. May include lead, iron, zinc, copper, chromium, arsenic, nickel, and others: each below 1.0 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.0*	Polynuclear aromatics. May include naphthalene, fluoranthene, phenanthrene, pyrene, and others: each below 0.3 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 0.5*	Chlorinated solvents.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.

N.Av. = Not Available

*Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

[a] Oral-Rat LD_{50} (mg/kg)

[b] Inhalation-Rat LC_{50}

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE
Liquid, black and viscous (thick), petroleum odor.

WARNING!
PHYSICAL HAZARDS
Combustible liquid.

HEALTH HAZARDS
May be harmful if inhaled.
May be harmful if absorbed through skin.
May be harmful or fatal if swallowed.
May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.
Suspect cancer hazard. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Contains material which can cause birth defects.
Contains material which can cause central nervous system damage.

ENVIRONMENTAL HAZARDS
Product may be toxic to fish, plants, wildlife, and/or domestic animals.

POTENTIAL HEALTH EFFECTS

Effects may vary depending on material composition. Typical effects may include:

INHALATION (BREATHING): High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

EYES: May cause irritation.

SKIN: May cause irritation. Product may be absorbed through the skin and cause harm as noted under **INHALATION (BREATHING)**.

INGESTION (SWALLOWING): May be harmful or fatal if swallowed. May cause throat irritation, nausea, vomiting, and central nervous system effects as noted under **INHALATION (BREATHING)**. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing cardiovascular, liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

CHRONIC: Prolonged or repeated inhalation may cause oil pneumonia, lung tissue inflammation, fibrous tissue formation, and/or toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

CANCER INFORMATION: This product contains mineral oils, untreated or mildly treated, which can cause cancer. This product may contain hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics which can cause cancer. Risk of cancer depends on duration and level of exposure. For more information, see **SECTION 11: CARCINOGENICITY**.

POTENTIAL ENVIRONMENTAL EFFECTS

Product may be toxic to fish, plants, wildlife, and/or domestic animals.
Also see **SECTION 12: ECOLOGICAL INFORMATION**.

SECTION 4: FIRST AID MEASURES

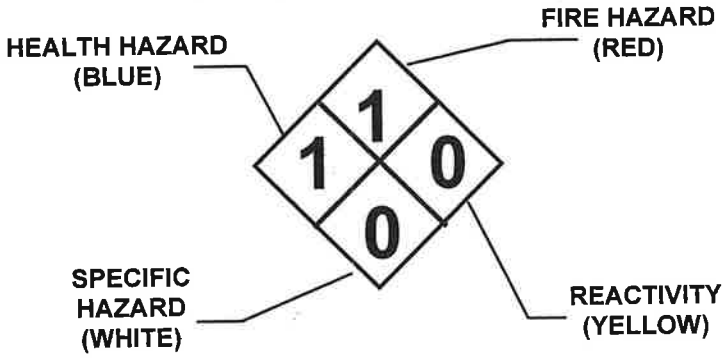
INHALATION: (BREATHING)	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.
EYES:	If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.
SKIN:	Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.
INGESTION: (SWALLOWING)	Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.
NOTE TO PHYSICIANS:	Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT:	>200°F (93°C) (minimum) Pensky-Martens Closed Cup
FLAMMABLE LIMITS IN AIR:	Not available.
AUTOIGNITION TEMPERATURE:	Not available.
HAZARDOUS COMBUSTION PRODUCTS:	Decomposition and combustion materials may be toxic. Burning may produce phosgene gas, nitrogen oxides, carbon monoxide, and unidentified organic compounds.
CONDITIONS OF FLAMMABILITY:	Heat, sparks, or flame. Product may burn but does not ignite readily.
EXTINGUISHING MEDIA:	Use carbon dioxide, regular foam, dry chemical, water spray, or water fog.

NFPA 704 HAZARD IDENTIFICATION:

This information is intended solely for the use by individuals trained in this system.



FIRE FIGHTING INSTRUCTIONS:

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

FIRE AND EXPLOSION HAZARDS:

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact. Product may be sensitive to static discharge, which could result in fire or explosion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface waters and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION.**

SECTION 7: HANDLING AND STORAGE

HANDLING: Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, storage tanks, tanker trucks, and rail tank cars should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke while using this product.

SHIPPING AND STORING: Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORT INFORMATION** for Packing Group information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use general ventilation, process enclosures, local exhaust ventilation, or other engineering controls to control air-borne levels. Where explosive mixtures may be present, equipment safe for such locations should be used.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

EYE PROTECTION: Wearing chemical goggles is recommended.
Contact lens may be worn with eye protection.

SKIN PROTECTION: Where prolonged or repeated skin contact is likely, wear neoprene, nitrile (4 mil minimum), PVC (polyvinyl chloride), or equivalent protective gloves; wearing natural rubber or equivalent gloves is not recommended.

When product is heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing.

To avoid prolonged or repeated contact with product where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

PERSONAL HYGIENE:	Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with the product.
OTHER PROTECTIVE EQUIPMENT:	Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE, APPEARANCE, AND ODOR:	Liquid, black and viscous (thick), petroleum odor.
ODOR THRESHOLD:	Not available.
MOLECULAR WEIGHT:	Not applicable.
SPECIFIC GRAVITY:	0.8 to 1.0 at 60°F (15.6°C) (water = 1)
DENSITY:	6.7 to 8.3 LB/US gal (800 to 1000 g/l) (approximately)
VAPOR DENSITY:	greater than 1 (air = 1) (based on kerosene)
VAPOR PRESSURE:	Not available.
BOILING POINT:	Not available.
FREEZING/MELTING POINT:	Not available.
pH:	Not applicable.
EVAPORATION RATE:	less than 1 (butyl acetate = 1)
SOLUBILITY IN WATER:	Slight.
FLASH POINT:	>200°F (93°C) (minimum) Pensky-Martens Closed Cup
FLAMMABLE LIMITS IN AIR:	Not available.
AUTOIGNITION TEMPERATURE:	Not available.

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.

INCOMPATIBILITY: Avoid acids, alkalies, oxidizing agents, reducing agents, reactive halogens, or reactive metals.

REACTIVITY: Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.

HAZARDOUS DECOMPOSITION PRODUCTS: None under normal temperatures and pressures. Also see **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

SECTION 11: TOXICOLOGICAL INFORMATION

SENSITIZATION: Based on best current information, there may be known human sensitization associated with this product.

MUTAGENICITY: Based on best current information, there may be mutagenicity associated with this product.

CARCINOGENICITY: Mineral oils, untreated or mildly treated are listed by IARC as a known carcinogen. Mineral oils, untreated or mildly treated are classified by NTP as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by OSHA as known carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by IARC as known, probable, or possible carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are classified by NTP as known carcinogens or as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are recognized by ACGIH as confirmed or suspected human carcinogens.

Also see **SECTION 3: CANCER INFORMATION.**

REPRODUCTIVE TOXICITY: Based on best current information, there may be reproductive toxicity associated with this product.

TERATOGENICITY: Based on best current information, there may be teratogenicity associated with this product.

TOXICOLOGICALLY SYNERGISTIC PRODUCT(S): Based on best current information, there may be toxicologically synergistic products associated with this product.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: Not available.

OCTANOL/WATER PARTITION COEFFICIENT: Not available.

VOLATILE ORGANIC COMPOUNDS: Not available.
As per 40 CFR Part 51.100(s).

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

SECTION 14: TRANSPORT INFORMATION

DOT: Not regulated.

TDG: Not regulated.

EMERGENCY RESPONSE GUIDE NUMBER: Not applicable.
Reference *North American Emergency Response Guidebook*

SECTION 15: REGULATORY INFORMATION

USA REGULATIONS SARA SECTIONS 302 AND 304: Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

SARA SECTIONS 311 AND 312: This product poses the following physical and health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):
Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

SARA SECTION 313: This product may contain "toxic" chemicals subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

CERCLA: This product may contain "hazardous substances" listed pursuant to Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.

TSCA: Not available.

CALIFORNIA: This product is not for sale or use in the State of California.

CANADIAN REGULATIONS
WHMIS: Not regulated

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): Not available.

SECTION 16: OTHER INFORMATION

REVISION INFORMATION: Change from MSIS to MSDS.

LABEL/OTHER INFORMATION: Not available.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product as supplied to the user.

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MATERIAL SAFETY DATA SHEET

Gasoline, All Grades **MSDS No. 9950**

EMERGENCY OVERVIEW

DANGER!

EXTREMELY FLAMMABLE - EYE AND MUCOUS MEMBRANE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED - ASPIRATION HAZARD

NFPA 704 (Section 16)

High fire hazard. Keep away from heat, spark, open flame, and other ignition sources.

If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs). Contact may cause eye, skin and mucous membrane irritation. Harmful if absorbed through the skin. Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, anesthetic effects (dizziness, nausea, headache, intoxication), and respiratory system effects.

Long-term exposure may cause effects to specific organs, such as to the liver, kidneys, blood, nervous system, and skin. Contains benzene, which can cause blood disease, including anemia and leukemia.

1. CHEMICAL PRODUCT and COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs): **CHEMTREC (800)424-9300**
COMPANY CONTACT (business hours): Corporate Safety (732)750-6000
MSDS (Environment, Health, Safety) Internet Website www.hess.com

SYNONYMS: Hess Conventional (Oxygenated and Non-oxygenated) Gasoline; Reformulated Gasoline (RFG); Reformulated Gasoline Blendstock for Oxygenate Blending (RBOB); Unleaded Motor or Automotive Gasoline

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and INFORMATION ON INGREDIENTS *

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Gasoline (86290-81-5)	100
Benzene (71-43-2)	0.1 - 4.9 (0.1 - 1.3 reformulated gasoline)
n-Butane (106-97-8)	< 10
Ethyl Alcohol (Ethanol) (64-17-5)	0 - 10
Ethyl benzene (100-41-4)	< 3
n-Hexane (110-54-3)	0.5 to 4
Methyl-tertiary butyl ether (MTBE) (1634-04-4)	0 to 15.0
Tertiary-amyl methyl ether (TAME) (994-05-8)	0 to 17.2
Toluene (108-88-3)	1 - 25
1,2,4- Trimethylbenzene (95-63-6)	< 6
Xylene, mixed isomers (1330-20-7)	1 - 15

A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May contain antioxidant and multifunctional additives. Non-oxygenated Conventional Gasoline and RBOB do not have oxygenates (Ethanol or MTBE and/or TAME).

Oxygenated Conventional and Reformulated Gasoline will have oxygenates for octane enhancement or as legally required.

3. HAZARDS IDENTIFICATION

EYES
Moderate irritant. Contact with liquid or vapor may cause irritation.

SKIN
Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

INGESTION
The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS and CARCINOGENICITY
Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 - Toxicological Information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash). Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

4. FIRST AID MEASURES

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.

INGESTION

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

INHALATION
Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT:	-45 °F (-43°C)
AUTOIGNITION TEMPERATURE:	highly variable; > 530 °F (>280 °C)
OSHA/NFPA FLAMMABILITY CLASS:	1A (flammable liquid)
LOWER EXPLOSIVE LIMIT (%):	1.4%
UPPER EXPLOSIVE LIMIT (%):	7.6%

FIRE AND EXPLOSION HAZARDS
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

During certain times of the year and/or in certain geographical locations, gasoline may contain MTBE and/or TAME. Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration - refer to NFPA 11 "Low Expansion Foam - 1994 Edition."

FIRE FIGHTING INSTRUCTIONS
Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING and STORAGE

HANDLING PRECAUTIONS

******USE ONLY AS A MOTOR FUEL******
******DO NOT SIPHON BY MOUTH******

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents.

STORAGE PRECAUTIONS

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS

Component (CAS No.)	Source	Exposure Limits TWA (ppm)	STEL (ppm)	Note
Gasoline (86290-81-5)	ACGIH	300	500	A3
Benzene (71-43-2)	OSHA	1	5	Carcinogen
	ACGIH	0.5	2.5	A1, skin
	USCG	1	5	
n-Butane (106-97-8)	ACGIH	1000	--	Aliphatic Hydrocarbon Gases Alkane (C1-C4)
Ethyl Alcohol (ethanol) (64-17-5)	OSHA	1000	--	
	ACGIH	1000	--	A4
Ethyl benzene (100-41-4)	OSHA	100	--	
	ACGIH	100	125	A3
n-Hexane (110-54-3)	OSHA	500	--	
	ACGIH	50	--	Skin
Methyl-tertiary butyl ether [MTBE] (1634-04-4)	ACGIH	50		A3
Tertiary-amyl methyl ether [TAME] (994-05-8)				None established
Toluene (108-88-3)	OSHA	200		Ceiling: 300 ppm; Peak: 500 ppm (10 min.)
	ACGIH	20	--	A4
1,2,4- Trimethylbenzene (95-63-6)	ACGIH	25	--	
Xylene, mixed isomers (1330-20-7)	OSHA	100	--	
	ACGIH	100	150	A4

ENGINEERING CONTROLS

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

EYE/FACE PROTECTION

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION

Gloves constructed of nitrile or neoprene are recommended. Chemical protective clothing such as that made of of E.I. DuPont Tychem ®, products or equivalent is recommended based on degree of exposure.

Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION

A NIOSH-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE

A translucent, straw-colored or light yellow liquid

ODOR
A strong, characteristic aromatic hydrocarbon odor. Oxygenated gasoline with MTBE and/or TAME may have a sweet, ether-like odor and is detectable at a lower concentration than non-oxygenated gasoline.

ODOR THRESHOLD

	Odor Detection	Odor Recognition
Non-oxygenated gasoline:	0.5 - 0.6 ppm	0.8 - 1.1 ppm
Gasoline with 15% MTBE:	0.2 - 0.3 ppm	0.4 - 0.7 ppm
Gasoline with 15% TAME:	0.1 ppm	0.2 ppm

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	85 to 437 °F (39 to 200 °C)
VAPOR PRESSURE:	6.4 - 15 RVP @ 100 °F (38 °C) (275-475 mm Hg @ 68 °F (20 °C)
VAPOR DENSITY (air = 1):	AP 3 to 4
SPECIFIC GRAVITY (H_2O = 1):	0.70 – 0.78
EVAPORATION RATE:	10-11 (n-butyl acetate = 1)
PERCENT VOLATILES:	100 %
SOLUBILITY (H_2O):	Non-oxygenated gasoline - negligible (< 0.1% @ 77 °F). Gasoline with 15% MTBE - slight (0.1 - 3% @ 77 °F); ethanol is readily soluble in water

10. STABILITY and REACTIVITY)

STABILITY: Stable. Hazardous polymerization will not occur.

CONDITIONS TO AVOID
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources

INCOMPATIBLE MATERIALS
Keep away from strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

11. TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY
Acute Dermal LD50 (rabbits): > 5 ml/kg
Acute Oral LD50 (rat): 18.75 ml/kg
Primary dermal irritation (rabbits): slightly irritating
Draize eye irritation (rabbits): non-irritating
Guinea pig sensitization: negative

CHRONIC EFFECTS AND CARCINOGENICITY
Carcinogenicity: OSHA: NO IARC: YES - 2B NTP: NO ACGIH: YES (A3)

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

This product may contain methyl tertiary butyl ether (MTBE): animal and human health effects studies indicate that MTBE may cause eye, skin, and respiratory tract irritation, central nervous system depression and neurotoxicity. MTBE is classified as an animal carcinogen (A3) by the ACGIH.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations. If released, oxygenates such as ethers and alcohols will be expected to exhibit fairly high mobility in soil, and therefore may leach into groundwater. The API (www.api.org) provides a number of useful references addressing petroleum and oxygenate contamination of groundwater.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME:	Gasoline
DOT HAZARD CLASS and PACKING GROUP:	3, PG II
DOT IDENTIFICATION NUMBER:	UN 1203
DOT SHIPPING LABEL:	FLAMMABLE LIQUID

PLACARD:

15. REGULATORY INFORMATION

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

INGREDIENT NAME (CAS NUMBER)	CONCENTRATION WT. PERCENT
Benzene (71-43-2)	0.1 to 4.9 (0.1 to 1.3 for reformulated gasoline)
Ethyl benzene (100-41-4)	< 3

n-Hexane (110-54-3)	0.5 to 4
Methyl-tertiary butyl ether (MTBE) (1634-04-4)	0 to 15.0
Toluene (108-88-3)	1 to 15
1,2,4- Trimethylbenzene (95-63-6)	< 6
Xylene, mixed isomers (1330-20-7)	1 to 15

US EPA guidance documents (www.epa.gov/tri) for reporting Persistent Bioaccumulating Toxics (PBTs) indicate this product may contain the following deminimis levels of toxic chemicals subject to Section 313 reporting:

INGREDIENT NAME (CAS NUMBER)	CONCENTRATION - Parts per million (ppm) by weight
Polycyclic aromatic compounds (PACs)	17
Benzo (g,h,i) perylene (191-24-2)	2.55
Lead (7439-92-1)	0.079

CALIFORNIA PROPOSITION 65 LIST OF CHEMICALS

This product contains the following chemicals that are included on the Proposition 65 "List of Chemicals" required by the California Safe Drinking Water and Toxic Enforcement Act of 1986:

INGREDIENT NAME (CAS NUMBER)	Date Listed
Benzene	2/27/1987
Ethyl benzene	6/11/2004
Toluene	1/1/1991

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B, Division 2 (Flammable Liquid)
Class D, Division 2A (Very toxic by other means) and Class D, Division 2B (Toxic by other means)

16. OTHER INFORMATION

NFPA® HAZARD RATING	HEALTH:	1	Slight
	FIRE:	3	Serious
	REACTIVITY:	0	Minimal
HMIS® HAZARD RATING	HEALTH:	1 *	Slight
	FIRE:	3	Serious
	PHYSICAL:	0	Minimal
			* CHRONIC

SUPERSEDES MSDS DATED: 07/01/06

ABBREVIATIONS:

AP = Approximately
N/A = Not Applicable
< = Less than
N/D = Not Determined
> = Greater than
ppm = parts per million

ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute (212)642-4900
API	American Petroleum Institute (202)682-8000
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation [General Info: (800)467-4922]
EPA	U.S. Environmental Protection Agency
HMIS	Hazardous Materials Information System

Revision Date: 09/25/2007

IARC	International Agency For Research On Cancer
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association (617)770-3000
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change (proposed change to ACGIH TLV)
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self-Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short-Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Workplace Hazardous Materials Information System (Canada)

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

Section 17:

Employee Training

SPPP Form 17 – Employee Training

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul Kittner Jr, P.E, PP, CME/Twp. Engineer and Director of Public Works*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/05* Date of most recent update: *May 27, 2022*

Describe your employee training program. For each required topic, list the employees that will receive training on that topic, and the date the training will be held. Attach additional pages as necessary.

The following topics will be covered by a computer generated training program:

FOR DPW WORK INCLUDED LISTENING TO VIDEOS SPONSORED BY NJDEP. THIS INCLUDES STAFF WHO DIRECTLY MAINTAINS STORMSEWERS.

FOR ENGINEERING, THE 5 YEAR MANAGERS COURSE OFFERED BY NJDEP IS REQUIRED FOR THE TOWNSHIP ENGINEER AND BOARD CONSULTANT ENGINEERS.

STORMWATER MANAGEMENT TRAINING SIGN IN

JUNE 9TH 2022

Tim Churuti

Lou Azienza

Juan Serrano

Bob Burba

Ariel Picado

Giancarlo Rinaldi

TJ O'Neil

FRANK MONACO

John Masi

Section 18: Tier A Municipal Stormwater General Permit

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code - 401-02B
Water Pollution Management Element
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Tel: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

December 8, 2017

SENT VIA EMAIL to: engineer@twp.maplewood.nj.us

Paul J. Kittner Jr.
MAPLEWOOD TWP
574 VALLEY ST
MAPLEWOOD, NJ 07040

Re: Stormwater Discharge General Permit Authorization Renewal
Category: R9 -Tier A Municipal Stormwater General Permit
NJPDES: NJG0154687 / PI ID #: 203744
MAPLEWOOD TWP
Maplewood Twp, Essex County

Dear Stormwater Program Coordinator:

Enclosed is New Jersey Pollutant Discharge Elimination System (NJPDES) Authorization to Discharge No. NJG0154687 (Category R9 -Tier A Municipal Stormwater General Permit) issued under the authority of Stormwater NJPDES Master General Permit No. NJ0141852 (Tier A Permit).

The permit and associated documents are posted at http://www.nj.gov/dep/dwq/tier_a.htm, where you can find a copy of the Tier A Permit, and a Response to Comments document, which includes a summary of the significant and relevant comments received during the Tier A Permit public comment period, the Department's responses, and an explanation of any changes from the draft action. In addition, you can also find a crosswalk which provides a detailed comparison of changes from 2009 to this 2017 permit, and a Frequently Asked Questions document. These documents will be useful in understanding your renewed Authorization.

If you have any questions or comments regarding the above referenced action, please contact Monique Girona by telephone at 609-633-7021.

Sincerely,

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

C: Water Compliance and Enforcement Regional Office

New Jersey Department of Environmental Protection
Mail Code - 401-02B
Bureau of Nonpoint Pollution Control
Water Pollution Management Element
PO Box 420
Trenton, NJ 08625-0420
Phone: (609) 633-7021
Fax: (609) 777-0432

AUTHORIZATION TO DISCHARGE
R9 -Tier A Municipal Stormwater General Permit

Facility Name: MAPLEWOOD TWP

Permit Number: NJG0154687

Program Interest No.: 203744

Facility Address:
574 VALLEY ST
MAPLEWOOD, NJ 07040-2691

Type of Activity: Stormwater Discharge General Permit Authorization Renewal

Owner:
MAPLEWOOD TWP
574 VALLEY ST
MAPLEWOOD, NJ 07040

Operating Entity:
MAPLEWOOD TWP
574 VALLEY ST
MAPLEWOOD, NJ 07040

Issuance Date:	Effective Date:	Expiration Date:
12/08/2017	01/01/2018	12/31/2022

Your Request for Authorization under NJPDES General Permit No. NJ0141852 has been approved by the New Jersey Department of Environmental Protection.

Date: 12/08/2017

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

(Terms, conditions and provisions attached hereto)
Division of Water Quality

PART I
GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART III
Recordkeeping and Reporting

The Tier A Municipality shall keep records necessary to document, in the Annual Report and Certification, the status of compliance with the conditions of this permit. The requirement to keep records and to submit an Annual Report and Certification is found at Part IV.G of this permit.

Attachment A – Measurable Goals and Implementation Schedule for Existing Permittees

General

The following table specifies the Measurable Goals and Implementation Schedule of this Tier A MS4 NJPDES Permit for Existing Permittees. Each Measurable Goal and Implementation Schedule is associated with a permit citation and a summary of the associated Minimum Standard. The summary of Minimum Standard column represents a paraphrase of permit conditions. Actual Minimum Standards are found in Part IV of the permit.

An indication of whether the cited Minimum Standard is a new requirement is provided in the last column. Where a requirement is not new and not modified (and for some that are modified), the Existing Permittee is expected to be in compliance on the Effective Date of Permit Authorization (EDPA). For most new requirements (and for some modified requirements), additional time is provided for achieving compliance.

See below for specific Measurable Goals that shall be documented in the SPPP. **The SPPP shall be updated as required by Part IV.F.1.c, above.** The Implementation Schedule refers to the date that a Minimum Standard must be incorporated into the Tier A Municipality's stormwater program, along with any ongoing requirements. In addition to the requirements of Part IV.F.1 above, the SPPP shall identify and discuss the Minimum Standard of each Statewide Basic Requirement (Part IV.B, above) and Other Control Measures (Part IV.C, above) where the following information is required for each item:

- Describe the method of implementation;
- Include required recordkeeping;
- Include an implementation schedule, consistent with permit requirements, including interim milestones;
- Include any special diagrams required by the permit (e.g., stormwater facilities map); and
- Include inspection and maintenance schedules, as appropriate.

This table does not include Measurable Goals and an Implementation Schedule for the Notes and Definitions Part IV, Part IV.A (Permit Overview), Part IV.D (Additional Measures), IV.E (Optional Measures), IV.F (SPPP), and IV.G (Annual Report and Certification) because these are not Statewide Basic Requirements or Other Control Measures (see N.J.A.C. 7:14A-25.6). While not included in this table, Notes and Definitions Part IV, Part IV.A, D, E, F, and G are permit requirements and compliance is required.

Measurable Goals for Statewide Basic Requirements and Other Conditions of this Permit for Existing Permittees				
Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Public Involvement and Participation Including Public Notice				
Provide for public notice under the Open Public Meetings Act, statutory procedures for enactment of ordinances, and Municipal Land Use Law when providing for public participation in the development and implementation of a stormwater program, and maintain records necessary to demonstrate compliance.	IV.B.1.a & d	Certify in each annual report that all public notice requirements have been met and relevant records kept. Reference in the SPPP the location of associated municipal records.	EDPA	No
Provide the current SPPP to the public upon request.	IV.B.1.b.i	Certify in each annual report that the SPPP was made available to the public.	EDPA	No
Post the current SPPP on the municipality's website.	IV.B.1.b.ii	Certify in each annual report that the SPPP has been posted on the municipality's website (to the extent required by Part IV.F.1.f) and that the posted SPPP is current.	EDPA + 90 days	Yes
Post the current Municipal Stormwater Management Plan (MSWMP) and related ordinances on the municipality's website.	IV.B.1.b.iii	Certify in each annual report that the MSWMP and related ordinances have been posted on the municipality's website and that the posted documents are current.	EDPA + 90 days	Yes
Local Public Education and Outreach				
Implementation of a Public Education and Outreach Program by conducting activities that total a minimum of 12 points on an annual basis.	IV.B.2.a	Certify in each annual report that the minimum point value has been met and report point totals in the Annual Report. Maintain records of materials and activities from Attachment B, including dates of activities and any other relevant documentation (e.g. brochures, pictures, sign-in sheets, press clippings).	EDPA	Modified
Label storm drain inlets, maintain the legibility of those labels, and replace labels that are missing or not legible along sidewalks that are adjacent to municipal streets; and within plazas, parking areas or maintenance yards operated by the municipality.	IV.B.2.b	Certify in each annual report that storm drains have been properly labeled and/or maintained. Records tracking storm drain inlet label status shall be kept with the SPPP.	EDPA	No

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Advertise public involvement program(s) pertaining to education and outreach activities.	IV.B.2.c	Certify in each annual report that public involvement program(s) have been properly advertised on the website, through a mailing, through newspaper advertisement, or other similar means. Public advertisement records shall be kept with the SPPP.	EDPA + 12 months	Yes
Post Construction Stormwater Management in New Development and Redevelopment				
Develop, update, implement and enforce its post construction stormwater management program in new development and redevelopment to ensure compliance with the Stormwater Management rules (N.J.A.C. 7:8).	IV.B.4.a, b, c, d, e, f, g, h, i, j, l	Certify in each annual report that the Tier A Municipality has developed, and is implementing and enforcing a program to address stormwater runoff from new development and redevelopment projects. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA	No
For each structural and non-structural stormwater measure (e.g. basins), for which an application is made to the municipality after EDPA, the municipality shall complete, update, finalize and maintain a Major Development Stormwater Summary.	IV.B.4.k	Certify in each annual report that Major Development Stormwater Summaries (Attachment D) have been completed and records have been maintained by the Tier A municipality. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA	Yes
Pollution Prevention/Good Housekeeping - Community Wide Ordinances				
Adopt and enforce a pet waste ordinance. Distribute pet waste ordinance information with pet licenses.	IV.B.5.a.i	Certify in each annual report the date the ordinance was adopted, that it is being enforced and that pet waste ordinance information is distributed with pet licenses. A log of enforcement actions and information distribution dates shall be kept in the SPPP.	EDPA	No
Adopt and enforce a wildlife feeding ordinance.	IV.B.5.a.ii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No

Summary of Minimum Standard (See Part IV for specific permit requirements)	Permit Cite	Measurable Goal (See Part IV for specific permit requirements)	Implementation Schedule	New Requirement?
Adopt and enforce a litter control ordinance.	IV.B.5.a.iii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce an improper disposal of waste ordinance.	IV.B.5.a.iv	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce a containerized yard waste / yard waste collection program ordinance.	IV.B.5.a.v	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce a private storm drain inlet retrofitting ordinance	IV.B.5.a.vi	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Pollution Prevention/Good Housekeeping - Community Wide Measures				
Develop and continue to implement street sweeping measures as specified at Part IV.B.5.b.i.	IV.B.5.b.i	Certify in each annual report that a street sweeping schedule is being maintained as well as records including the date and areas swept, number of miles of streets swept, and the total amount of materials collected in wet tons. Include totals in the Annual Report and keep records in the SPPP.	EDPA	No
Develop and continue to implement catch basin and storm drain inlet inspection and cleaning measures as specified at Part IV.B.5.b.ii.	IV.B.5.b.ii	Certify in each annual report that a catch basin and storm drain inlet inspection and cleaning schedule is being maintained, and a log indicating the number of municipally owned and operated catch basins and inlets within the municipality, the number of catch basins and inlets inspected, and the number cleaned is being maintained. Maintain records documenting the amount of materials collected in wet tons during cleaning activities in the SPPP. Include totals in the Annual Report.	EDPA	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	Permit Cite	Measurable Goal (See Part IV for specific permit requirements)	Implementation Schedule	New Requirement?
Develop and continue to implement storm drain inlet retrofit measures as specified at Part IV.B.5.b.iii.	IV.B.5.b.iii	Certify in each annual report that a record of the number and location of storm drain inlets retrofitted as well as the number and location of storm drain inlets exempted is being maintained. Include totals in the Annual Report and keep records in the SPPP.	EDPA	No
Pollution Prevention/Good Housekeeping - Municipal Maintenance Yards and Other Ancillary Operations				
Implement the BMP's found in Attachment E, including the Inventory of Materials and Machinery, and Inspections and Good Housekeeping practices, at Municipal Maintenance Yards and Other Ancillary Operations.	IV.B.5.c	Certify in each annual report that the SPPP includes all applicable requirements and that the requirements (including maintenance of inspection logs and tracking forms) of Attachment E have been met. Keep records required by Attachment E in the SPPP.	EDPA	No
BMPs shall be implemented for fueling operations.	IV.B.5.c.i	Certify in each annual report that BMPs in Attachment E have been implemented for fueling operations.	EDPA	No
BMPs shall be implemented for discharge of stormwater from secondary containment.	IV.B.5.c.ii	Certify in each annual report that BMPs in Attachment E have been implemented for discharge of stormwater from secondary containment.	EDPA	No
BMPs shall be implemented for vehicle maintenance.	IV.B.5.c.iii	Certify in each annual report that BMPs in Attachment E have been implemented for vehicle maintenance.	EDPA	No
BMPs shall be implemented for on-site equipment and vehicle washing and wash wastewater containment.	IV.B.5.c.iv	Certify in each annual report that BMPs in Attachment E have been implemented for on-site equipment and vehicle washing and wash wastewater containment.	EDPA	Modified
BMPs shall be implemented for salt and de-icing material storage and handling.	IV.B.5.c.v	Certify in each annual report that BMPs in Attachment E have been implemented for salt and de-icing material storage and handling.	EDPA	No
BMPs shall be implemented for aggregate material and construction debris storage.	IV.B.5.c.vi	Certify in each annual report that BMPs in Attachment E have been implemented for aggregate material and construction debris storage.	EDPA + 12 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	Permit Cite	Measurable Goal (See Part IV for specific permit requirements)	Implementation Schedule	New Requirement?
BMPs shall be implemented for street sweepings and catch basin clean-out material storage.	IV.B.5.c.vii	Certify in each annual report that BMPs in Attachment E have been implemented for street sweepings and catch basin clean-out material storage.	EDPA + 12 months	Yes
BMPs shall be implemented for yard trimmings and wood waste management sites.	IV.B.5.c.viii	Certify in each annual report that BMPs in Attachment E have been implemented for yard trimmings and wood waste management sites.	EDPA + 12 months	Yes
BMPs shall be implemented for roadside vegetation management.	IV.B.5.c.ix	Certify in each annual report that BMPs in Attachment E have been implemented for roadside vegetation management.	EDPA + 12 months	Yes
Pollution Prevention/Good Housekeeping - Training Program				
Provide training to municipal employees within 3 months of commencement of duties, and at least once every two years thereafter, to address all required components. The exceptions are Part IV.B.5.d.v, viii, and x which require annual training instead of once every two years.	IV.B.5.d	Certify in each annual report that employee training has been conducted, and maintain records including sign in sheet(s), date(s) of training, and training agenda(s). These records shall be kept in the SPPP.	EDPA + 12 months	Modified
Ensure that individuals that review development and redevelopment projects for compliance with N.J.A.C. 7:8 on behalf of the municipality complete Department approved training once every five years.	IV.B.5.e	Certify in each annual report that individuals reviewing projects have completed the required training, and maintain a list of the names and dates that individuals received training. This list shall be kept in the SPPP.	EDPA + 12 months	Yes
Ensure that current Municipal Board and Governing Body Members that review and approve applications for development and redevelopment projects complete the "Training Tool" on or before EDPA + 6 months, and by new members within 6 months of commencement of duties. Once per term of service thereafter, Municipal Board and Governing Body Members must review at least one of the tools offered under the Post-Construction Stormwater Management website.	IV.B.5.f	Certify in each annual report that municipal board and governing body members have completed the necessary training, and maintain a list of the names and dates that individuals completed training. This list shall be kept in the SPPP.	EDPA + 6 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	Permit Cite	Measurable Goal (See Part IV for specific permit requirements)	Implementation Schedule	New Requirement?
MS4 Outfall Pipe Mapping and Illicit Discharge and Scouring Detection and Control				
Develop, update and maintain an MS4 Outfall Pipe Map showing the location of the end of all outfall pipe which discharge to a surface water body.	IV.B.6.a.i	Certify in each annual report that the outfall pipe map is current at the end of the calendar year.	EDPA	No
Show the location (and name where known) of all surface water bodies receiving discharges from those outfall pipes.	IV.B.6.a.ii	Certify in each annual report that the surface water bodies associated with each outfall pipe end is located on the map.	EDPA	No
Include Outfall Pipe map in the SPPP	IV.B.6.a.iii	Certify in each annual report following the implementation deadline that the Outfall Pipe Map is included in the SPPP.	EDPA +12 months	Yes
Provide Outfall Pipe Map to the Department	IV.B.6.a.iv	Certify in each annual report following the implementation deadline that the Outfall Pipe Map and any new data points subsequently added to the map have been provided to the Department.	EDPA +12 months	Yes
Submitted the Outfall Pipe Map information to the Department electronically by December 21, 2020	IV.B.6.a.v	Submit the Outfall Pipe Map information to the Department using Department's designated electronic submission service by December 21, 2020.	12/21/2020	Yes
Develop, update and implement a program to detect, investigate and control localized stream scouring from stormwater outfall pipes.	IV.B.6.b	Certify in each annual report that municipally owned outfall pipes have received the required visual inspection at least once every five years and maintain a log indicating the number and location of outfall pipes inspected, repairs prioritized, and repairs scheduled or performed. Certify in the annual report that a repair schedule has been prepared for those that have not been completed. Keep records required by Part IV.B.6.b in the SPPP.	EDPA + 12 months	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Develop, update, implement and enforce an ongoing Illicit Discharge Detection and Elimination Program.	IV.B.6.c	Certify in each annual report that the municipality has developed a program to detect and eliminate illicit discharges and has conducted inspections required at Part IV.B.6.c at least once every five years. Document all investigations and actions taken on the Department's Illicit Connection Inspection Report Form. Keep records required by Part IV.B.6.c in the SPPP.	EDPA	Modified
Adopt and enforce an ordinance that prohibits illicit connections to the MS4 operated by the Tier A Municipality.	IV.B.6.d	Certify in each annual report that the ordinance is being maintained and the date it was adopted. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Stormwater Facilities Maintenance				
Develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all stormwater facilities owned or operated by the Tier A Municipality.	IV.C.1.a	Certify in each annual report that the municipality has developed, updated and implemented a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned stormwater facilities. Records required by Part IV.C.1.a, a.i, a.ii, a.iii and a.iv shall be kept, or their location shall be referenced, in the SPPP.	EDPA	Modified
Inspect and maintain stormwater facilities pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of each stormwater facility.	IV.C.1.a.i	Certify in each annual report that inspections and maintenance was performed pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of stormwater facilities.	EDPA	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Maintain a log sufficient to demonstrate compliance with this section; including but not limited a list of inspections and preventative and corrective maintenance performed, and a schedule for repairs to be made.	IV.C.1.a.ii	Certify in each annual report that a maintenance log is kept that, at a minimum, records the stormwater facility inspected, location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates), name of inspector, date of inspection, findings, and any preventative and corrective maintenance performed.	EDPA	Modified
Certify annually that municipally owned or operated stormwater facilities are properly functioning.	IV.C.1.a.iii	Certify in each annual report that all municipally owned or operated stormwater facilities are properly functioning.	EDPA	No
If stormwater facilities were found not to be functioning properly and repairs not made, then necessary preventative and corrective maintenance shall be documented and prioritized and a schedule for maintenance shall be maintained.	IV.C.1.a.iv	Certify in each annual report that a prioritized schedule of necessary preventive and corrective maintenance exists for stormwater facilities inspected and found not to be functioning properly. The municipality shall prioritize this schedule as specified in Part IV.C.1.iv.	EDPA	Modified
Develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.	IV.C.1.b	Certify in each annual report that the municipality has developed, updated, implemented and enforced a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned and operated by the municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984. Records required by Part IV.C.1.b, b.i and b.ii shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Ensure that stormwater facility inspection and maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure proper function and operation of each stormwater facility.	IV.C.1.b.i	Certify in each annual report that maintenance was performed pursuant to any maintenance plans, or more frequently, to ensure proper function and operation of stormwater facilities not owned and operated by the municipality.	EDPA + 12 months	Modified
Maintain a log sufficient to demonstrate compliance with this section; including but not limited actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program.	IV.C.1.b.ii	Certify in each annual report that a log is being kept that, at a minimum, records the actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program; the stormwater facility that was the subject of the action; location information of the facility that was the subject of the action (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates); the name of person taking the action; the date of the action; and the findings.	EDPA + 12 months	Modified
Maintain copies of all maintenance plans for stormwater facilities approved by the municipality, and make them available to the Department upon request.	IV.C.1.c	Certify in each annual report that copies of all maintenance plans are kept on file. Records required by Part IV.C.1.c shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months	Yes
Total Maximum Daily Load (TMDL) Info.				
Annually review approved or adopted TMDL reports to identify stormwater related pollutants listed therein and associated with any segment of surface water wholly or partially within or bordering the Tier A Municipality.	IV.C.2.a.i	Certify in each annual report that approved or adopted TMDLs have been identified and reviewed and stormwater related pollutants identified. Records required by Part IV.C.2.a.i, a.ii and a.iii shall be kept in the SPPP.	EDPA + 12 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Use TMDL information identified in compliance with Part IV.C.2.a.i to: (1) assist in the prioritization of stormwater facility maintenance including schedules for repairs related to Stream Scouring and Stormwater Facilities Maintenance; and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	IV.C.2.a.ii	Certify in each annual report that the municipality has used information identified in compliance with Part VI.C.2.a.i to (1) assist in the prioritization of repairs as required at Part IV.B.6.b.iv (Stream Scouring) and IV.C.31.a.iv (Stormwater Facilities Maintenance); and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	EDPA + 12 months	Yes
Update SPPP to list information identified in Part VI.C.2.a.i and ii.	IV.C.2.a.iii	Certify in each annual report that the municipality has updated its SPPP to list information identified in Part VI.C.2.a.i and ii.	EDPA + 12 months	Yes
Incorporate any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure	IV.C.2.a.iv	Certify in each annual report that the municipality has incorporated any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure.	EDPA + 12 months	Yes

Attachment A-1 – Measurable Goals and Implementation Schedule for New Permittees

General

The following table specifies the Measurable Goals and Implementation Schedule of this Tier A MS4 NJPDES Permit for New Permittees. Each Measurable Goal and Implementation Schedule is associated with a permit citation and a summary of the associated Minimum Standard. The summary of Minimum Standard column represents a paraphrase of permit conditions. Actual Minimum Standards are found in Part IV of the permit.

See below for specific Measurable Goals that shall be documented in the SPPP. **The SPPP shall be created by EDP + 12 months and updated on annual basis thereafter as required by Part IV.F.** The Implementation Schedule refers to the date that a Minimum Standard must be incorporated into the Tier A Municipality's stormwater program, along with any ongoing requirements. In addition to the requirements of Part IV.F above, the SPPP shall identify and discuss the Minimum Standard of each Statewide Basic Requirement (Part IV.B, above) and Other Control Measures (Part IV.C, above) where the following information is required for each item:

- Describe the method of implementation;
- Include required recordkeeping;
- Include an implementation schedule, consistent with permit requirements, including interim milestones;
- Include any special diagrams required by the permit (e.g., stormwater facilities map); and
- Include inspection and maintenance schedules, as appropriate.

This table does not include Measurable Goals and an Implementation Schedule for the Notes and Definitions Part IV, Part IV.A (Permit Overview), Part IV.D (Additional Measures), IV.E (Optional Measures), IV.F (SPPP), and IV.G (Annual Report and Certification) because these are not Statewide Basic Requirements or Other Control Measures (see N.J.A.C. 7:14A-25.6). While not included in this table, Notes and Definitions Part IV, Part IV.A, D, E, F, and G are permit requirements and compliance is required.

Measurable Goals for Statewide Basic Requirements and Other Conditions of this Permit for New Permittees			
Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**
Public Involvement and Participation Including Public Notice			
Provide for public notice under the Open Public Meetings Act, statutory procedures for enactment of ordinances, and Municipal Land Use Law when providing for public participation in the development and implementation of a stormwater program, and maintain records necessary to demonstrate compliance.	IV.B.1.a & d	Certify in each annual report that all public notice requirements have been met and relevant records kept. Reference in the SPPP the location of associated municipal records.	EDPA
Provide the current SPPP to the public upon request.	IV.B.1.b.i	Certify in each annual report that the SPPP was made available to the public.	EDPA + 12 months
Post the current SPPP on the municipality's website.	IV.B.1.b.ii	Certify in each annual report that the SPPP has been posted on the municipality's website (to the extent required by Part IV.F.1.f) and that the posted SPPP is current.	EDPA + 12 months)
Post the current Municipal Stormwater Management Plan (MSWMP) and related ordinances on the municipality's website.	IV.B.1.b.iii	Certify in each annual report that the MSWMP and related ordinances have been posted on the municipality's website and that the posted documents are current.	EDPA + 90 days
Local Public Education and Outreach			
Implementation of a Public Education and Outreach Program by conducting activities that total a minimum of 12 points on an annual basis.	IV.B.2.a	Certify in each annual report that the minimum point value has been met and report point totals in the Annual Report. Maintain records of materials and activities from Attachment B, including dates of activities and any other relevant documentation (e.g. brochures, pictures, sign-in sheets, press clippings).	EDPA

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**
Label storm drain inlets, maintain the legibility of those labels, and replace labels that are missing or not legible along sidewalks that are adjacent to municipal streets; and within plazas, parking areas or maintenance yards operated by the municipality.	IV.B.2.b	Certify in each annual report that storm drains have been properly labeled and/or maintained. Records tracking storm drain inlet label status shall be kept with the SPPP.	EDPA
Advertise public involvement program(s) pertaining to education and outreach activities.	IV.B.2.c	Certify in each annual report that public involvement program(s) have been properly advertised on the website, through a mailing, through newspaper advertisement, or other similar means. Public advertisement records shall be kept with the SPPP.	EDPA + 12 months
Post Construction Stormwater Management in New Development and Redevelopment			
Develop, update, implement and enforce its post construction stormwater management program in new development and redevelopment to ensure compliance with the Stormwater Management rules (N.J.A.C. 7:8).	IV.B.4.a, b, c, d, e, f, g, h, i, j, l	Certify in each annual report that the Tier A Municipality has developed, and is implementing and enforcing a program to address stormwater runoff from new development and redevelopment projects. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA
For each structural and non-structural stormwater measure (basins), for which an application is made to the municipality after EDPA, the municipality shall complete, update, finalize and maintain a Major Development Stormwater Summary.	IV.B.4.k	Certify in each annual report that Major Development Stormwater Summaries (Attachment D) have been completed and records have been maintained by the Tier A municipality. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA

Pollution Prevention/Good Housekeeping - Community Wide Ordinances			
Adopt and enforce a pet waste ordinance. Distribute pet waste ordinance information with pet licenses.	IV.B.5.a.i	Certify in each annual report the date the ordinance was adopted, that it is being enforced and that pet waste ordinance information is distributed with pet licenses. A log of enforcement actions and information distribution dates shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a wildlife feeding ordinance.	IV.B.5.a.ii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a litter control ordinance.	IV.B.5.a.iii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce an improper disposal of waste ordinance.	IV.B.5.a.iv	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a containerized yard waste / yard waste collection program ordinance.	IV.B.5.a.v	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a private storm drain inlet retrofitting ordinance	IV.B.5.a.vi	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Pollution Prevention/Good Housekeeping - Community Wide Measures			
Develop and continue to implement street sweeping measures as specified at Part IV.B.5.b.i.	IV.B.5.b.i	Certify in each annual report that a street sweeping schedule is being maintained as well as records including the date and areas swept, number of miles of streets swept, and the total amount of materials collected in wet tons. Include totals in the Annual Report and keep records in the SPPP.	EDPA + 24 months

Develop and continue to implement catch basin and storm drain inlet inspection and cleaning measures as specified at Part IV.B.5.b.ii.	IV.B.5.b.ii	Certify in each annual report that a catch basin and storm drain inlet inspection and cleaning schedule is being maintained, and a log indicating the number of municipally owned and operated catch basins and inlets within the municipality, the number of catch basins and inlets inspected, and the number cleaned is being maintained. Maintain records documenting the amount of materials collected in wet tons during cleaning activities in the SPPP. Include totals in the Annual Report.	EDPA + 24 months
Develop and continue to implement storm drain inlet retrofit measures as specified at Part IV.B.5.b.iii.	IV.B.5.b.iii	Certify in each annual report that a record of the number and location of storm drain inlets retrofitted as well as the number and location of storm drain inlets exempted is being maintained. Include totals in the Annual Report and keep records in the SPPP.	EDPA + 12 months
Pollution Prevention/Good Housekeeping - Municipal Maintenance Yards and Other Ancillary Operations			
Implement the BMP's found in Attachment E, including the Inventory of Materials and Machinery, and Inspections and Good Housekeeping practices, at Municipal Maintenance Yards and Other Ancillary Operations.	IV.B.5.c	Certify in each annual report that the SPPP includes all applicable requirements and that the requirements (including maintenance of inspection logs and tracking forms) of Attachment E have been met. Keep records required by Attachment E in the SPPP.	EDPA + 12 months
BMPs shall be implemented for fueling operations.	IV.B.5.c.i	Certify in each annual report that BMPs in Attachment E have been implemented for fueling operations.	EDPA + 12 months
BMPs shall be implemented for discharge of stormwater from secondary containment.	IV.B.5.c.ii	Certify in each annual report that BMPs in Attachment E have been implemented for discharge of stormwater from secondary containment.	EDPA + 12 months
BMPs shall be implemented for vehicle maintenance.	IV.B.5.c.iii	Certify in each annual report that BMPs in Attachment E have been implemented for vehicle maintenance.	EDPA + 12 months

BMPs shall be implemented for on-site equipment and vehicle washing and wash wastewater containment.	IV.B.5.c.iv	Certify in each annual report that BMPs in Attachment E have been implemented for on-site equipment and vehicle washing and wash wastewater containment.	EDPA + 60 months
BMPs shall be implemented for salt and de-icing material storage and handling.	IV.B.5.c.v	Certify in each annual report that BMPs in Attachment E have been implemented for salt and de-icing material storage and handling.	EDPA + 60 months
BMPs shall be implemented for aggregate material and construction debris storage.	IV.B.5.c.vi	Certify in each annual report that BMPs in Attachment E have been implemented for aggregate material and construction debris storage.	EDPA + 18 months
BMPs shall be implemented for street sweepings and catch basin clean-out material storage.	IV.B.5.c.vii	Certify in each annual report that BMPs in Attachment E have been implemented for street sweepings and catch basin clean-out material storage.	EDPA + 18 months
BMPs shall be implemented for yard trimmings and wood waste management sites.	IV.B.5.c.viii	Certify in each annual report that BMPs in Attachment E have been implemented for yard trimmings and wood waste management sites.	EDPA + 18 months
BMPs shall be implemented for roadside vegetation management.	IV.B.5.c.ix	Certify in each annual report that BMPs in Attachment E have been implemented for roadside vegetation management.	EDPA + 18 months
Pollution Prevention/Good Housekeeping - Training Program			
Provide training to municipal employees within 3 months of commencement of duties, and at least once every two years thereafter, to address all required components. The exceptions are Part IV.B.5.d.v, viii, and x which require annual training instead of once every two years.	IV.B.5.d	Certify in each annual report that employee training has been conducted, and maintain records including sign in sheet(s), date(s) of training, and training agenda(s). These records shall be kept in the SPPP.	EDPA + 12 months
Ensure that individuals that review development and redevelopment projects for compliance with N.J.A.C. 7:8 on behalf of the municipality complete Department approved training once every five years.	IV.B.5.e	Certify in each annual report that individuals reviewing projects have completed the required training, and maintain a list of the names and dates that individuals received training. This list shall be kept in the SPPP.	EDPA + 12 months

Ensure that current Municipal Board and Governing Body Members that review and approve applications for development and redevelopment projects complete the "Training Tool" on or before EDPA + 6 months, and by new members within 6 months of commencement of duties. Once per term of service thereafter, Municipal Board and Governing Body Members must review at least one of the tools offered under the Post-Construction Stormwater Management website.	IV.B.5.f	Certify in each annual report that municipal board and governing body members have completed the necessary training, and maintain a list of the names and dates that individuals completed training. This list shall be kept in the SPPP.	EDPA + 6 months
MS4 Outfall Pipe Mapping and Illicit Discharge and Scouring Detection and Control			
Develop, update and maintain an MS4 Outfall Pipe Map showing the location of the end of all outfall pipe which discharge to a surface water body.	IV.B.6.a.i	Certify in each annual report following the implementation deadline that the outfall pipe map is current at the end of the calendar year.	EDPA + 36 months
Show the location (and name where known) of all surface water bodies receiving discharges from those outfall pipes.	IV.B.6.a.ii	Certify in each annual report following the implementation deadline that the surface water bodies associated with each outfall pipe end is located on the map.	EDPA + 36 months
Include Outfall Pipe map in the SPPP	IV.B.6.a.iii	Certify in each annual report following the implementation deadline that the Outfall Pipe Map is included in the SPPP.	EDPA + 36 months
Provide Outfall Pipe Map to the Department	IV.B.6.a.iv	Certify in each annual report following the implementation deadline that the Outfall Pipe Map and any new data points subsequently added to the map have been provided to the Department.	EDPA + 36 months
Submitted the Outfall Pipe Map information to the Department electronically by December 21, 2020	IV.B.6.a.v	Submit the Outfall Pipe Map information to the Department using Department's designated electronic submission service by December 21, 2020.	12/21/2020

Develop, update and implement a program to detect, investigate and control localized stream scouring from stormwater outfall pipes.	IV.B.6.b	Certify in each annual report that municipally owned outfall pipes have received the required visual inspection at least once every five years and maintain a log indicating the number and location of outfall pipes inspected, repairs prioritized, and repairs scheduled or performed. Certify in the annual report that a repair schedule has been prepared for those that have not been completed. Keep records required by Part IV.B.6.b in the SPPP.	EDPA + 60 months
Develop, update, implement and enforce an ongoing Illicit Discharge Detection and Elimination Program.	IV.B.6.c	Certify in each annual report that the municipality has developed a program to detect and eliminate illicit discharges and has conducted inspections required at Part IV.B.6.c at least once every five years. Document all investigations and actions taken on the Department's Illicit Connection Inspection Report Form. Keep records required by Part IV.B.6.c in the SPPP.	EDPA + 60 months
Adopt and enforce an ordinance that prohibits illicit connections to the MS4 operated by the Tier A Municipality.	IV.B.6.d	Certify in each annual report that the ordinance is being maintained and the date it was adopted. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Stormwater Facilities Maintenance			
Develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all stormwater facilities owned or operated by the Tier A Municipality.	IV.C.1.a	Certify in each annual report that the municipality has developed, updated and implemented a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned stormwater facilities. Records required by Part IV.C.1.a, a.i, a.ii, a.iii and a.iv shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 18 months

Inspect and maintain stormwater facilities pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of each stormwater facility.	IV.C.1.a.i	Certify in each annual report that inspections and maintenance was performed pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of stormwater facilities.	EDPA + 18 months
Maintain a log sufficient to demonstrate compliance with this section; including but not limited a list of inspections and preventative and corrective maintenance performed, and a schedule for repairs to be made.	IV.C.1.a.ii	Certify in each annual report that a maintenance log is kept that, at a minimum, records the stormwater facility inspected, location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates), name of inspector, date of inspection, findings, and any preventative and corrective maintenance performed.	EDPA + 18 months
Certify annually that municipally owned or operated stormwater facilities are properly functioning.	IV.C.1.a.iii	Certify in each annual report that all municipally owned or operated stormwater facilities are properly functioning.	EDPA + 18 months
If stormwater facilities were found not to be functioning properly and repairs not made, then necessary preventative and corrective maintenance shall be documented and prioritized and a schedule for maintenance shall be maintained.	IV.C.1.a.iv	Certify in each annual report that a prioritized schedule of necessary preventive and corrective maintenance exists for stormwater facilities inspected and found not to be functioning properly. The municipality shall prioritize this schedule as specified in Part IV.C.1.iv.	EDPA + 18 months
Develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.	IV.C.1.b	Certify in each annual report that the municipality has developed, updated, implemented and enforced a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned and operated by the municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984. Records required by Part IV.C.1.b, b.i and b.ii shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 18 months

Ensure that stormwater facility inspection and maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure proper function and operation of each stormwater facility.	IV.C.1.b.i	Certify in each annual report that maintenance was performed pursuant to any maintenance plans, or more frequently, to ensure proper function and operation of stormwater facilities not owned and operated by the municipality.	EDPA + 18 months
Maintain a log sufficient to demonstrate compliance with this section; including but not limited actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program.	IV.C.1.b.ii	Certify in each annual report that a log is being kept that, at a minimum, records the actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program; the stormwater facility that was the subject of the action; location information of the facility that was the subject of the action (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates); the name of person taking the action; the date of the action; and the findings.	EDPA + 18 months
Maintain copies of all maintenance plans for stormwater facilities approved by the municipality, and make them available to the Department upon request.	IV.C.1.c	Certify in each annual report that copies of all maintenance plans are kept on file. Records required by Part IV.C.1.c shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months
Total Maximum Daily Load (TMDL) Info.			
Annually review approved or adopted TMDL reports to identify stormwater related pollutants listed therein and associated with any segment of surface water wholly or partially within or bordering the Tier A Municipality.	IV.C.2.a.i	Certify in each annual report that approved or adopted TMDLs have been identified and reviewed and stormwater related pollutants identified. Records required by Part IV.C.2.a.i, a.ii and a.iii shall be kept in the SPPP.	EDPA + 12 months

Use TMDL information identified in compliance with Part IV.C.2.a.i to: (1) assist in the prioritization of stormwater facility maintenance including schedules for repairs related to Stream Scouring and Stormwater Facilities Maintenance; and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	IV.C.2.a.ii	Certify in each annual report that the municipality has used information identified in compliance with Part VI.C.2.a.i to (1) assist in the prioritization of repairs as required at Part IV.B.6.b.iv (Stream Scouring) and IV.C.31.a.iv (Stormwater Facilities Maintenance); and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	EDPA + 12 months
Update SPPP to list information identified in Part VI.C.2.a.i and ii.	IV.C.2.a.iii	Certify in each annual report that the municipality has updated its SPPP to list information identified in Part VI.C.2.a.i and ii.	EDPA + 12 months
Incorporate any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure	IV.C.2.a.iv	Certify in each annual report that the municipality has incorporated any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure.	EDPA + 12 months

Attachment B – Points System for Public Education and Outreach Activities

The Tier A Municipality shall implement a Public Education and Outreach Program that focuses on educational and pollution prevention activities about the impacts of stormwater discharges on surface water and groundwater and to involve the public in reducing pollutants in stormwater runoff and mitigating flow.

The Tier A Municipality shall **annually** conduct educational activities that total at least **12 points** and include activities from at least three of the five categories found below. At a minimum, at least one of the activities shall involve educating businesses and the general public of hazards associated with illicit connections and improper disposal of waste. Each approved activity is listed below with an assigned point value. Additional information on how to conduct these Public Education and Outreach activities can be found under Notes and Definitions Part IV.A.3 and 4 of this Tier A MS4 NJPDES permit. Records shall be kept necessary to demonstrate compliance with this requirement, including date of activities and any other relevant documentation.

Category 1: General Public Outreach		
Activity	**Description**	**Points**
Website and Social Media	Maintain a stormwater related page on the municipal website or on a municipal social media site. The web page may include links to other stormwater related resources, including the NJDEP stormwater website (www.njstormwater.org).	1
Newspaper Ad	Use Department created and approved stormwater education materials available on www.cleanwaternj.org to publish an ad in a newspaper or newsletter that serves the municipality.	1
Radio/Television	Broadcast a radio or television public service announcement from www.cleanwaternj.org on a local radio or municipal public service channel.	1
Green Infrastructure Signage	Post signs at municipally-owned green infrastructure sites that describe the function and importance of the infrastructure, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*
Billboard/Sign	Produce and maintain (for credit in subsequent years) a billboard or sign which can be displayed on a bus, bus stop shelter, recreation field (outfield sign), or other similar public venue.	2
Mural	Produce and maintain (for credit in subsequent years) the planning and painting of a stormwater pollution themed mural, storm drain art or other artwork at a local downtown/commercial area or other similar public venue.	2
Stormwater Facility Signage	Post signs at municipally-owned stormwater management basins or other structural stormwater related facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*

Category 2: Targeted Audiences Outreach		
Activity	**Description**	**Points**
Stormwater Display	Present a stormwater related display or materials at any municipal event (e.g., Earth Day, town picnic), at the municipal building or other similar public venue.	1
Promotional Item	Distribute an item or items with a stormwater related message (e.g., refrigerator magnets, temporary tattoos, key chains, bookmarks, pet waste bag dispensers, coloring books, and pens or pencils). Municipality must initially have available a minimum number of the items equal to 10% of the municipal population.	2
Mailing or e-Mailing Campaign	Provide information to all known owners of stormwater facilities not owned or operated by the municipality (i.e., privately owned) highlighting the importance of proper maintenance of stormwater measures. For assistance, see information at www.nj.gov/dep/stormwater/maintenance_guidance.htm.	3
Mailing or e-Mailing Campaign	Distribute any of the Department's educational brochures, tip cards, or a municipally produced equivalent (e.g., community calendar, newsletter, or recycling schedule) via a mailing to every resident and business in the municipality.	2
Ordinance Education	Distribute a letter or e-mail from the mayor or municipal official to every resident and business in the municipality highlighting the requirements and environmental benefits of the Pet Waste, Wildlife Feeding, Litter Control, Improper Disposal of Waste, Containerized Waste/Yard Waste Collection, Private Storm Drain Inlet Retrofitting and Illicit Connection ordinances. Provide a link to the municipal website where subject ordinances are posted.	3

Category 3: School / Youth Education and Activities		
Activity	**Description**	**Points**
School Presentations	Provide water-related educational presentation(s) and/or activities to local preschool, elementary, middle, and/or high school classes using municipal staff or local partner organizations. Topics could include stormwater, nonpoint source pollution, watersheds, water conservation and water quality. For ideas, see information at www.nj.gov/dep/seeds. *Presentations receive 1 credit per presentation, with a maximum of 5 credits allowed.	5*
Water Education Workshops	Provide water-related professional development workshops for local teachers from a registered NJ Department of Education Professional Development Provider.	2
Storm Drain Labeling	Organize a project to label and/or maintain storm drain labels (that are not already precast with a message) with a scout troop, local school district, or faith based group, or other community youth group for a minimum of 40 labels. This project could also include stenciling over precast labels to improve legibility.	3
Educational Contest for Schools	Organize an educational contest with a local school district or a local community organization serving youth to design a poster, magnet, rain stick, rain barrel or other craft/art object. Contest themes shall have an appropriate stormwater message. Winning entries are to be displayed at publicly accessible locations within the municipality such as at the town hall, library, post office, or school. The winning design should be shown on the municipality's website or social media site, if practical.	3
AmeriCorps Event	Coordinate an event (e.g. volunteer stream monitoring, educational presentations, or stormwater awareness project) through AmeriCorps NJ Watershed Ambassador Program	4
Clean-up	Sponsor or organize a litter clean up for a scout troop, local school district, faith based group or other community youth group along a local waterway, public park, stormwater facility, or in an area with storm drains that discharge to a local lake or waterway.	3

Category 4: Watershed/Regional Collaboration		
Activity	**Description**	**Points**
Regional Stormwater Collaboration	Participate in a regional stormwater, community collaborative or other watershed-based group on a regular basis to discuss impaired waterbodies, TMDLs, regional stormwater related issues, or watershed restoration plans that address those waterbodies. Evaluate, develop and implement remedies that resolve stormwater-related issues within the affected waterbody or watershed.	3
Green Infrastructure Workshop	Organize or participate in a rain barrel, rain garden or other green infrastructure workshop on a regional or watershed basis. This could be a partnership exercise with a local watershed organization, utility, university, school, youth/faith based group, and/or other organization.	3
Community Activity	Organize or participate in the organization of a regional or watershed based event to carry out stormwater activities such as stormwater facility maintenance or litter clean-up. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, utility, university, school, youth/faith based group, and/or other organization to carry out these activities.	3

Category 5: Community Involvement Activities		
Activity	**Description**	**Points**
Volunteer Stormwater Assessment or Stream Monitoring	Establish a volunteer stormwater facility assessment (inspection, inventory and/or mapping) or stream monitoring program for a waterbody within the municipality in order to gauge the health of the waterway through chemical, biological or visual monitoring protocols. Contact NJDEP's AmeriCorps NJ Watershed Ambassador Program or review USEPA National Directory of Volunteer Monitoring Programs.	3
Rain Barrel Workshop	Organize or participate in a rain barrel workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Rain Garden Workshop	Organize or participate in a rain garden training or installation workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Community Event	Organize or participate in the organization of a community event to carry out stormwater activities such as stormwater measure maintenance or a stream buffer restoration. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, university, utility, school, youth/faith based group, and/or other nonprofit to carry out these activities.	3
Community Involvement	Organize a project with a local organization to create and post signs at either green and/or gray stormwater infrastructure sites or facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *Signs receive 0.5 credits per sign. A maximum of 5 credits are allowed.	5*

Attachment C - Design Standards for Storm Drain Inlets

Application of Design Standard

The below design standard applies to the following types of storm drain inlet installation or retrofit projects unless a more stringent standard is specified by the municipality's stormwater control ordinance:

- Storm drain inlets installed as part of new development and redevelopment (public or private) that disturb one acre or more;
    - Storm drain inlets installed as part of new development and redevelopment (public or private) that disturb less than one acre that are part of a larger common plan of development or sale (e.g. phased residential development) that ultimately disturbs one acre or more;
- Tier A Municipality owned or operated storm drain inlets must be retrofitted where the storm drains are (1) in direct contact with any repaving, repairing (excluding individual pothole repair), or resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); or (2) in direct contact with any reconstruction or alteration of facilities; and
- Privately owned or operated storm drain inlets (e.g. condomium association) must be retrofitted where the storm drains are (1) in direct contact with anyrepaving, repairing (excluding individual pothole repair), or resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); or (2) in direct contact with any reconstruction or alteration of facilities. This does not include single family homes.

Design Standard

Grates in pavement or other ground surfaces shall meet either of the following standards:

- The New Jersey Department of Transportation (NJDOT) bicycle safe grate standards described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (see www.nj.gov/transportation/publicat/pdf/BikeComp/introtofac.pdf); or
- A grate where each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is not greater than 0.5 inches across the smallest dimension. Note that the Residential Site Improvement Standards at N.J.A.C. 5:21include requirements for bicycle safe grates.

Examples of grates subject to this standard include grates in grate inlets; the grate portion (non-curb opening portion) of combination inlets; grates on storm sewer manholes; ditch grates; trench grates; and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads, (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors used to collect stormwater from the surface into a storm drain or surface water body.

For curb-openings inlets, including curb-opening inlets in combination inlets, the clear space in the curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches or be no greater than two (2.0) inches across the smallest dimension.

Exemptions from the Design Standard

- Where each individual clear space in the curb opening in existing curb-opening inlets does not have an area of more than nine (9.0) square inches;
- Where the review agency determines that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;
- Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

  A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or

  A bar screen having a bar spacing of 0.5 inches;

  Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

- Where flows are conveyed through a trash rack that has parallel bars with one inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8; or
- Where the Department determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet the standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

Attachment D – Major Development Stormwater Summary

General Information
1. Project Name:
2. Municipality: County: Block(s): Lot(s):
3. Site Location (State Plane Coordinates – NAD83): E: N:
4. Date of Final Approval for Construction by Municipality: Date of Certificate of Occupancy:
5. Project Type (circle all that apply): Residential Commercial Industrial Other (please specify) _____
6. Soil Conservation District Project Number:
7. Did project require NJDEP Land Use Permit? Yes No Land Use Permit #:
8. Did project require the use of any mitigation measures? Yes No If yes, which standard was mitigated?

Site Design Specifications
1. Area of Disturbance (acres): Area of Proposed Impervious (acres):
2. List all Hydrologic Soil Groups:
3. Please Identify the Amount of Each Best Management Practices (BMPs) Utilized in Design Below: Bioretention Systems ___ Constructed Wetlands ___ Dry Wells ___ Extended Detention Basins ___ Infiltration Basins ___ Combination Infiltration/Detention Basins ___ Manufactured Treatment Devices___ Pervious Paving Systems ___ Sand Filters ___ Vegetative Filter Strips ___ Wet Ponds ___ Grass Swales ___ Subsurface Gravel Wetlands ___ Other _____

Storm Event Information
Storm Event: Rainfall (inches and duration) 2 yr.: _____ 10 yr.: _____ 100 yr.: _____ WQ DS: _____
ıoff Computation Method (circle one): NRCS: Dimensionless Unit Hydrograph NRCS: Delmarva Unit Hydrograph Rational Modified Rational Other: _____

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
1. Type of Basin: Surface/Subsurface (circle one)
2. Owner (circle one): Public Private: If so, Name: Phone number:
3. Basin Construction Completion Date:
4. Drain Down Time (hr.):
5. Design Soil Permeability (in./hr.):
6. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
7. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
8. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
9. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Comments: _____

_____

_____

ıe of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
10. Type of Basin: Surface/Subsurface (circle one)
11. Owner (circle one): Public Private: If so, Name: Phone number:
12. Basin Construction Completion Date:
13. Drain Down Time (hr.):
14. Design Soil Permeability (in./hr.):
15. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
16. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
17. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
18. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
19. Type of Basin: Surface/Subsurface (circle one)
20. Owner (circle one): Public Private: If so, Name: Phone number:
21. Basin Construction Completion Date:
22. Drain Down Time (hr.):
23. Design Soil Permeability (in./hr.):
24. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
25. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
26. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
27. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
28. Type of Basin: Surface/Subsurface (circle one)
29. Owner (circle one): Public Private: If so, Name: Phone number:
30. Basin Construction Completion Date:
31. Drain Down Time (hr.):
32. Design Soil Permeability (in./hr.):
33. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
34. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
35. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
36. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

ıe of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

Attachment E – Best Management Practices for Municipal Maintenance Yards and Other Ancillary Operations

The Tier A Municipality shall implement the following practices at municipal maintenance yards and other ancillary operations owned or operated by the municipality. Inventory of Materials and Machinery, and Inspections and Good Housekeeping shall be conducted at all municipal maintenance yards and other ancillary operations. All other Best Management Practices shall be conducted whenever activities described below occur. Ancillary operations include but are not limited to impound yards, permanent and mobile fueling locations, and yard trimmings and wood waste management sites.

Inventory of Materials and Machinery

The SPPP shall include a list of all materials and machinery located at municipal maintenance yards and ancillary operations which could be a source of pollutants in a stormwater discharge. The materials in question include, but are not limited to: raw materials; intermediate products; final products; waste materials; by-products; machinery and fuels; and lubricants, solvents, and detergents that are related to the municipal maintenance yard operations and ancillary operations. Materials or machinery that are not exposed to stormwater at the municipal maintenance yard or related to its operations do not need to be included.

Inspections and Good Housekeeping

1. Inspect the entire site, including the site periphery, monthly (under both dry and wet conditions, when possible). Identify conditions that would contribute to stormwater contamination, illicit discharges or negative impacts to the Tier A Municipality's MS4. Maintain an inspection log detailing conditions requiring attention and remedial actions taken for all activities occurring at Municipal Maintenance Yards and Other Ancillary Operations. This log must contain, at a minimum, a record of inspections of all operations listed in Part IV.B.5.c. of this permit including dates and times of the inspections, and the name of the person conducting the inspection and relevant findings. This log must be kept on-site with the SPPP and made available to the Department upon request. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for additional information.

2. Conduct cleanups of spills of liquids or dry materials immediately after discovery. All spills shall be cleaned using dry cleaning methods only. Clean up spills with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and sweep the rest of the area. Dispose of collected waste properly. Store clean-up materials, spill kits and drip pans near all liquid transfer areas, protected from rainfall.

3. Properly label all containers. Labels shall be legible, clean and visible. Keep containers in good condition, protected from damage and spillage, and tightly closed when not in use. When practical, store containers indoors. If indoor storage is not practical, containers may be stored outside if covered and placed on spill platforms or clean pallets. An area that is graded and/or bermed to prevent run-through of stormwater may be used in place of spill platforms or clean pallets. Outdoor storage locations shall be regularly maintained.

Fueling Operations

1. Establish, maintain and implement standard operating procedures to address vehicle fueling; receipt of bulk fuel deliveries; and inspection and maintenance of storage tanks, including the associated piping and fuel pumps.

   a. Place drip pans under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.

   b. Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms or booms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel shall be within the temporarily bermed or boomed area during the loading/unloading of bulk fuels. A trained employee shall be present to supervise the bulk transfer of fuel.

   c. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment. Include all of the following:
      - "Topping off of vehicles, mobile fuel tanks, and storage tanks is strictly prohibited"
      - "Stay in view of fueling nozzle during dispensing"
      - Contact information for the person(s) responsible for spill response.

   d. Immediately repair or replace any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair.

Discharge of Stormwater from Secondary Containment

The discharge pipe/outfall from a secondary containment area (e.g. fuel storage, de-icing solution storage, brine solution) shall have a valve and the valve shall remain closed at all times except as described below. A municipality may discharge stormwater accumulated in a secondary containment area if a visual inspection is performed to ensure that the contents of aboveground storage tank have not come in contact with the stormwater to be discharged. Visual inspections are only effective when dealing with materials that can be observed, like petroleum. If the contents of the tank are not visible in stormwater, the municipality shall rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the municipality cannot make a determination with reasonable certainty that the stormwater in the secondary containment area is uncontaminated by the contents of the tank, then the stormwater shall be hauled for proper disposal.

Vehicle Maintenance

1. Operate and maintain equipment to prevent the exposure of pollutants to stormwater.

2. Whenever possible, conduct vehicle and equipment maintenance activities indoors. For projects that must be conducted outdoors, and that last more than one day, portable tents or covers shall be placed over the equipment being serviced when not being worked on, and drip pans shall be used at all times. Use designated areas away from storm drains or block storm drain inlets when vehicle and equipment maintenance is being conducted outdoors.

On-Site Equipment and Vehicle Washing and Wash Wastewater Containment

1. Manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to storm sewer inlets or to waters of the State.

2. Tier A Municipalities which cannot discharge wash wastewater to a sanitary sewer or which cannot otherwise comply with 1, above, may temporarily contain wash wastewater prior to proper disposal under the following conditions:

   a. Containment structures shall not leak. Any underground tanks and associated piping shall be tested for integrity every 3 years using appropriate methods determined by "*The List of Leak Detection Evaluations for Storage Tank Systems*" created by the National Work Group on Leak Detection Evaluations (NWGLDE) or as determined appropriate and certified by a professional engineer for the site specific containment structure(s).

   b. For any cathodically protected containment system, provide a passing cathodic protection survey every three years.

   c. Operate containment structures to prevent overfilling resulting from normal or abnormal operations, overfilling, malfunctions of equipment, and human error. Overfill prevention shall include manual sticking/gauging of the tank before each use unless system design prevents such measurement. Tank shall no longer accept wash wastewater when determined to be at 95% capacity. Record each measurement to the nearest ½ inch.

   d. Before each use, perform inspections of all visible portions of containment structures to ensure that they are structurally sound, and to detect deterioration of the wash pad, catch basin, sump, tank, piping, risers, walls, floors, joints, seams, pumps and pipe connections or other containment devices. The wash pad, catch basin, sump and associated drains should be kept free of debris before each use. Log dates of inspection; inspector's name, and conditions. This inspection is not required if system design prevents such inspection.

   e. Containment structures shall be emptied and taken out of service immediately upon detection of a leak. Complete all necessary repairs to ensure structural integrity prior to placing the containment structure back into service. Any spills or suspected release of hazardous substances shall be immediately reported to the NJDEP Hotline (1-877-927-6337) followed by a site investigation in accordance with N.J.A.C. 7:26C and N.J.A.C 7:26E if the discharge is confirmed.

   f. All equipment and vehicle wash wastewater placed into storage must be disposed of in a legally permitted manner (e.g. pumped out and delivered to a duly permitted and/or approved wastewater treatment facility).

   g. Maintain a log of equipment and vehicle wash wastewater containment structure clean-outs including date and method of removal, mode of transportation (including name of hauler if applicable) and the location of disposal. See Underground Vehicle Wash Water Storage Tank Use Log at end of this attachment.

   h. Containment structures shall be inspected annually by a NJ licensed professional engineer. The engineer shall certify the condition of all structures including: wash pad, catch basin,

sump, tank, piping, risers to detect deterioration in the, walls, floors, joints, seams, pumps and pipe connections or other containment devices using the attached Engineer's Certification of Annual Inspection of Equipment and Vehicle Wash Wastewater Containment Structure. This certification may be waived for self-contained systems on a case-by-case basis. Any such waiver would be issued in writing by the Department.

3. Maintain all logs, inspection records, and certifications on-site. Such records shall be made available to the Department upon request.

Salt and De-icing Material Storage and Handling

1. Store material in a permanent structure.
2. Perform regular inspections and maintenance of storage structure and surrounding area.
3. Minimize tracking of material from loading and unloading operations.
4. During loading and unloading:
   a. Conduct during dry weather, if possible;
   b. Prevent and/or minimize spillage; and
   c. Minimize loader travel distance between storage area and spreading vehicle.
5. Sweep (or clean using other dry cleaning methods):
   a. Storage areas on a regular basis;
   b. Material tracked away from storage areas;
   c. Immediately after loading and unloading is complete.
6. Reuse or properly discard materials collected during cleanup.
7. Temporary outdoor storage is permitted only under the following conditions:
   a. A permanent structure is under construction, repair or replacement;
   b. Stormwater run-on and de-icing material run-off is minimized;
   c. Materials in temporary storage are tarped when not in use;
   d. The requirements of 2 through 6, above are met; and
   e. Temporary outdoor storage shall not exceed 30 days unless otherwise approved in writing by the Department;
8. Sand must be stored in accordance with Aggregate Material and Construction Debris Storage below.

Aggregate Material and Construction Debris Storage

1. Store materials such as sand, gravel, stone, top soil, road millings, waste concrete, asphalt, brick, block and asphalt based roofing scrap and processed aggregate in such a manner as to minimize stormwater run-on and aggregate run-off via surface grading, dikes and/or berms (which may include sand bags, hay bales and curbing, among others) or three sided storage bays. Where possible the open side of storage bays shall be situated on the upslope. The area in front of storage bays and adjacent to storage areas shall be swept clean after loading/unloading.

2. Sand, top soil, road millings and processed aggregate may only be stored outside and uncovered if in compliance with item 1 above and a 50-foot setback is maintained from surface water bodies, storm sewer inlets, and/or ditches or other stormwater conveyance channels.

3. Road millings must be managed in conformance with the "Recycled Asphalt Pavement and Asphalt Millings (RAP) Reuse Guidance" (see www.nj.gov/dep/dshw/rrtp/asphaltguidance.pdf) or properly disposed of as solid waste pursuant to N.J.A.C. 7:26-1 et seq.

4. The stockpiling of materials and construction of storage bays on certain land (including but not limited to coastal areas, wetlands and floodplains) may be subject to regulation by the Division of Land Use Regulation (see www.nj.gov/dep/landuse/ for more information).

Street Sweepings, Catch Basin Clean Out, and Other Material Storage

1. For the purposes of this permit, this BMP is intended for road cleanup materials as well as other similar materials. Road cleanup materials may include but are not limited to street sweepings, storm sewer clean out materials, stormwater basin clean out materials and other similar materials that may be collected during road cleanup operations. These BMPs do not cover materials such as liquids, wastes which are removed from municipal sanitary sewer systems or material which constitutes hazardous waste in accordance with N.J.A.C. 7:26G-1.1 et seq.

2. Road cleanup materials must be ultimately disposed of in accordance with N.J.A.C. 7:26-1.1 et seq. See the "Guidance Document for the Management of Street Sweepings and Other Road Cleanup Materials" (www.nj.gov/dep/dshw/rrtp/sweeping.htm).

3. Road cleanup materials placed into storage must be, at a minimum:

   a. Stored in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter; and

   b. Removed for disposal (in accordance with 2, above) within six (6) months of placement into storage.

Yard Trimmings and Wood Waste Management Sites

1. These practices are applicable to any yard trimmings or wood waste management site:
   a. Owned and operated by the Tier A Municipality;
      i. For staging, storing, composting or otherwise managing yard trimmings, or
      ii. For staging, storing or otherwise managing wood waste, and
   b. Operated in compliance with the Recycling Rules found at N.J.A.C. 7:26A.
2. Yard trimmings or wood waste management sites must be operated in a manner that:
   a. Diverts stormwater away from yard trimmings and wood waste management operations; and
   b. Minimizes or eliminates the exposure of yard trimmings, wood waste and related materials to stormwater.
3. Yard trimmings and wood waste management site specific practices:
   a. Construct windrows, staging and storage piles:
      i. In such a manner that materials contained in the windrows, staging and storage piles (processed and unprocessed) do not enter waterways of the State;
      ii. On ground which is not susceptible to seasonal flooding;
      iii. In such a manner that prevents stormwater run-on and leachate run-off (e.g. use of covered areas, diversion swales, ditches or other designs to divert stormwater from contacting yard trimmings and wood waste).
   b. Maintain perimeter controls such as curbs, berms, hay bales, silt fences, jersey barriers or setbacks, to eliminate the discharge of stormwater runoff carrying leachate or litter from the site to storm sewer inlets or to surface waters of the State.
   c. Prevent on-site storm drain inlets from siltation using controls such as hay bales, silt fences, or filter fabric inlet protection.
   d. Dry weather run-off that reaches a municipal stormwater sewer system is an illicit discharge. Possible sources of dry weather run-off include wetting of piles by the site operator; uncontrolled pile leachate or uncontrolled leachate from other materials stored at the site.
   e. Remove trash from yard trimmings and wood waste upon receipt.
   f. Monitor site for trash on a routine basis.
   g. Store trash in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter;
   h. Dispose of collected trash at a permitted solid waste facility.
   i. Employ preventative tracking measures, such as gravel, quarry blend, or rumble strips at exits.

Roadside Vegetation Management

1. Tier A Municipalities shall restrict the application of herbicides along roadsides in order to prevent it from being washed by stormwater into the waters of the State and to prevent erosion caused by de-vegetation, as follows: Tier A Municipalities shall not apply herbicides on or adjacent to storm drain inlets, on steeply sloping ground, along curb lines, and along unobstructed shoulders. Tier A Municipalities shall only apply herbicides within a 2 foot radius around structures where overgrowth presents a safety hazard and where it is unsafe to mow.

ENGINEERS CERTIFICATION OF ANNUAL INSPECTION OF EQUIPMENT AND VEHICLE WASH WASTEWATER CONTAINMENT STRUCTURE

(Complete a separate form for each vehicle wash wastewater containment structure)

Permittee: _____ NJPDES Permit No: _____

Containment Structure Location: _____

The annual inspection of the above referenced vehicle wash wastewater containment structure was conducted on _____ (date). The containment structure and appurtenances have been inspected for:

1. The integrity of the structure including walls, floors, joints, seams, pumps and pipe connections
2. Leakage from the structure's piping, vacuum hose connections, etc.
2 Bursting potential of tank.
3. Transfer equipment
4. Venting
5. Overflow, spill control and maintenance.
6. Corrosion, splits, and perforations to tank, piping and vacuum hoses

The tank and appurtenances have been inspected for all of the above and have been determined to be:

Acceptable _____

Unacceptable _____

Conditionally Acceptable _____

List necessary repairs and other conditions: _____

_____

_____

_____

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment (N.J.A.C. 7:14A-2.4(d)).

Name (print): _____ Seal:

Signature: _____

Date: _____

Underground Vehicle Wash Water Storage Tank Use Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons Tank Height _____ inches

95% Volume _____ gallons 95% Volume _____ inches

Date and Time	Inspector	Height of Product Before Introducing Liquid (inches)	Is Tank Less Than 95% Full? (Y/N)	Visual Inspection Pass? (Y/N)	Comments

Notes: The volume of liquid in the tank should be measured **before** each use.

Liquid **should not be introduced** if the tank contains liquid at 95% of the capacity or greater.

A visual inspection of all exposed portions of the collection system should be performed before each use. Use the comments column to document the inspection and any repairs.

Underground Vehicle Wash Water Storage Tank Pump Out Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons

Date and Time of Pump Out	Volume of Liquid Removed	Waste Hauler *	Destination of the Liquid Disposal *

*** The Permittee must maintain copies of all hauling and disposal records and make them available for inspection**

2017 MS4 TIER A PERMIT ANNUAL

Instructions for Saving and Submitting the

2017 MS4 Tier A Permit Annual Report - Supplemental Questionnaire

1. Once opened, please save the Questionnaire to your computer, using the "Save As" function. This can be done by going to FILE > then Save As... or Shift + Ctrl + S.
2. Complete the Questionnaire.
3. Once you have completed the Questionnaire, use the "Save" function to save your answers to the Questionnaire to your computer. This can be done by going to FILE > then Save or Ctrl + S.
4. The completed and saved Questionnaire must then be uploaded as an attachment, in Part 7, to your Annual Report before the Annual Report is submitted to the Department.
5. To access the Annual Report, open the link to "NJDEP Online Portal" at http://www.nj.gov/dep/dwq/tier_a.htm. In Part 7, you will be asked to complete information regarding the file(s) to be uploaded. Navigate to your saved Questionnaire and then hit the "Upload" button in the lower right section of Part 7. The Annual Report will indicate if the Questionnaire was successfully uploaded. Then click on the "Continue" button and proceed with finalizing your Annual Report.

Your Annual Report will be considered incomplete if the Supplemental Questionnaire is not attached. If you experience any difficulty in this process, please contact your municipal case manager at 609-633-7021.

Please note that use of Adobe Reader XI is recommended. This free software is available for download at http://get.adobe.com/reader/ . If you have an earlier version of Adobe Reader, please go to the Adobe website at http://tv.adobe.com/watch/acrobat-x-tips-tricks/quick-tip-how-to-save-form-data-in-adobe-reader/ for detailed instructions on how to save your completed Questionnaire.

2017 MS4 Tier A Permit Annual Report - Supplemental Questionnaire

General Information

A. Municipal Information

Municipality:	County:
1. Has the municipality identified the stormwater team in the SPPP? ◉ Yes ○ No	
2. Municipal Population: Approx. 24,500	3. Municipal Area (acres/sqm.): 4.5

B. Sharing of Responsibilities – Permit Section D1

1. If the municipality shares services, what requirement do the shared services satisfy?

- ☐ Public Notice
- ☐ Post-Construction Stormwater Management in New Development and Redevelopment
- ☐ Local Public Education
- ☐ Improper Disposal of Waste
- ☐ Illicit Connection Elimination and MS4 Outfall Pipe Mapping
- ☐ Solids and Floatable Controls
- ☐ Maintenance Yard Operations
- ☐ Employee Training
- ☑ N/A, there are no shared services

Permit Implementation - Ordinances

\. Ordinances - Permit Sections F5 and F6

1. *Pet Waste Ordinance*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

2. *Litter Ordinance/State Litter Statute*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

3. *Improper Disposal of Waste Ordinance*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

4. *Wildlife Feeding Ordinance*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

5. *Containerized Yard Waste Ordinance/Collection Program*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

6. *Illicit Connection Ordinance*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

7. *Refuse Container/Dumpster Ordinance*
Entity responsible for enforcement: Office of Code Enforcement, 11/14/2005

8. *Private Storm Drain Inlet Retrofitting Ordinance:*
:ntity responsible for enforcement: Office of Code Enforcement, 11/14/2005

9a. How many violations of these ordinances were enforced?
Unknown, year 2015: 50
9b. Which of the above ordinances had the most violations?
Unknow, year 2015: Garbage/Refuse

B. Illicit Connection Elimination Program – Permit Section F6

1. During the past calendar year, has the municipality identified any pipes or discharges with unknown owners entering the MS4? (•) Yes ( ) No
2. If yes, how many? 1- 1859 Springfield Ave, letter sent and problem addressed.

C. Storm Drain Inlet Retrofitting – Permit Section F7b

Existing storm drain inlets are required to be retrofitted to meet the design standard (contained in Attachment C of the permit) when such inlets are owned or operated by the Tier A Municipality and are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), or alterations of facilities owned or operated by the Tier A Municipality. For exemptions to this standard, refer to "Exemptions" in Attachment C.

1. At the completion of the above projects, did all of the storm drain inlets meet this standard? (•) Yes ( ) No

Permit Implementation - Inventory

A. MS4 Outfall Pipe Mapping – Permit Section F6

1. Which map format is used:
( ) Tax Map ( ) SIIA (•) Electronic (e.g. AutoCAD, Micro Station, GIS) ( ) USGS Quadrangle ( ) Other

1a. If other, what is the format that the municipality uses?

2. Date of last revision: 2007 Vue Works

3. Is the map updated annually? ( ) Yes (•) No

4. Has the municipality investigated its MS4 for previously unmapped outfalls? ( ) Yes (•) No

4a. How many outfalls were found?

5. What percentage of mapped outfalls in the municipality have been visually inspected during the last calendar year?
Approx 70%

6. Are the municipality's outfall pipes labelled in the field? ( ) Yes (•) No

6a. If yes, do the labels match the alphanumeric code in the municipality's map? ( ) Yes ( ) No

7. Does the municipality's map identify outfalls that do not discharge to surface waters? ( ) Yes (•) No

8. Does the municipality's map identify surface water body names? (•) Yes ( ) No

9. Does the municipality's map identify streets? (•) Yes ( ) No

10. Does the municipality's map identify blocks and lots? (•) Yes ( ) No

11. Does the municipality's map identify MS4 conveyance systems (pipes, swales, ditches)? (•) Yes ( ) No

12. Does the municipality's map identify other stormwater facilities? ( ) Yes (•) No

12a. Please identify other stormwater facilities noted on the map (select as many as apply):

- [ ] Bioretention Systems
- [ ] Dry Wells
- [ ] Grass Swales
- [ ] Manufactured Treatment Devices (MTDs)
- [ ] Rooftop Vegetated Cover
- [ ] Vegetative Filters
- [ ] Retrofitted Storm Drain Inlets
- [ ] Constructed Stormwater Wetlands
- [ ] Extended Detention Basins
- [ ] Infiltration Basins
- [ ] Pervious Paving Systems
- [ ] Sand Filters
- [ ] Wet Ponds

13. Does the municipality's map identify areas with scour, erosion, and/or flooding and drainage control issues?
( ) Yes (•) No

B. Storm Drain Inlet Labeling – Permit Section F4b

1. How many labels have been replaced or repainted during the past calendar year to ensure legibility?
   Unknown

Permit Implementation - Inventory

A. Stormwater Facility Inspection and Maintenance – Permit Section F7c

Stormwater facilities include, but are not limited to, catch basins, extended detention basins, low flow bypasses, underground detention, dry wells, manufactured treatment devices, pervious paving, riparian buffers, infiltration basins/ trenches, sand filters, constructed wetlands, wet ponds, bioretention, rooftop vegetated cover, vegetative filters, and stormwater conveyance systems. Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf

1. Does the municipality's stormwater maintenance program include the following:
1a. An inventory of facilities? (•) Yes ( ) No
1b. An inspection schedule? (•) Yes ( ) No
1c. A maintenance schedule? (•) Yes ( ) No
1d. An inspection log noting when inspections were conducted? (•) Yes ( ) No
1e. A maintenance log noting any maintenance performed on individual facilities? (•) Yes ( ) No

2. Does the municipality inspect stormwater facilities that are not owned by the municipality? ( ) Yes (•) No
2a. Does the municipality review maintenance logs for stormwater facilities that are not owned by the municipality?
( ) Yes (•) No

3. During the past calendar year, how many stormwater facilities (excluding catch basins) were repaired?
   Unknown

4. During the past calendar year, how many stormwater facilities (excluding catch basins) were cleaned?
   Unknown

B. Stormwater Facility Inspection and Maintenance – Permit Section F7c

1. Does the municipality have a stormwater outfall pipe scouring detection, remediation, and maintenance program?
(•) Yes ( ) No
2. How many instances of scour has the municipality found during the past calendar year?
   Unknown

Permit Implementation - Inventory

A. De-icing Material and Sand Storage – Permit Section F8a

1. What type of de-icing material does the municipality use (select as many as appropriate)?

- [x] Sodium Chloride
- [ ] Calcium Chloride
- [ ] Potassium Acetate
- [ ] Brine Solution
- [ ] Unknown
- [x] Other (if other, please specify): Magnesium Chloride

3. Equipment and Vehicle Washing – Permit Section F8b

1. Does the municipality utilize an underground storage tank for managing vehicle wash wastewater? ( ) Yes (•) No

2. Which of the following options does the municipality use to manage vehicle wash wastewater? (select all that apply)

- [ ] Vehicle wash reclaim system
- [ ] Capture and haul system
- [ ] Discharge to sanitary sewer
- [ ] Discharge to groundwater
- [x] Washed off site
- [ ] Do not wash vehicles

Permit Implementation – Stormwater Management – Permit Section F3

Note: This portion of the annual report should be completed by a person knowledgeable in post-construction stormwater management project review and approvals.

1. Name of person completing this section: Paul J. Kittner, Jr., PE, PP, CME
2. Title of person completing this section: Township Engineer

A. Municipal Stormwater Management Plan (Plan)

1. Most recent date of re-examination of municipal master plan: 2011
2. Does the plan identify and address water bodies of concern (listed on Impaired Water Bodies List, TMDL, high quality water, existing erosion)? ○ Yes ◉ No
3. Does the plan identify and address areas of inadequate drainage? ○ Yes ◉ No
4. Does the plan include programs or BMPs and associated timeframes specifically addressing these impairments or pollutants? ○ Yes ◉ No
5. Does the plan identify how to incorporate future development pressures on the existing stormwater management infrastructure? ○ Yes ◉ No
6. Are mitigation projects listed in the municipality's mitigation plan? ○ Yes ○ No ◉ No mitigation plan

B. Stormwater Control Ordinance

1. What is the ordinance's definition of major development?

   Major Development is defined in the Ordinance as "Any development that provides ultimately disturbing one or more acres of land disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or cleaning or removing of vegetation."

2. Has the municipality adopted a new stormwater control ordinance during the past year? ○ Yes ◉ No
3. If yes, did the municipality send the adopted municipal stormwater control ordinance to the appropriate county review agency for approval? ○ Yes ◉ No

C. Review of Major Development for Stormwater Management

1. Did the municipality have any agricultural development projects that were granted exemptions under the Right to Farm Act? ○ Yes ◉ No
2. Do any municipal ordinances promote the use of nonstructural strategies? ◉ Yes ○ No ○ Unknown
3. Does the municipality hold pre-application meetings to discuss incorporation of nonstructural strategies for individual projects? ◉ Yes ○ No
4. Does the municipality allow infiltration BMPs to infiltrate during the 2, 10, or 100 year storm events for quantity control? ◉ Yes ○ No
5. Does the municipality conduct municipal inspections of sites both during and after the construction is completed to ensure that BMPs function as designed? ◉ Yes ○ No

D. Inventory and Maintenance

Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for spection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: nttp://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf.

1. Did the municipality update its map and inventory to include newly approved projects constructed within the last calendar year? ○ Yes ◉ No

2. How many infiltration BMPs were approved during the past calendar year? n/a Twp Exempt PA1

3. How many subsurface infiltration basins have been constructed during the past calendar year? None

3a. How many of these subsurface infiltration basins were inspected during construction in the past calendar year?

n/a

3b. Did the final inspection include the following? Mark all that apply:

- ☐ Permeability test
- ☐ Visual inspection
- ☐ Check for drain down time
- ☐ Unknown

4. Select the methods the municipality uses to ensure that stormwater facilities that are **not owned** by the municipality will be properly maintained:

- ☐ Maintained by municipality
- ☐ Inspections
- ☑ Homeowners associations
- ☐ Shared services
- ☐ Fees
- ☑ Surety bonds
- ☐ Other

4a. If other, what are the methods for ensuring stormwater facilities are maintained? Summons Violation

5. In the past calendar year, has the municipality reviewed and approved any major residential developments that place an individual property owner as the responsible entity for the maintenance of any stormwater management facility(ies) that receive drainage from multiple parcels? ○ Yes ◉ No

E. Stormwater Management Training

1. Have any of the current members of the planning or zoning board taken any NJDEP provided training for board members on the Stormwater Management rules? ◉ Yes ○ No ○ Unknown

2. Have the municipality's inspector(s) for stormwater management taken any of the following classes:

2a. Stormwater Management and BMPs for Engineers through Rutgers University or NJDEP : ○ Yes ◉ No ○ Unknown

2b. Municipal Engineering Construction Inspection Program, Part 1 through Rutgers University: ○ Yes ◉ No ○ Unknown

2c. Municipal Engineering Construction Inspection Program, Part 2 through Rutgers University: ○ Yes ◉ No ○ Unknown

2d. Soils & Site Evaluation for Septic Disposal Systems & Stormwater BMPs through Rutgers University:
○ Yes ◉ No ○ Unknown

2e. Other stormwater training classes: Inspection services managed b Township Engineer, and other PDC courses.

3. How many construction inspectors for stormwater management does the municipality have? 2- Twp Eng. + AssistTwp.

4. How many operation and maintenance inspectors for stormwater management does the municipality have?
   2- Twp Eng. + AssistTwp.
5. How many plan reviewers for stormwater management does the municipality have? Multiple: Board + Twp. Engineer
6. How many municipal engineers/stormwater plan reviewers have taken the NJDEP Stormwater Management and BMP Manual course offered through Rutgers University or NJDEP? Unknown

Education

A. Annual Employee Training – Permit Section F9

1. Is the municipality maintaining a record of the dates on which employees have received training? (●) Yes ( ) No
2. Type of training media on those dates: ☐ Video ☑ Mentoring ☐ Vendor Training

This Supplemental Questionnaire must be attached to your Annual Report to be considered complete. If you experience any difficulty in this process, please contact your municipal case manager at 609-633-7021.

1. Once you have completed the Questionnaire, use the "Save" function to save your answers to the Questionnaire to your computer. This can be done by going to FILE > then Save or Ctrl + S.
2. The completed and saved Questionnaire must then be uploaded as an attachment, in Part 7, to your Annual Report before the Annual Report is submitted to the Department.
3. To access the Annual Report, open the link to "NJDEP Online Portal" at http://www.nj.gov/dep/dwq/tier_a.htm. In Part 7, you will be asked to complete information regarding the file(s) to be uploaded. Navigate to your saved Questionnaire and then hit the "Upload" button in the lower right section of Part 7. The Annual Report will indicate if the Questionnaire was successfully uploaded. Then click on the "Continue" button and proceed with finalizing your Annual Report.

MSRP ANNUAL REPORT - Tier A

You have completed the Annual Report submittal process. You may print or save a copy of this submittal report for your records.

Service ID:	811433
Facility Name:	MAPLEWOOD TWP
Reporting Period:	January 1, 2017 through December 31, 2017
NJPDES Permit #:	NJG0154687
Activity ID:	DST170001

Contacts

Name:	Paul Jr.
Title:	Township Engineer
Contact Type:	Stormwater Coordinator
Organization Name:	MAPLEWOOD TWP
Organization Type:	Municipal
E-Mail:	engineer@twp.maplewood.nj.us
Phone:	(973) 762-8120 x3300 (Work Phone Number) (201) 452-9603 (Cell Phone Number) (973) 762-2894 (Fax Number)
Contact Address:	574 VALLEY ST Maplewood, New Jersey 07040

Uploaded Attachments

Attachment Name	Attachment Description	File Name
MS4 Tier A Supplemental	MS4 Tier A Supplemental	Tier_A_MS4_Annual_Supplemental_Questionnaire.pdf

Annual Report Details - Part A

Municipality Information

Team member responsible for completing the report:	Paul J. Kittner Jr.
Team member email address:	engineer@twp.maplewood.nj.us

Stormwater Pollution Prevention Plan

1. Has the municipality revised its Stormwater Pollution Prevention Plan during the last calendar year?	No
2. Date of the last revised SPPP:	

Public Notice

1. Is the municipality complying with applicable State and local public notice requirements when providing for public participation in the ongoing development and implementation of the stormwater program?	Yes

Report Details - Part B

Post-Construction Stormwater Management in New Development and Redevelopment

1. Is the municipality reviewing and approving major development residential projects in accordance with the Residential Site Improvement Standards (RSIS)?	Yes
2. Did the municipality adopt a municipal stormwater management plan?	Yes
3. Most recent date of adopted municipal stormwater management plan:	06/20/2006
4. Status of this plan (if not adopted):	
5. Did the municipality adopt the municipal stormwater control ordinance provided by NJDEP without change?	Yes
6. Most recent date the municipality adopted a municipal stormwater control ordinance:	06/20/2006
7. What is the current status of the ordinance?	
8. Did the municipality submit the adopted municipal stormwater management plan to the appropriate county review agency for approval?	Yes
9. Most recent date the adopted Municipal Stormwater Management Plan was submitted to the appropriate county review agency for approval:	06/27/2006
10. If yes, did the municipality send the adopted municipal stormwater control ordinance to the appropriate county review agency for approval?	Yes
11. Most recent date the adopted Municipal Stormwater Control Ordinance was submitted to the appropriate county review agency for approval:	06/27/2006
12. Status of county review:	Approved - review agency failed to act within 60 days
13. Did the municipality adopt the review agency's required amendments and resubmit to the county review agency?	
14. Is the Stormwater Control Ordinance in effect?	Yes
15. Most recent effective date of Stormwater Control Ordinance:	06/26/2006
16. Ordinance Number(s):	2362-06
17. What is the current status of the adopted plan and ordinance?	
	Yes

18. Are you reviewing projects as part of your site plan and sub-division approval process to ensure that they comply with your municipality's effective municipal stormwater control ordinance(s)?	
19. How many projects that were subject to either the municipal stormwater control ordinance or the stormwater provisions of RSIS did the municipality review?	5
20. Does the municipal stormwater management plan contain a mitigation plan?	Yes
21. Has the municipality granted any variances or exemptions from the design and performance standards for stormwater management measures set forth in the approved municipal stormwater management plan and stormwater control ordinance(s)?	No
22. If yes, how many variances or exemptions from the design and performance standards has the municipality granted?	
23. If granted any variances or exemptions, did you submit a written report to the county review agency describing the variance or exemption and the required mitigation?	
24. Does the municipality's plan review evaluate storm drain inlet protection for solids and floatables in accordance with Attachment C of the permit?	Yes
25. Does the municipality require plans for long-term operation and maintenance for stormwater BMPs?	Yes
26. Are you ensuring that adequate long-term operation and maintenance of stormwater BMPs is being performed on property that you do not own or operate? **Please keep an inventory of stormwater BMPs indicating type, function and location in a format provided by the Department onsite and available for inspection or upon request.**	No
27. Briefly indicate how this is being accomplished (e.g., ordinance requiring operation and maintenance by private entity; operation and maintenance by you or other governmental entity):	
28. Is the municipality's stormwater management plan re-examined at each re-examination of the master plan in accordance with N.J.A.C. 7:8-4?	N/A - we did not re-examine our master plan this year
29. Date re-examination report was last adopted:	

Report Details - Part C

Local Public Education Program

1. Have you developed a Local Public Education Program?	Yes
2. Have you conducted educational activities that total a minimum of 10 points (between January 1, 2017 and December 31, 2017)?	Yes
3. School Presentations (1 point per visit / maximum of 5 points per year):	0
4. Website (1 point):	0

5. Stormwater Display (2 points):	2
6. Giveaway (2 points):	0
7. Citizen Stormwater Advisory Committee (2 points):	2
8. Utilize Department Materials (2 points each / maximum of 4 points per year):	0
9. Poster Contest (2 points):	0
10. Stormwater Training for Elected Municipal Officials (3 points):	3
11. Mural (3 points):	0
12. Mailing (3 points):	0
13. Partnership Agreement / Local Event (3 points):	0
14. Ordinance Education (5 points):	5

Storm Drain Inlet Labeling

1. Have you established a storm drain inlet labeling program?	No
2. Indicate the percentage or number of sectors labeled to date:	
3. Other Amount:	
4. Is your municipality maintaining the labels (i.e. replacing and/or repainting)?	

Improper Disposal of Waste

Have you adopted and are you enforcing a regulatory mechanism for:

1. Pet Waste Ordinance:	Yes
2. Date adopted:	11/14/2005
3. Litter Ordinance/State Litter Statute:	Litter Ordinance
4. Date adopted:	11/14/2005
5. Improper Disposal of Waste Ordinance:	Yes
6. Date adopted:	11/14/2005
7. Wildlife Feeding Ordinance:	Yes
8. Date adopted:	11/14/2005
9. Containerized Yard Waste Ordinance / Yard Waste Collection Program Ordinance:	Yard Waste Collection Program Ordinance
10. Date adopted:	11/14/2005
11. Illicit Connection Ordinance:	Yes
12. Date adopted:	11/14/2005
13. Refuse Container/Dumpster Ordinance:	Yes
14. Date adopted:	11/14/2005
15. Private Storm Drain Inlet Retrofitting Ordinance:	Yes

16. Date adopted:	09/06/2011
17. Status of these ordinances (if not adopted):	
18. Method(s) of enforcement (e.g., summons, warnings, additional signs, etc.):	Summons
19. Are you distributing the Pet Waste Information Sheets with pet licenses?	Yes

Report Details - Part D

MS4 Outfall Pipe Mapping

1. Has the municipality completed the mapping of the MS4 outfall pipes?	Yes
2. Date completed:	01/01/2008
3. Number of outfall pipes that you operate in the municipality:	70
4. How many MS4 outfall pipes are mapped?	70

Illicit Connection Elimination Program

1. Does the municipality have an ongoing program to detect and eliminate illicit connections to municipally owned or operated outfall pipes?	Yes
2. How many outfall pipes were inspected during the past calendar year?	50
3. Number of illicit connections detected during the past calendar year:	1
4. Number of illicit connections eliminated during the past calendar year: **Please attach, in a format provided by the Department, a list of all outfalls found to have an illicit connection since the inception of the program. The list must include the outfall location, receiving water body, source of illicit connection and the date the illicit connection was eliminated.**	1

Street Sweeping Program

1. In the past calendar year, were all required streets swept?	Yes
2. What was the total number of miles swept?	4048

List the total amount of materials collected for each month since January 1, 2017, in tons.

3. Units:	Tons

4. January:	54
5. February:	16
6. March:	25
7. April:	34
8. May:	41
9. June:	51
10. July:	32
11. August:	65
12. September:	51
13. October:	9.5
14. November:	2
15. December:	0
16. Total (Note: 1.053 cubic yards = 1 ton):	380.5
17. Explain the reason if reporting zero (0) for a month above:	winter weather, snow on ground/icing condition

Storm Drain Inlet Retrofitting

1. Has the municipality completed repaving, repairing, reconstruction, or alterations on any road surfaces in direct contact with municipally owned or operated storm drain inlets?	Yes
2. Approximately what percentage of storm drains within the municipality currently meet the standard?	50

Stormwater Facility Maintenance

Stormwater facilities include, but are not limited to, catch basins, extended detention basins, low flow bypasses, underground detention, dry wells, manufactured treatment devices, pervious paving buffers, infiltration basins/trenches, sand filters, constructed wetlands, wet ponds, bioretention, rooftop vegetated cover, vegetative filters, and stormwater conveyance systems. Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf.

1. Have you developed a Stormwater Facility Maintenance Program?	Yes

Other Stormwater Facilities

1. Were all stormwater facilities that you operate inspected?	Yes
2. Were any found to be in need of cleaning or repair in order to function properly?	Yes

3. During the past calendar year, were any stormwater facilities (excluding catch basins) cleaned?	Yes
4. Were repairs made?	No
5. Describe repair(s) or if repairs have not yet been made; provide a schedule for the repair(s):	n/a

Catch Basins

1. Total number of catch basins that the municipality operates:	1750
2. Total number of catch basins inspected:	1750
3. Total number of catch basins cleaned:	1321
4. Amount of materials removed from catch basins, in tons, during the past calendar year:	112
5. Units:	Tons

Report Details - Part E

Outfall Pipe Stream Scouring Remediation

For all outfall pipes undergoing remediation through a scour remediation program, attach additional page(s) as necessary indicating the location of the outfall pipe (including the alphanumeric identifier), the repair start date, and the repair completion date.

1. Has the municipality developed a prioritized list of outfall pipes requiring outfall pipe stream scouring remediation?	Yes

De-icing Material and Sand Storage

1. Does the municipality have a permanent structure for all de-icing material storage?	Yes
2. If sand is being stored outside, is it set back 50 feet from storm sewer inlets, ditches or other stormwater conveyance channels, and surface water bodies?	Yes

Fueling Operations

1. Is the municipality implementing Standard Operating Procedures for vehicle fueling and receiving of bulk fuel deliveries at maintenance yard operations?	Yes

Vehicle Maintenance

	Yes

1. Is the municipality implementing Standard Operating Procedures for vehicle maintenance and repair activities at maintenance yard operations?	

Good Housekeeping Practices

1. Is the municipality implementing Good Housekeeping Practices for all materials or machinery listed in the Inventory Requirements for Municipal Maintenance Yard Operations (including maintenance activities and ancillary operations)?	Yes

Equipment and Vehicle Washing

1. Has the municipality implemented measures to properly handle the discharge of equipment and vehicle wash wastewater from municipal maintenance yard operations?	Yes
2. Please indicate which option you implemented to eliminate the unpermitted discharge:	Connected to sanitary sewer
3. Date the management measure was implemented:	10/01/2008
4. What is the NJPDES permit number that authorizes the discharge of vehicle and equipment wash wastewater?	
5. Is the municipality maintaining records of vehicle and equipment washing?	

Annual Employee Training

1. Did the municipality conduct training for employees on stormwater related topics as required under the MS4 permit (e.g., police officers trained on ordinances)?	Yes
2. List date(s) of employee training:	February 5-6, 2013

Report Details - Part F

Sharing of Responsibilities

Does the municipality share services with another entity to satisfy a permit requirement?	No

Incidents of Non-compliance

Based on the answers you provided above, the Department has identified the following possible permit compliance issues. Please complete the Incidents of Non-compliance section and identify steps being taken to correct these deficiencies.

- Your municipality has not revised your Stormwater Pollution Prevention Plan to incorporate changes required by the renewal permit.
- Your municipality is not ensuring that adequate long-term operation and maintenance of stormwater BMPs is being performed on property that you do not own or operate.
- Your municipality has not established a storm drain inlet labeling program.

1. Did your Public Complex have any incidents of non-compliance?	Yes
2. Identify the steps being taken to remedy the noncompliance and to prevent such incidents from recurring. **(If the text box is not large enough to complete this section, please provide your report as an attachment and upload it on the next screen. Please reference the attachment in the textbox.)**	Stormwater SPPP plan not updated since regulations have not changed substantially. The Township does not have many stormwater BMP's that are privately owned. Township labeled individual inlets on our GIS maps, but not in the field.

Certification

Certifier:	Paul Kittner Jr
Certifier ID:	ENGINEER
Challenge/Response Question:	What is your favorite color?
Challenge/Response Answer:	******
Certification PIN:	******
Date/Time of Certification:	04/27/2018 15:53

"I certify under penalty of law that this Annual Report and Certification and all attached documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate this information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering this information, the information in this Annual Report and Certification and all attached documents is, to the best of my knowledge and belief, true, accurate and complete.

"I certify that the municipality is in compliance with its stormwater program, Stormwater Pollution Prevention Plan (SPPP) and the NJPDES Tier A Municipal Stormwater General Permit No. NJG0154687 except for any incidents of non-compliance which are identified herein. For any incidents of non-compliance, the Annual Report identifies the steps being taken to remedy the non-compliance and to prevent such incidents from recurring.

"I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

Please note, no changes will be allowed to be made to this report upon its certification. If you need to correct or modify the report after certification, please contact your case manager at (609) 633-7021 so they may enable that function.

Paul Kittner Jr
General

04/27/2018
Date