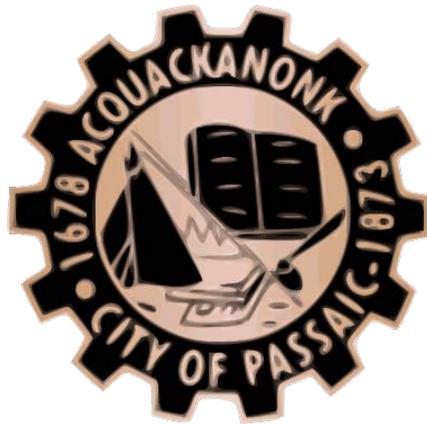


Municipal Stormwater Management Plan

for the

City of Passaic Passaic County, New Jersey



Prepared by:

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To Whom it May Concern:

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

Sincerely,

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Professional Engineer
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APPENDIX A.....STORMWATER CONTROL ORDINANCE

I. Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for the City of Passaic (the City) to address stormwater-related impacts. The creation of this Plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This Plan contains the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The Plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major developments. As per the City's Stormwater Control Ordinance, a "Major Development" means:

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 one-quarter acre or more of "regulated impervious surface" since February 2, 2004;
3. The creation of one-quarter acre or more of "regulated motor vehicle surface" since March 2, 2021; or
4. A combination of 2 and 3 above that totals an area of one-quarter acre or more. The same surface shall not be counted twice when determining if the combination area equals one-quarter acre or more.

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 paragraphs 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."

These standards are intended to minimize the adverse impact of stormwater runoff on water quality, water quantity, and the loss of groundwater recharge that provides baseflow in receiving water bodies.

As per Appendix C of the New Jersey Best Management Practices Manual last revised in March of 2020, municipalities with less than one square mile of vacant or agricultural lands are not required to complete a "build-out" analysis. Therefore, this plan does not require a "build-out" analysis as the City of Passaic contains 0.051 sq. mi. (32.756 acres) of vacant land and no agricultural land. The Plan also addresses the review and update of existing ordinances, the City Master Plan, and other planning documents to allow for project designs that include low-impact development techniques. The City Master Plan was last reviewed in 2013. The final component of this Plan is a proposed mitigation strategy to be reviewed by Passaic's governing body for future variances or exemptions of the design and performance standards. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

This plan utilizes existing regulatory framework and technical guidance documents, along with the City of Passaic's Stormwater Control Ordinance. This MSWMP shall be reviewed and updated as necessary and as a component of the reexamination of the City's municipal Master Plan every 10 years.

II. Goals

The goals of this MSWMP as well as a brief description of the City's strategies to implement the goals are as follows:

- ***Reduce flood damage, including damage to life and property.***

The City has incorporated green infrastructure and several non-structural stormwater strategies into their Zoning and Site Plan ordinances. The purpose of some of these non-structural strategies is to reduce damage to life and property by minimizing flooding. New major developments are reviewed for compliance with the Stormwater Management Rules at N.J.A.C. 7:8. To achieve this reduction the City maintains a street sweeping schedule and inspects, cleans, and maintains catch basins and storm drain inlets as required by the City's Stormwater Pollution Prevention Plan (SPPP) and New Jersey Pollutant Discharge Elimination System (NJPDES) permit (NJG0148083).

- ***Minimize, to the extent practical, any increase in stormwater runoff from any new development.***

The City is implementing the current Residential Site Improvement Standards (RSIS) which require a reduction in runoff during all rain events for residential developments and commercial developments will be required to follow all regulations in N.J.A.C. 7:8 and 7:15 to minimize any increase in stormwater runoff. Additionally, the City is reviewing and updating existing ordinances to incorporate requirements for low-impact development.

- ***Reduce soil erosion from any development or construction project.***

As per The Standards for Soil Erosion and Sediment Control in New Jersey (SESC) last revised in January of 2014, a "Project" is defined as:

Any disturbance of more than 5,000 square feet of the surface area of land (1) for the accommodation of construction for which the State Uniform Construction Code would require a construction permit, except that the construction of a single-family dwelling unit shall not be deemed a 'project' under this act unless such unit is part of a proposed subdivision, site plan, conditional use, zoning variance, planned development or construction permit application involving two or more such single-family dwelling units; (2) for the demolition of one or more structures; (3) for the construction of a parking lot; (4) for the construction of a public facility; (5) for the operation of any mining or quarrying activity; or (6) for the clearing or grading of any land for other than agricultural or horticultural purposes.

Currently all development projects meeting this definition are required to obtain approval from the Hudson Essex Passaic Soil Conservation District (HEPSCD).

- ***Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures.***

Proposed culverts and bridges and other in-stream structures will be reviewed for compliance with the NJDEP Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A and the Flood Hazard Control Act Rules at N.J.A.C. 7:13. Existing in-stream structures are maintained and inspected a minimum of once a year. As part of this inspection, the City performs an outfall condition assessment that includes searching for signs of scour and illicit discharge during dry weather conditions as defined within Chapter 3.6: MS4 Outfall Pipe Mapping and Illicit

Discharge and Scour Detection and Control of the Tier A Municipal Stormwater Guidance Document.

- ***Maintain groundwater recharge.***

As per N.J.A.C. 7:8-5.4(b)2, groundwater recharge is not required for projects within the “urban redevelopment area” which include areas delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA 1), Designated Centers, Cores or Nodes; designated as CAFRA Centers, Cores, or Nodes; designated as Urban Enterprise Zones; and designated as Urban Coordinating Council Empowerment Neighborhoods. The entirety of the Borough is categorized as part of the Metropolitan Planning Area (PA 1); therefore, the groundwater recharge standard is not applicable. The City enforces existing ordinances to limit disturbance associated with development. Through restricting the allowable impervious cover, groundwater recharge can be maintained or increased.

- ***Prevent, to the greatest extent feasible, an increase in non-point pollution.***

Nonpoint source (NPS) pollution is water generated by everyday activities, such as fertilizing lawns, walking pets, changing motor oil or gasoline, and littering. NPS pollution is caused when contaminants deposited on the land surface are washed off and carried into nearby waterways or ground water. To limit the discharge of these common pollutants the City has adopted and maintains several ordinances with applicable fines. These ordinances include the following: litter, wildlife feeding, pet waste, and yard waste management. Additionally, the City inspects, cleans, maintains, and retrofits existing inlets to reduce litter and prevent blockages within the system.

- ***Maintain the integrity of stream channels for their biological functions, as well as for drainage.***

Biological integrity is the ability to support and maintain a balanced, integrated adaptive assemblage of organisms having species composition, diversity, and functional organization comparable to that of the natural habitat of the region. Changes that result from human activities cause a divergence from biological integrity resulting in a decline in biological condition. The ecology of streams and rivers is intimately linked with and reflective of the watersheds they drain.

The efficacy of drainage provided by streams is dependent on channel form. Sedimentation and erosion of stream channels associated with stormwater runoff and discharge, result in an increase in severity and frequency of floods as well as the displacement and destruction of habitat for fish and other water dependent species, and a decrease in base flows in watercourses. The most significant effect of stormwater runoff on channel form is the increased frequency of smaller floods that approach or exceed bank-full. Therefore, in highly developed areas, while armoring of channels may provide short-term control of bed and bank erosion, dispersed management of runoff from impervious surfaces may be the most effective approach to controlling erosion and sedimentation of stream channels.

The City seeks to maintain stream channel integrity for both biological and drainage functions through the adoption of the City’s Stormwater Control Ordinance. This ordinance will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing pollutants within the flow which affect biological function and drainage conveyance ability of stream channels. Additionally, the adoption of this ordinance will reduce the introduction of pollutants allowed to reach the City’s waterways and assist in reducing or preventing TMDL’s. During the

City's outfall condition assessment, a physical inspection is performed for all outfall pipes, signs of scour and illicit discharges are reported and handled in accordance with the City's SPPP.

- ***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.***

The City utilizes public education and facility inspections to limit pollutants in stormwater runoff from new and existing developments. During the review process of applications for major development, the City enforces their Stormwater Control Ordinance as it pertains to Section 258A-4. "Stormwater Management Requirements for Major Development" (*Appendix A*). These requirements include stipulations to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards identified within the ordinance. As per the City's NJPDES permit (NJG0148083) and as specified within the SPPP, private stormwater facilities are inspected annually to ensure functionality and notices are issued to ensure compliance. Additionally, the City issues educational material and conducts educational outreach to inform residents concerning the consequences of pollution to the City's waterways.

- ***Protect public safety through the proper design and operation of stormwater basins.***

The City reviews applications for major development to ensure that projects meet and comply with the standards within the Stormwater Management Rules at N.J.A.C. 7:8, Safety Standards for Stormwater Management Basins as outlined in N.J.A.C. 7:8-6, The Standards for Soil Erosion and Sediment Control in New Jersey, and the New Jersey Stormwater Best Management Practices Manual. The City is currently in the process of implementing a stormwater facility maintenance program to ensure adequate long-term cleaning, operation, and maintenance of all municipally owned or operated stormwater facilities, along with stormwater facilities not owned or operated by the municipality.

To achieve these goals, this Plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

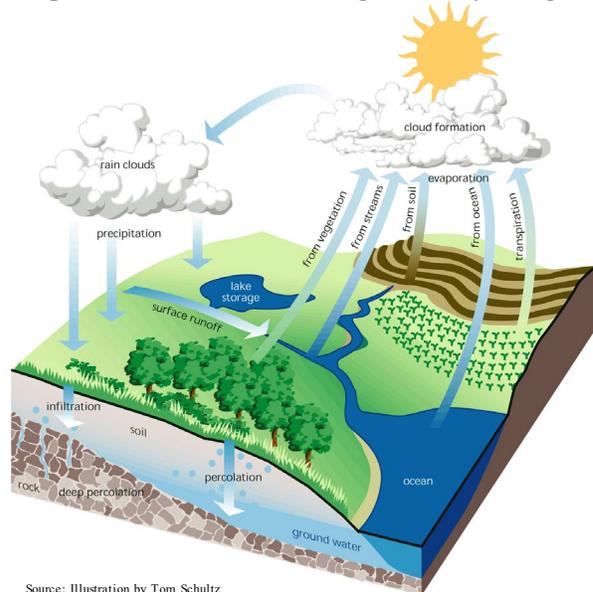
III. Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (*Figure 1*) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration.

Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site.

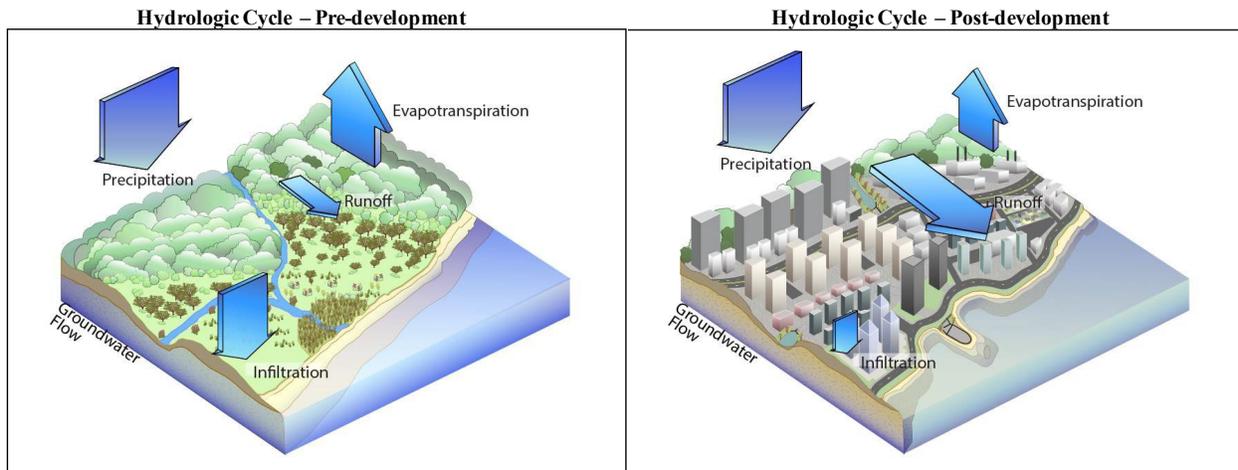
Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas (*Figure 2*). This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel.

Figure 1: Groundwater Recharge in the Hydrologic Cycle



Source: Illustration by Tom Schultz
 Courtesy of Iowa State University Department of Natural Resource Ecology and Management

Figure 2: Comparing Pre- and Post-Development Hydrologic Cycles



Source: New Jersey Stormwater Best Management Practices Manual
 Chapter 1 Impacts of Development on Runoff

Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on

base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients.

In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Additional information regarding stormwater please refer to the NJDEP Stormwater in New Jersey webpage located at <https://njstormwater.org/>. For additional information regarding stormwater within the City of Passaic please visit the municipal website at <https://www.cityofpassaic.com/> or request documentation from the current Superintendent of the Department of Public Works.

IV. Background

The City of Passaic encompasses 3.239-square miles in Passaic County, New Jersey. The City is primarily comprised of residential, commercial, and industrial properties, as depicted on the Zoning Map (*Figure 3*), and is largely built-out with only 0.051 sq. mi. (32.756 acres) of remaining developable open space, equating to approximately 1.58% of Passaic’s total area (*Figure 4*). The City is serviced by a separate sanitary sewer system and lies entirely within the Passaic Valley Sewerage Commission sewer service area (*Figure 5*). The City receives its potable water supply from the Passaic Valley Water Commission (PVWC) (*Figure 6*). The city lies within the perimeter of two private wellhead protection areas, therefore a wellhead protection area map has been prepared (*Figure 7*).—Passaic’s waterways are depicted in *Figure 8* while *Figure 9* depicts the City’s location on the United States Geological Survey (USGS) Quadrangle Maps.

Passaic is bordered to the south, west, and north by the City of Clifton, the eastern boundary is bordered by a 1.15 mile stretch of the City of Garfield, a 1.81 mile stretch of the Borough of Wallington, a 0.46 mile stretch of the Borough of East Rutherford, and a 0.92 mile stretch of the Borough of Rutherford. The entirety of the City lies within the Metropolitan Planning Area (PA 1) (*Figure 10*).

The City’s population decreased steadily from 1940 through 1960. The population then increased from 1960 to 1970, however, the population decreased again in 1980. The population saw a steady increase in population growth from 1980 through 2010. Since then, as of 2020, the population has increased, as demonstrated in *Table 1*. Furthermore, according to the United States Census Bureau, Population division, 19,827 households were reported for 2015-2019.

Table 1: City of Passaic Resident Population Estimates

Municipality	Census 1940	Census 1950	Census 1960	Census 1970	Census 1980	Census 1990	Census 2000	Census 2010	Census 2019	Census 2020
City of Passaic	61,394	57,702	53,963	55,124	52,463	58,041	67,861	69,811	69,703	70,537

Source: NJSDC 2000 Census Publication, New Jersey Population Trends 1790 to 2000 & U.S. Census Bureau, Population Division, May 2020

Passaic is a primarily developed community, increased stormwater runoff volumes and pollutant loadings have likely impacted the City’s waterways. Dwelling units constructed since the 1980s implement some of the new performance standards and best management practices (BMP) to alleviate increased stormwater runoff and pollutant loadings. However, past development may not have entirely addressed groundwater recharge. Approximately 2.381 sq. mi. (73.52%) of the City is considered impervious (*Figure 11*).

The State Planning Commission adopted the most recent State Development and Redevelopment Plan in March of 2001, effectively replacing the previous version adopted in 1992. The new State Plan delineates Planning Areas on the basis of natural and constructed characteristics and establishes the State's vision for future development. The State has defined five (5) planning areas which are listed from the most highly to least developed. These Planning Areas are as follows: the Metropolitan Planning Area (PA 1), the Suburban Planning Area (PA 2), Fringe Planning Area (PA 3), Rural Planning Area (PA 4), and the Environmentally Sensitive Planning Area (PA 5).

There are many environmentally sensitive features and landscapes of historic or aesthetic significance that are less than one square mile in extent or whose configuration does not readily

permit application of the Policy Objectives of the previously established Planning Areas. Additionally, many sites of historic, cultural, scenic, or environmental sensitivity lie within developed areas or within Metropolitan, Suburban, or Fringe Planning Areas. Therefore, an additional ten planning areas are assigned to Critical Environmental Sites (CES) and Historic and Cultural Sites (HCS). These designations are as follows: Environmentally Sensitive Barrier Island Planning Area (PA 5B); Parkland, Openspace from Cross-Acceptance (PA 6); Federal Park (PA 7); State Park (PA8); New Jersey Meadowlands Area (PA 9); NJ Pinelands (PA 10); Water Bodies (PA 11); Military Bases (PA 12); Highlands Preservation Area (PA 13); and Ellis Island, NY Portions (PA 99).

The City lies entirely within the Metropolitan Planning Area (PA 1). This planning area is designated to regions that are considered Urban Redevelopment Areas and are not subject to groundwater recharge requirements. However, the City contains areas designated under Groundwater Recharge Rank A (16 to 23 in/yr), B (11 to 15 in/yr), C (8 to 10 in/yr), D (1 to 7 in/yr), E (0 in/yr), L (hydric soil with no calculated recharge value), and W (wetlands and open water with no calculated recharge value) as shown in *Figure 12*. *Figure 10* depicts the planning areas in the City of Passaic.

Table 2 describes the definitions of the surface water classifications. In *Figure 8*, "category" is shown, which is a compendium of all surface water classification designations for a given water body. Category describes a stream's surface water classification in terms of its general surface water class, its trout water status, and its antidegradation status. The surface waters within Passaic are categorized and located as follows:

- FW2-NT/SE2:
 - McDonald Brook
 - McDonald Brook primarily flows from west to east in the southern portion of the municipality.
 - Passaic River
 - The Passaic River primarily flows from north to south effectively establishing the City's eastern limits and is found on Sublist 5 of the New Jersey Integrated List of Impaired Waterways (see page 13).
 - Passaic River Unnamed Tributary
 - One unnamed tributaries flows primarily from south to north in the northeastern portion of the City before meeting its confluence with the Passaic River.
 - Weasel Brook
 - Weasel Brook flows primarily from north to south in the northern portion of the City from the northern border to its confluence with the Passaic River.

Table 2: Surface Water Quality Standards Classification

Category	Definition
Freshwater General Surface Water Class	
FW1	FW1 means those fresh waters, as designated in N.J.A.C. 7:9B-1.15(j), that are to be maintained in their natural state of quality (set aside for posterity) and not subjected to any man-made wastewater discharges or increases in runoff from anthropogenic activities. These waters are set aside for posterity because of their clarity, color, scenic setting, other characteristic of a esthetic value, unique ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s).

FW2	FW2 means the general surface water classification applied to those fresh waters that are not designated as FW1 or Pinelands Waters. In all FW2 waters the designated uses are: 1. Maintenance, migration and propagation of the natural and established biota; 2. Primary contact recreation; 3. Industrial and agricultural water supply; 4. Public potable water supply after conventional filtration treatment (a series of processes including filtration, flocculation, coagulation, and sedimentation, resulting in substantial particulate removal but no consistent removal of chemical constituents) and disinfection; and 5. Any other reasonable uses.
Trout Water Status - this is for information only and does not affect the water quality criteria for those waters.	
TP	Trout production means waters designated at N.J.A.C. 7:9B-1.15I through (i) for use by trout for spawning or nursery purposes during their first summer.
TM	Trout maintenance means waters designated at N.J.A.C. 7:9B-1.15I through (i) for the support of trout throughout the year.
NT	Non-trout waters means fresh waters that have not been designated in N.J.A.C. 7:9B-1.15I through (h) as trout production or trout maintenance. These waters are generally not suitable for trout because of their physical, chemical, or biological characteristics, but are suitable for a wide variety of other fish species.
Antidegradation	
ONRW	Outstanding National Resource Waters means high quality waters that constitute an outstanding national resource (for example, waters of National/State Parks and Wildlife Refuges and waters of exceptional recreational or ecological significance). Waters classified as FW1 waters and Pinelands waters are Outstanding National Resource Waters.
FW1/Non-degradation	Non-degradation waters means those waters set aside for posterity because of their clarity, color, scenic setting, other characteristic of aesthetic value, unique ecological significance, exceptional recreational significance, or exceptional water supply significance. These waters include all waters designated as FW1.
C1	Category one waters means those waters designated in the tables in N.J.A.C. 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).
C2	Category two waters means those waters not designated as Outstanding National Resource Waters or Category One at N.J.A.C. 7:9B-1.15 for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d).
Saline Waters	
SC	Coastal saline waters means the general surface water classification applied to coastal saline waters whose designated uses are listed in N.J.A.C. 7:9B-1.12(g). SE waters have the following designated uses: 1. Shellfish harvesting in accordance with N.J.A.C. 7:12; 2. Primary contact recreation; 3. Maintenance, migration and propagation of the natural and established biota; and 4. Any other reasonable uses.
SE	Saline estuary waters means the general surface water classification applied to saline waters of estuaries.
SE1	Saline estuary waters means saline estuarine waters whose designated uses are listed in N.J.A.C. 7:9B-1.12(d). SE1 waters have the following designated uses: 1. Shellfish harvesting in accordance with N.J.A.C. 7:12; 2. Maintenance, migration and propagation of the natural and established biota; 3. Primary contact recreation; and 4. Any other reasonable uses.
SE2	Saline estuary waters means saline estuarine waters whose designated uses are listed in N.J.A.C. 7:9B-1.12(e). SE2 waters have the following designated uses: 1. Maintenance, migration and propagation of the natural and established biota; 2. Migration of diadromous fish; 3. Maintenance of wildlife; 4. Secondary contact recreation; and 5. Any other reasonable uses.
SE3	Coastal saline waters means saline estuarine waters whose designated uses are listed in N.J.A.C. 7:9B-1.12(f). SE2 waters have the following designated uses: 1. Secondary contact recreation; 2. Maintenance and migration of fish populations; 3. Migration of diadromous fish; 4. Maintenance of wildlife; and 5. Any other reasonable uses.
Source: NJDEP Land Use Management, N.J.A.C. 7:9B Surface Water Quality Standards, April 6, 2020	

As of March 4, 2019, the NJDEP proposed reclassifying 749 miles of waterways to category one (C1) status. These include watercourses that are designated for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources to protect their aesthetic value and ecological integrity as stated in *Table 2* above. As of 2020, the City does not contain any C1 designated waterways.

The City of Passaic lies within Watershed Management Area 4 (WMA-4), Lower Passaic, Saddle. WMA-4 is divided into smaller sub-watersheds assigned 14-digit Hydrologic Unit Codes (HUC-14), as demonstrated in *Table 3 (Figure 13)*.

Table 3: City of Passaic Sub-Watershed assigned 14-digit Hydrologic Unit Codes (HUC-14)

WMA	HUC	Sub-Watershed Name	Square Miles	Percent	Acres
4	02030103120090	Passaic River Lower (Saddle River to Dundee Dam)	1.475	45.52	943.749
4	02030103150030	Passaic River Lower (Second River to Saddle River)	1.765	54.48	1129.319

The New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the State’s waterways at over 800 sites throughout New Jersey. These sites are sampled for benthic macroinvertebrates by the NJDEP on a 5-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics. WMA-4 includes a total of 26 AMNET sites in the Deepavaal Brook, Diamond Brook, Goffle Brook, Ho-Ho-Kus Brook, Molly Ann Brook, Passaic River, Peckman River, Preakness Brook, Ramsey Brook, Saddle River, and Third River watersheds, in Bergen, Essex, and Passaic Counties. Based on the NJDEP Water Monitoring and Standards, Ambient Biomonitoring Network, Summaries for WMA-4 as of 2012 are as follows: 7.7% (2 sites) “good”, 73.1% (19 sites) “fair”, and 19.2% (5 sites) “poor”. The City does not contain any active or inactive AMNET monitoring points as seen in *Figure 14*.

In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. The NJDEP requires the development of a Total Maximum Daily Load (TMDL) for waterways, or portions thereof, that are found impaired by pollutants. A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is assigned to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs. According to the NJDEP, Bureau of Nonpoint Pollution Control, Passaic does not currently have any applicable stream, lake, or shellfish TMDLs (*Appendix B*).

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a

valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards and identifies waters that are impaired. Sublist 5 of the Integrated List identifies waters impaired or threatened by pollutants, for which one (1) or more TMDLs are needed. As per Appendix B of the 2016 New Jersey Integrated Water Quality Assessment Report published in December 2019, Sublist 5 lists several low-ranking priority TMDL parameters for stations 01389895, Passaic River-Tidal, Passaic River at Lyndhurst, AN0292O, NJHDG-5, and Passaic1 of Passaic River Lower (Saddle River to Dundee Dam); and Passaic River – Tidal, Passaic River at Lyndhurst, NJHDG-7, and NJHDG-8 of Passaic River Lower (Second River to Saddle River), as shown in *Tables 4* and *5*.

Table 4: 303(d) Sublist 5 Subparts and Priority Ranking for Passaic River Lower (Saddle River to Dundee Dam)

WMA	HUC	Parameter	Cycle 1 st Listed	Designated Use	Sublist 5 Subpart (A,R,L)	Priority Ranking for TMDL
4	02030103120090	Arsenic	1998	Public Water Supply		Low
4	02030103120090	Benzo[a]pyrene (PAHs)	2008	Fish Consumption		Low
4	02030103120090	Chlordane in Fish Tissue	2008	Fish Consumption	L	Low
4	02030103120090	DDT in Fish Tissue	2008	Fish Consumption	L	Low
4	02030103120090	Dieldrin	2008	Fish Consumption	L	Low
4	02030103120090	Dioxin in Fish Tissue	2006	Fish Consumption		Low
4	02030103120090	Heptachlor Epoxide	2008	Fish Consumption	L	Low
4	02030103120090	Biological-Cause Unknown	2016	Aquatic Life General		Low
4	02030103120090	PCBs in Fish Tissue	2006	Fish Consumption	L	Low
4	02030103120090	pH	2012	Aquatic Life General		Medium
4	02030103120090	Phosphorus, Total	2006	Aquatic Life General		Medium

Source: NJDEP Division of Water Monitoring Standards, December 2019

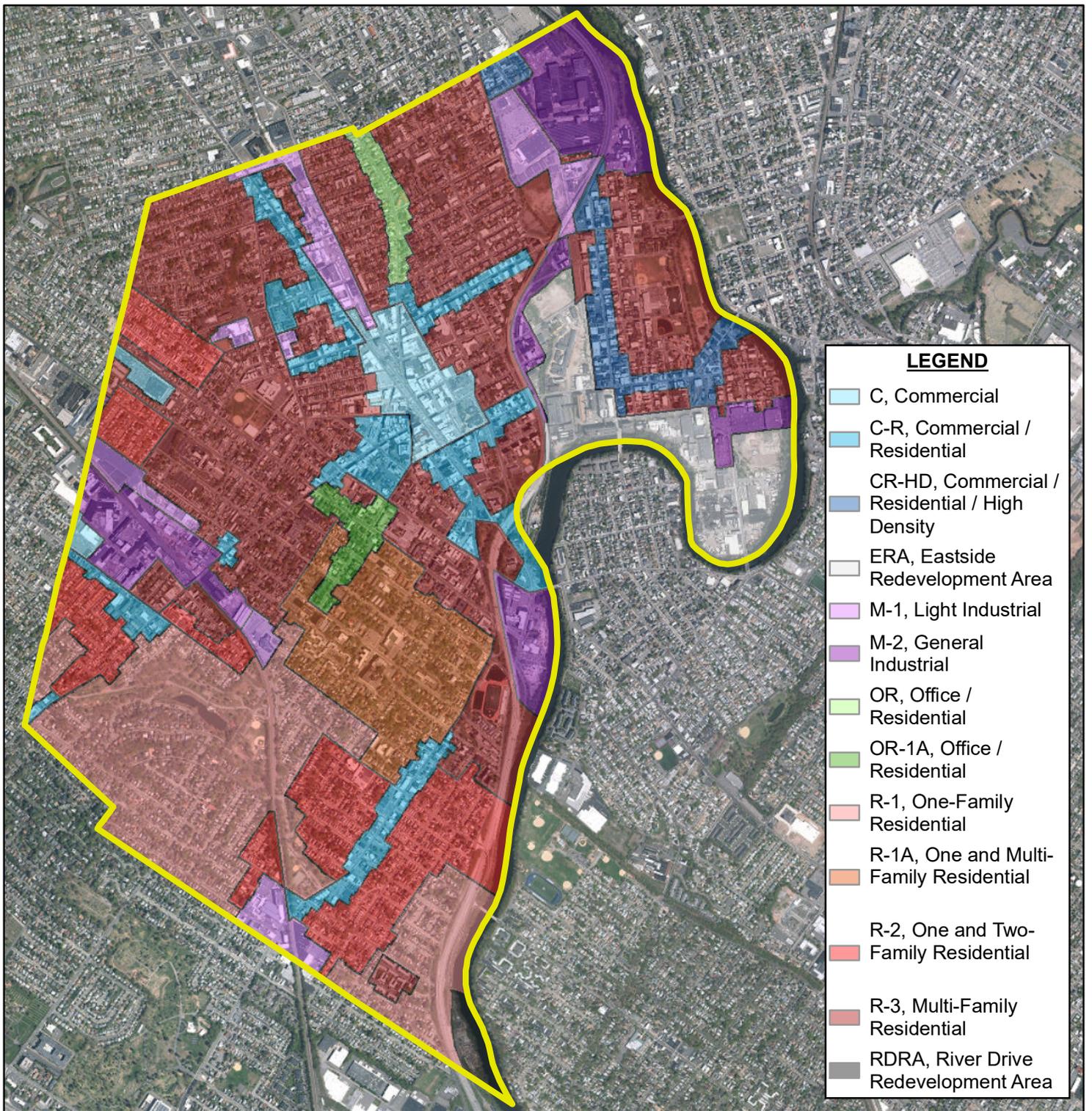
Table 5: 303(d) Sublist 5 Subparts and Priority Ranking for Passaic River Lower (Second River to Saddle River)

WMA	HUC	Parameter	Cycle 1 st Listed	Designated Use	Sublist 5 Subpart (A,R,L)	Priority Ranking for TMDL
4	02030103150030	Arsenic	2006	Public Water Supply		Low
4	02030103150030	Benzo[a]pyrene (PAHs)	2008	Fish Consumption		Low
4	02030103150030	Chlordane in Fish Tissue	2006	Fish Consumption	L	Low
4	02030103150030	DDT in Fish Tissue	2008	Fish Consumption	L	Low

4	02030103150030	Dieldrin	2008	Fish Consumption	L	Low
4	02030103150030	Dioxin in Fish Tissue	2006	Fish Consumption		Low
4	02030103150030	Heptachlor Epoxide	2008	Fish Consumption	L	Low
4	02030103150030	PCBs in Fish Tissue	2006	Fish Consumption	L	Low
4	02030103150030	pH	2014	Aquatic Life General		Medium
4	02030103150030	Phosphorus, Total	2014	Aquatic Life General		Medium
4	02030103150030	Total Suspended Solids (TSS)	2012	Aquatic Life General		Medium
Source: NJDEP Division of Water Monitoring Standards, December 2019						

At locations throughout the City water quantity problems include flooding and stream bank erosion. In addition to the aforementioned water quality concerns, the City is subject to bank flooding along several watercourses during periods of heavy rain. The surrounding areas fall within the 100-yr and 500-yr floodplains and floodway (*Figure 15*).

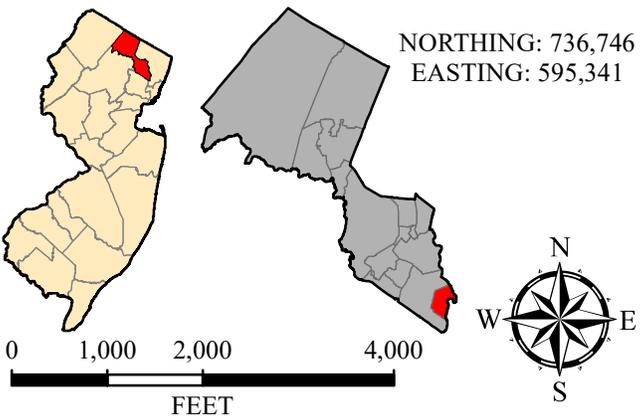
Lastly, portions of the City contain or lie within wellhead protection areas. A wellhead protection area is divided into three (3) tiers. The 2-year (Tier 1), 5-year (Tier 2) and 12-year (Tier 3) are intended to represent the time of travel (TOT), a groundwater contaminant in the zones could be expected to reach a municipal potable supply well. The NJDEP then prioritizes the investigation and remediation of contaminated sites within the 2 and 5-year tiers. Wellhead protection areas are shown in *Figure 7*. The City may wish to adopt specific ordinances to further protect wellhead protection areas and minimize the infiltration of pollutants into aquifers.



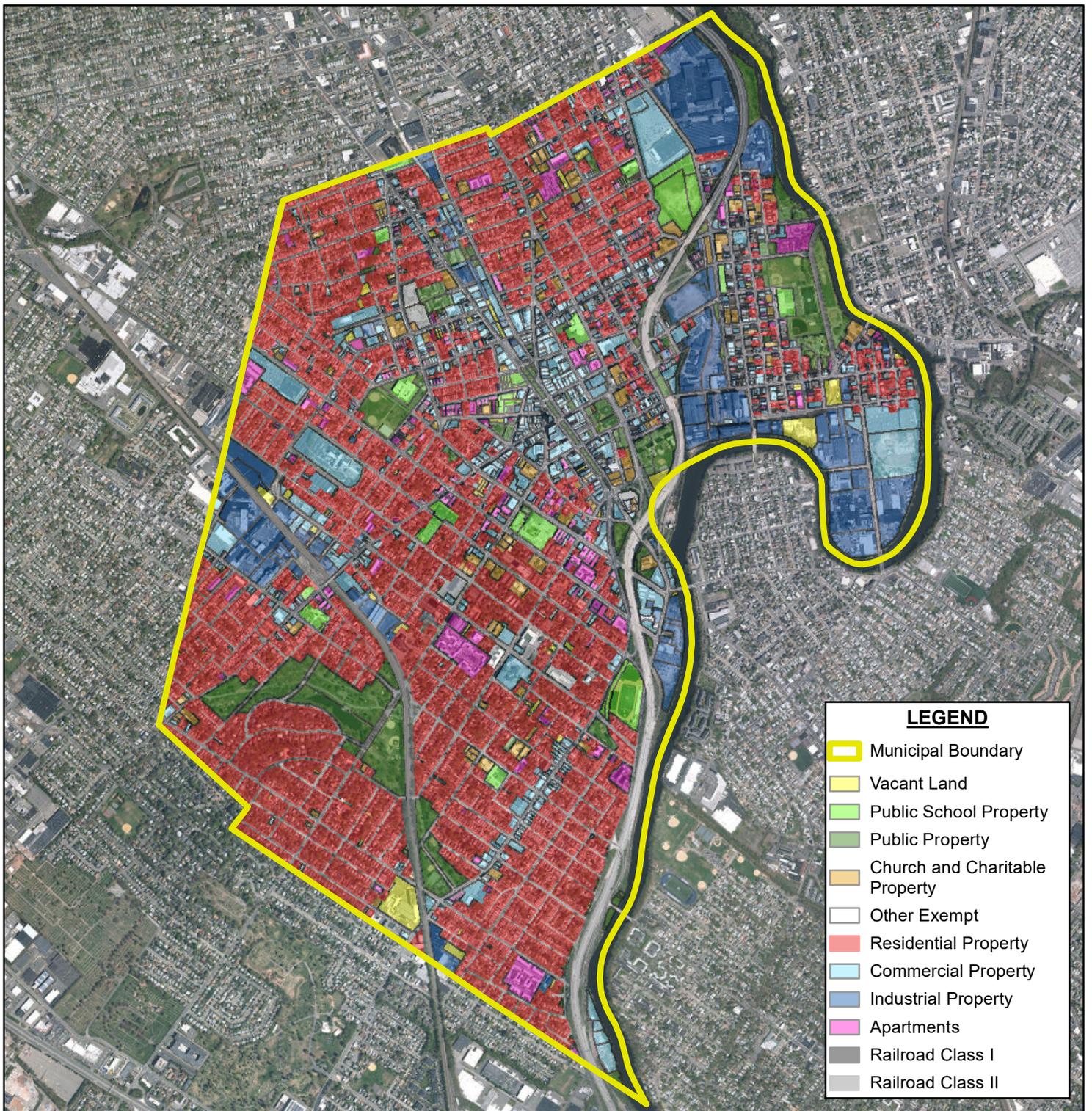
LEGEND

- C, Commercial
- C-R, Commercial / Residential
- CR-HD, Commercial / Residential / High Density
- ERA, Eastside Redevelopment Area
- M-1, Light Industrial
- M-2, General Industrial
- OR, Office / Residential
- OR-1A, Office / Residential
- R-1, One-Family Residential
- R-1A, One and Multi-Family Residential
- R-2, One and Two-Family Residential
- R-3, Multi-Family Residential
- RDRA, River Drive Redevelopment Area

SOURCE: CITY OF PASSAIC 2015 ZONING DATALAYER



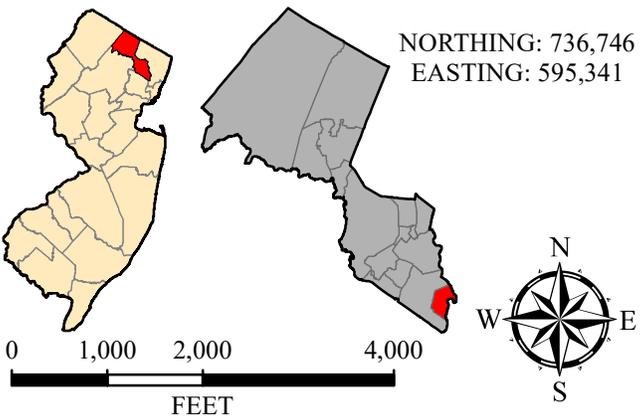
<b style="font-size: 1.2em;">BOSWELL ENGINEERING 330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606		
<h2 style="margin: 0;">ZONING MAP</h2> <h3 style="margin: 0;">MUNICIPAL STORMWATER MANAGEMENT PLAN</h3> <p style="margin: 0;">CITY OF PASSAIC</p>		
PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 3



LEGEND

- Municipal Boundary
- Vacant Land
- Public School Property
- Public Property
- Church and Charitable Property
- Other Exempt
- Residential Property
- Commercial Property
- Industrial Property
- Apartments
- Railroad Class I
- Railroad Class II

SOURCE: PASSAIC COUNTY TAX PARCEL DATALAYER

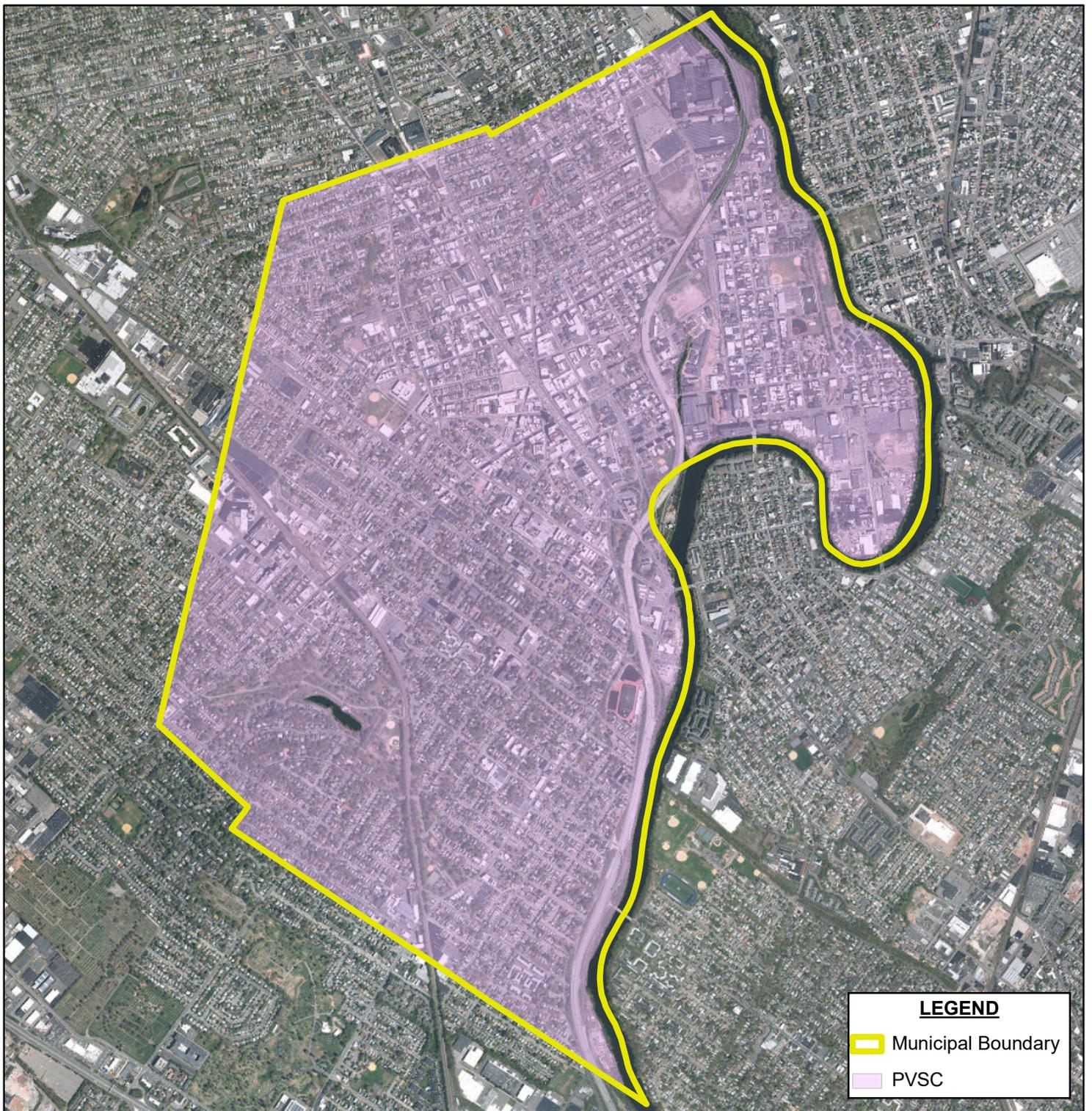


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330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606

LAND USE MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN

CITY OF PASSAIC

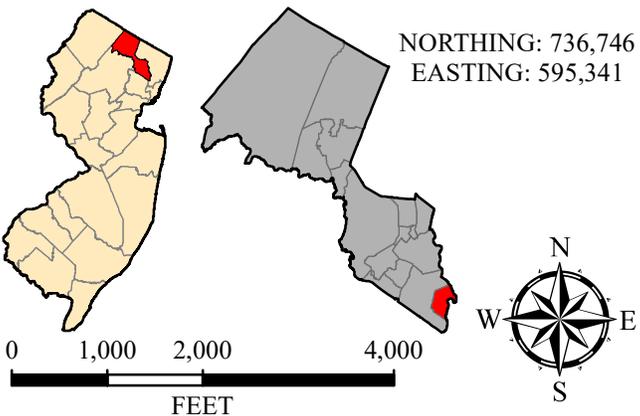
PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 4



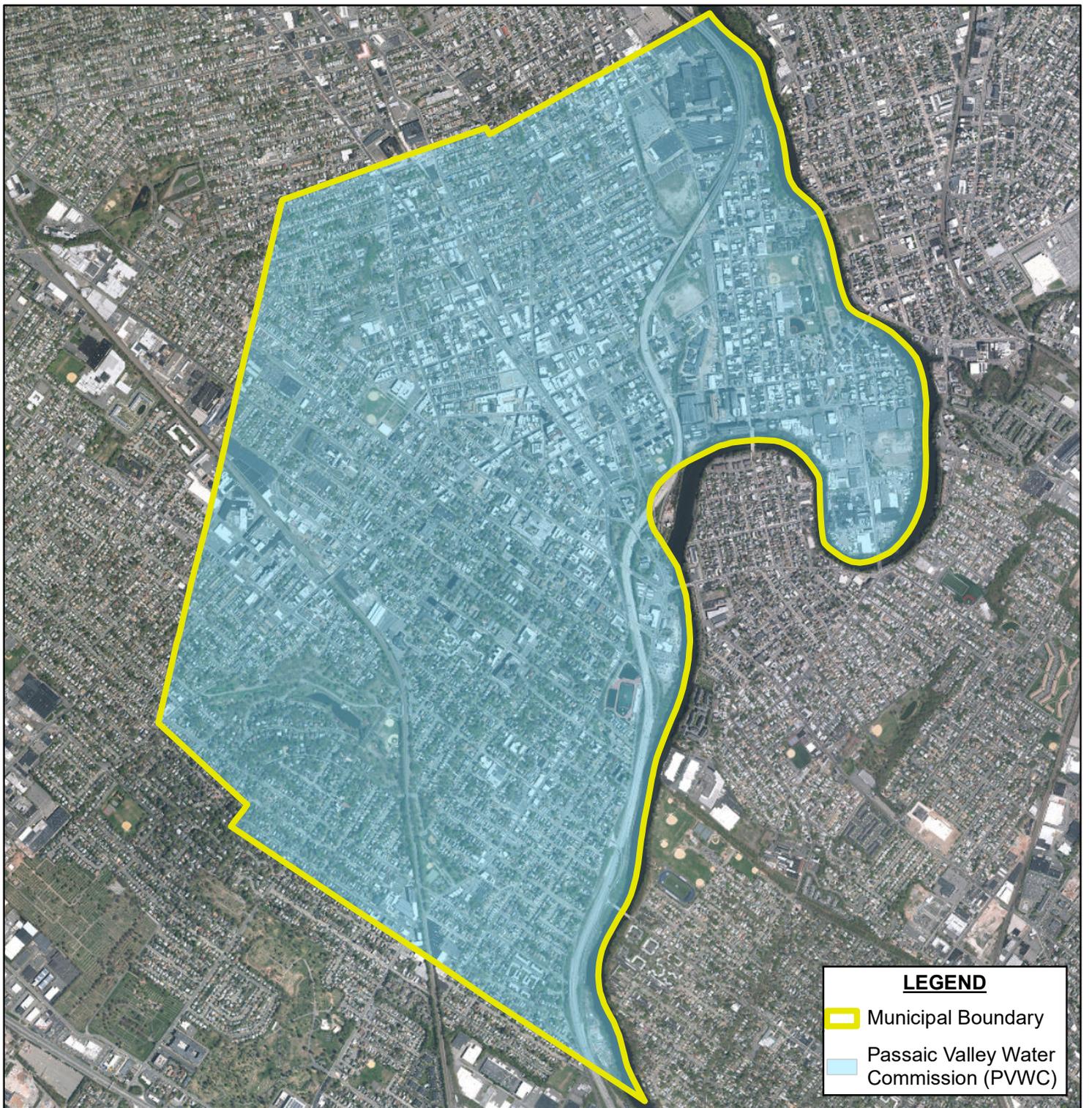
LEGEND

-  Municipal Boundary
-  PVSC

SOURCE: NJDEP STATEWIDE SEWER SERVICE AREAS DATALAYER



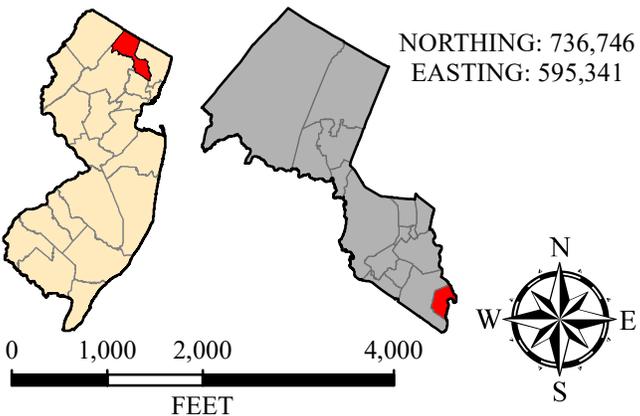
 BOSWELL ENGINEERING 330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606		
SEWER SERVICE AREA MAP MUNICIPAL STORMWATER MANAGEMENT PLAN CITY OF PASSAIC		
PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 5



LEGEND

-  Municipal Boundary
-  Passaic Valley Water Commission (PVWC)

SOURCE: NJDEP WATER PURVEYOR SERVICE AREA DATALAYER



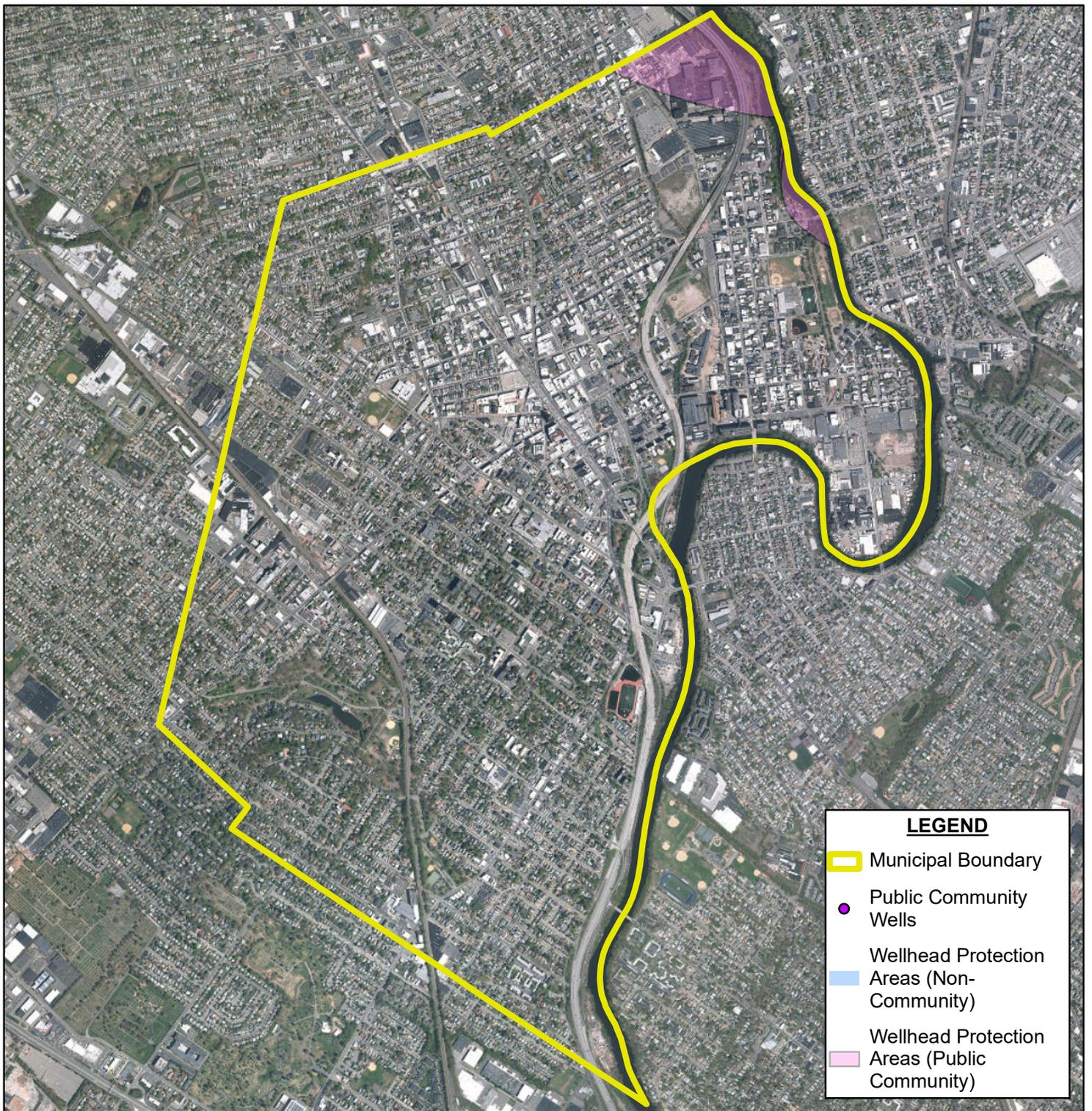


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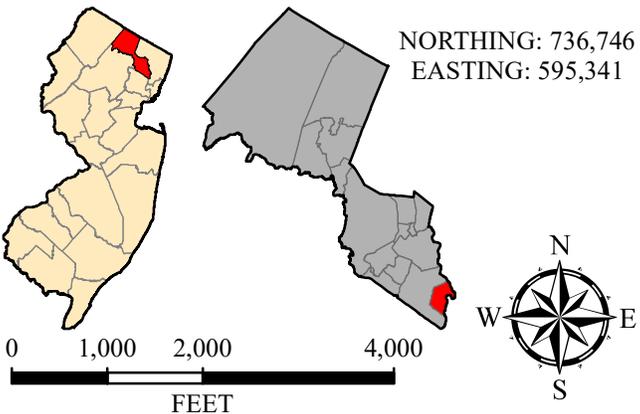
WATER PURVEYOR SERVICE AREA MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN

CITY OF PASSAIC

PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 6



SOURCE: NJDEP PUBLIC COMMUNITY WELLS AND WELLHEAD PROTECTION DATALAYERS



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**WELLHEAD PROTECTION AREA MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN**

CITY OF PASSAIC

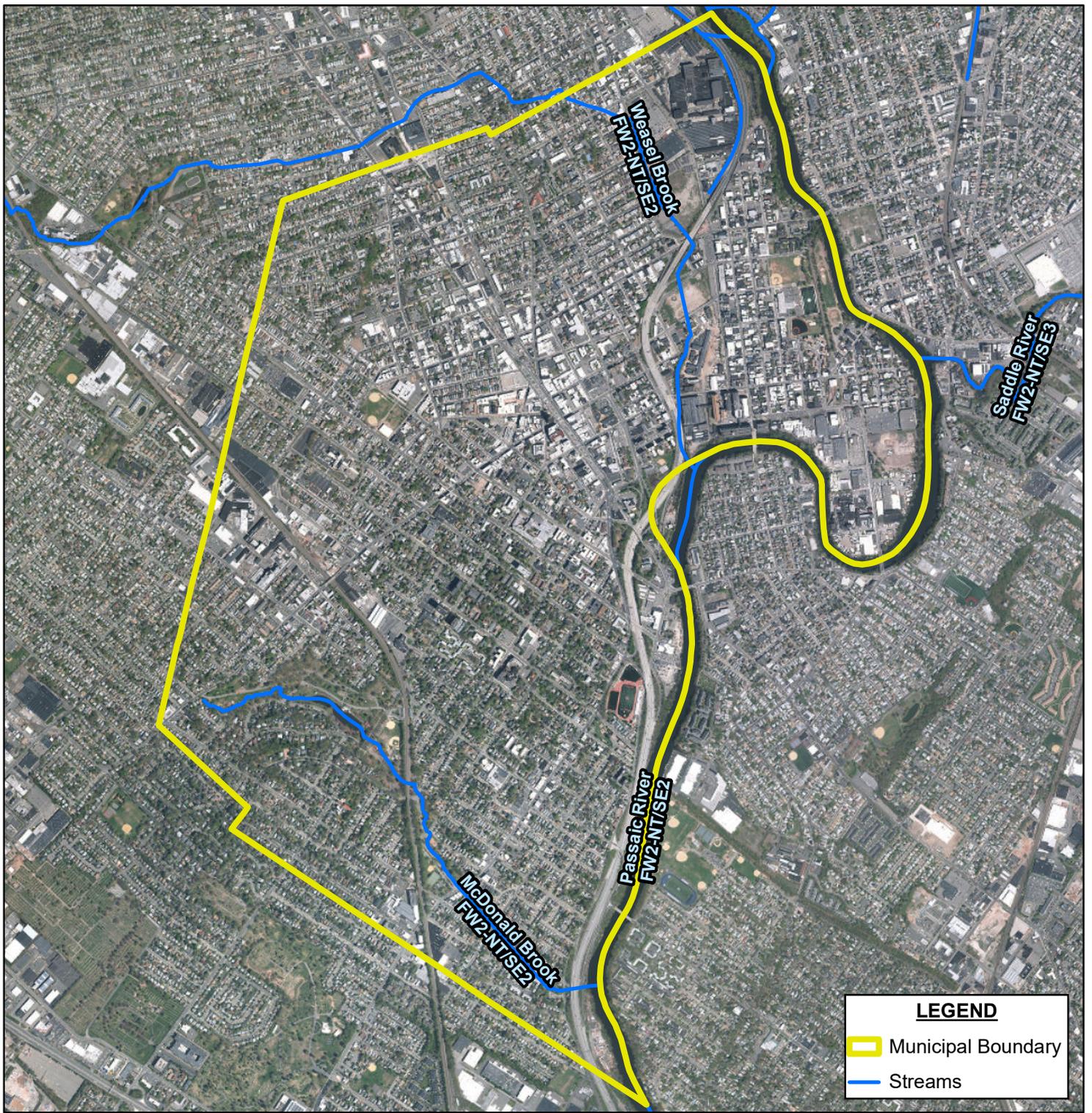
PASSAIC COUNTY

NEW JERSEY

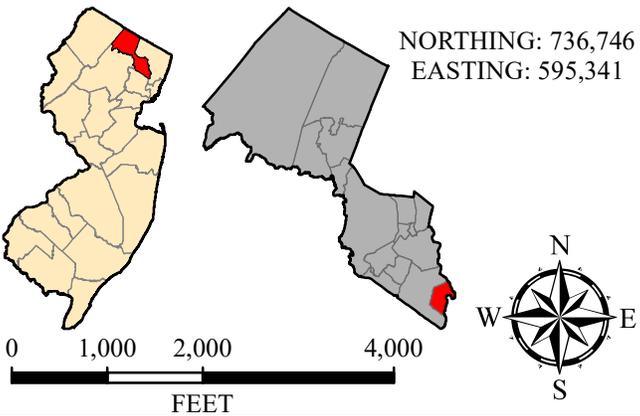
DR. BY: JMW
CKD. BY: FJR

SCALE: 1 IN = 2,000 FT
DATE: AUGUST 2021

JOB NO. PS-328
FIGURE 7



SOURCE: NJDEP SURFACE WATER QUALITY STANDARDS DATALAYER



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**SURFACE WATER QUALITY STANDARDS MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN**

CITY OF PASSAIC

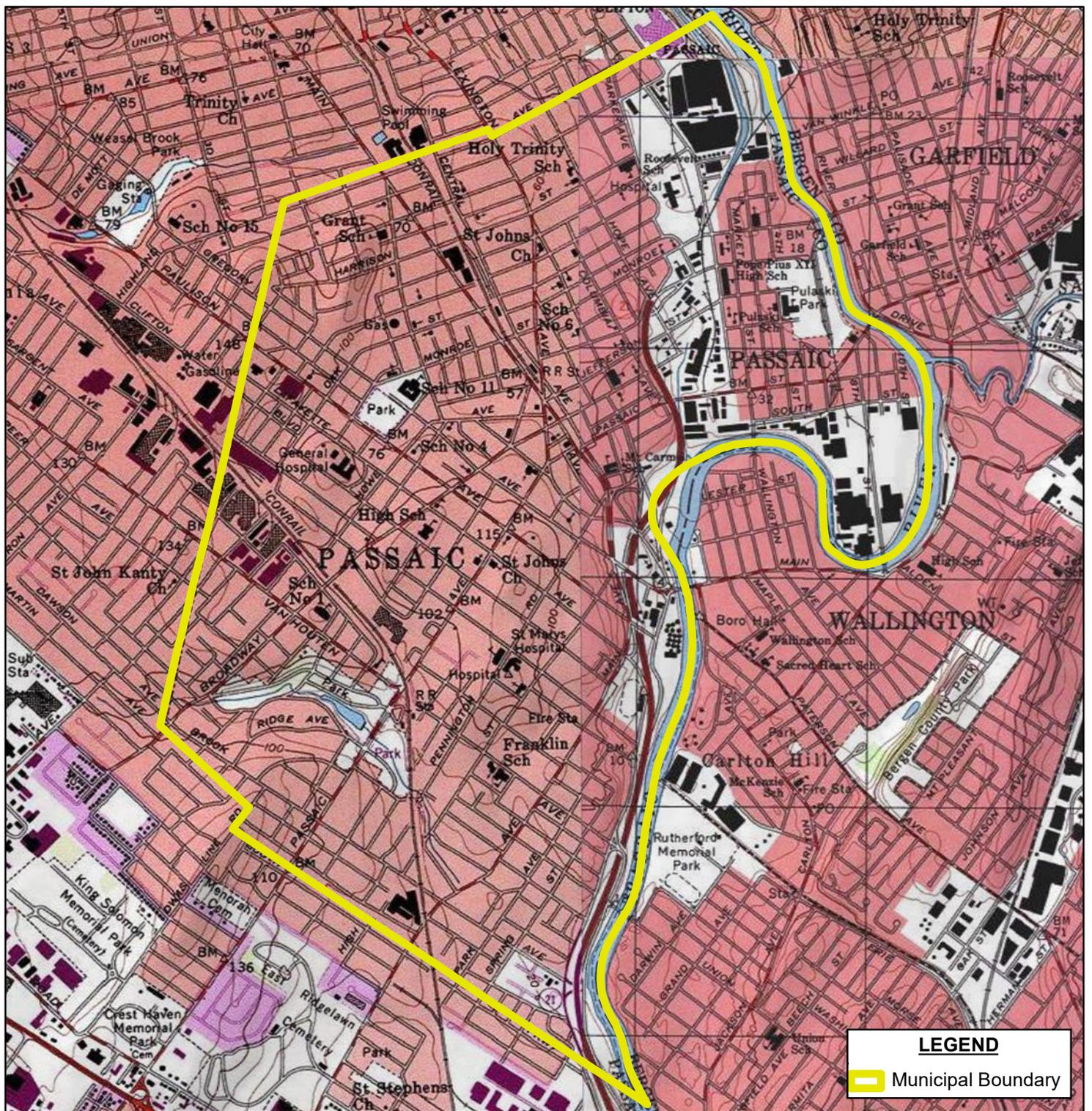
PASSAIC COUNTY

NEW JERSEY

DR. BY: JMW
CKD. BY: FJR

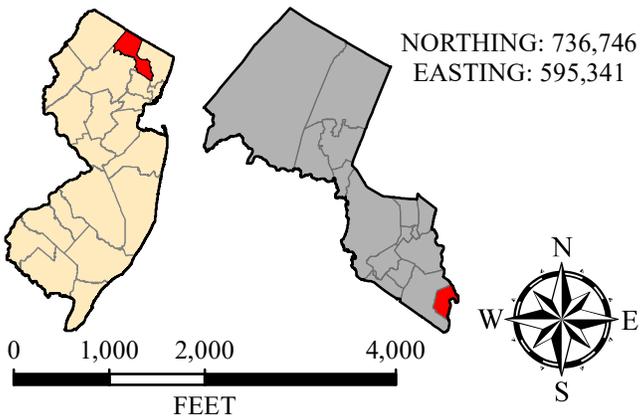
SCALE: 1 IN = 2,000 FT
DATE: AUGUST 2021

JOB NO. PS-328
FIGURE 8

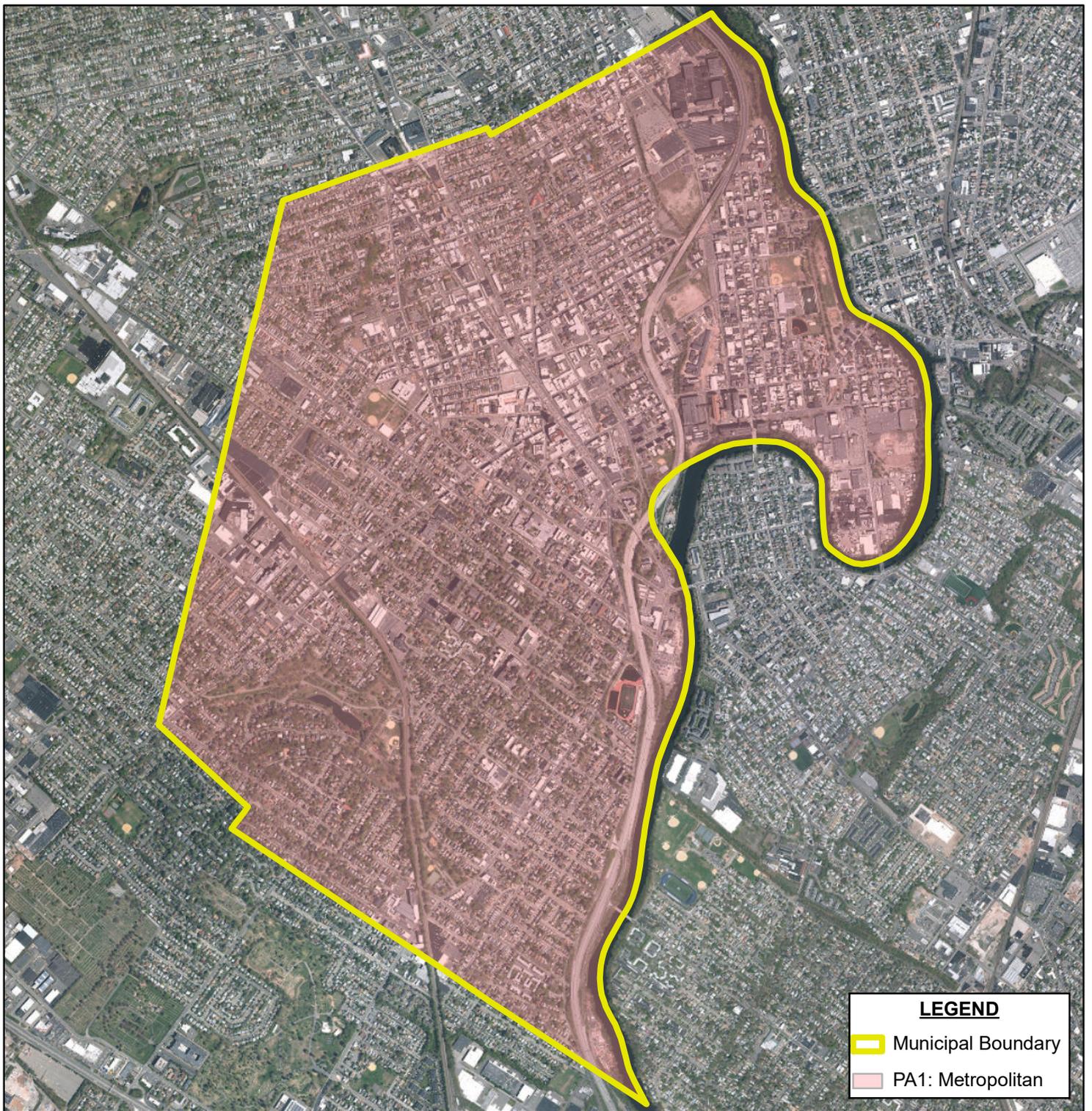


LEGEND
 Municipal Boundary

SOURCE: UNITED STATES GEOLOGICAL SURVEY (USGS) ORANGE AND WEEHAWKEN QUADRANGLES



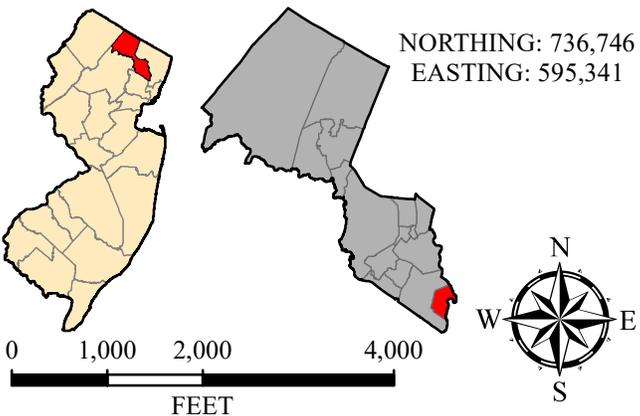
 BOSWELL ENGINEERING 330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606		
USGS TOPOGRAPHIC MAP MUNICIPAL STORMWATER MANAGEMENT PLAN CITY OF PASSAIC		
PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 9



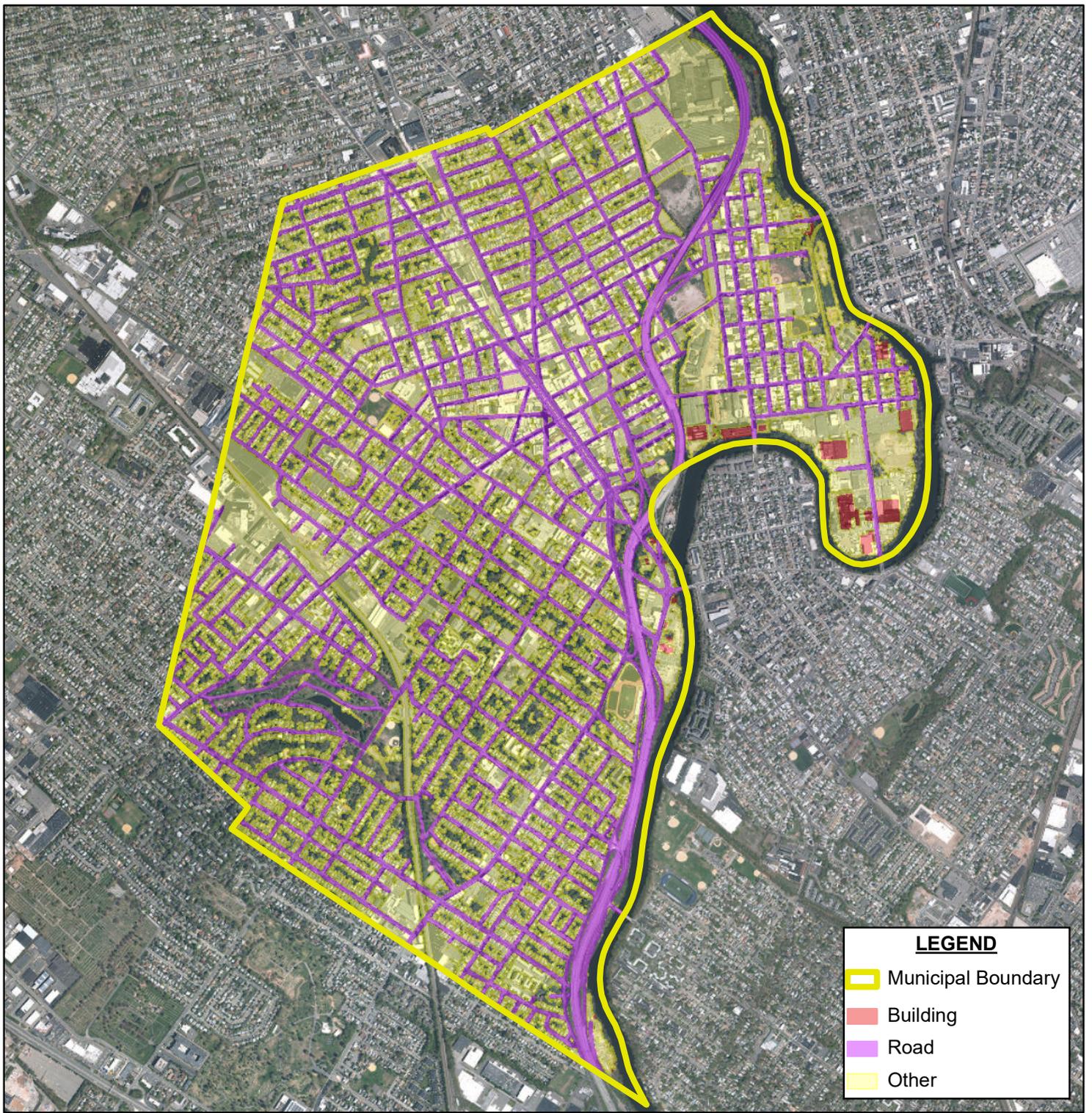
LEGEND

-  Municipal Boundary
-  PA1: Metropolitan

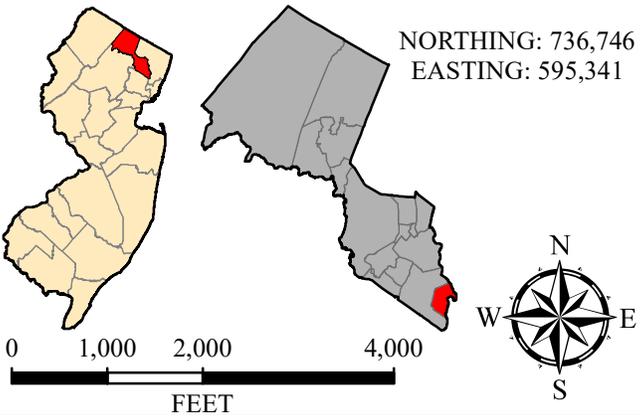
SOURCE: NEW JERSEY PLANNING MANAGEMENT AREAS DATALAYER



 <p>BOSWELL ENGINEERING 330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606</p>	<p>STATE PLANNING AREA MAP MUNICIPAL STORMWATER MANAGEMENT PLAN</p> <p>CITY OF PASSAIC</p>	
	<p>PASSAIC COUNTY</p>	<p>NEW JERSEY</p>
<p>DR. BY: JMW CKD. BY: FJR</p>	<p>SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021</p>	<p>JOB NO. PS-328 FIGURE 10</p>



SOURCE: NJDEP LAND USE/LAND COVER IMPERVIOUS SURFACE 2015 DATALAYER



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**LAND USE IMPERVIOUS SURFACE MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN**

CITY OF PASSAIC

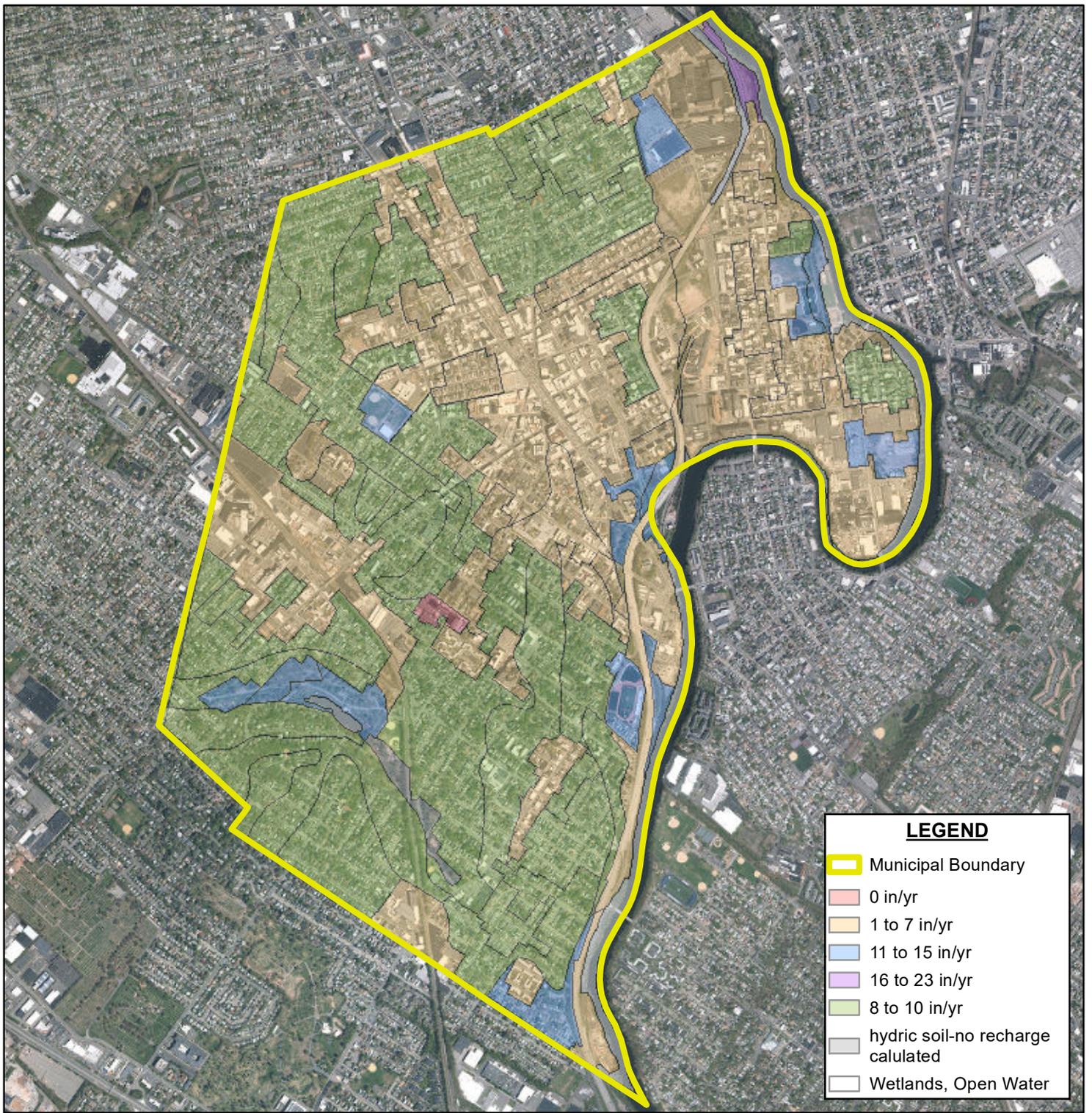
PASSAIC COUNTY

NEW JERSEY

DR. BY: JMW
CKD. BY: FJR

SCALE: 1 IN = 2,000 FT
DATE: AUGUST 2021

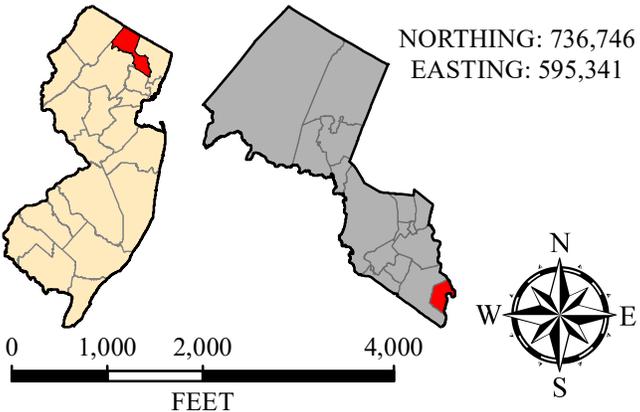
JOB NO. PS-328
FIGURE 11



LEGEND

- Municipal Boundary
- 0 in/yr
- 1 to 7 in/yr
- 11 to 15 in/yr
- 16 to 23 in/yr
- 8 to 10 in/yr
- hydric soil-no recharge calculated
- Wetlands, Open Water

SOURCE: NJDEPBGIS GROUNDWATER RECHARGE AREA DATA LAYER





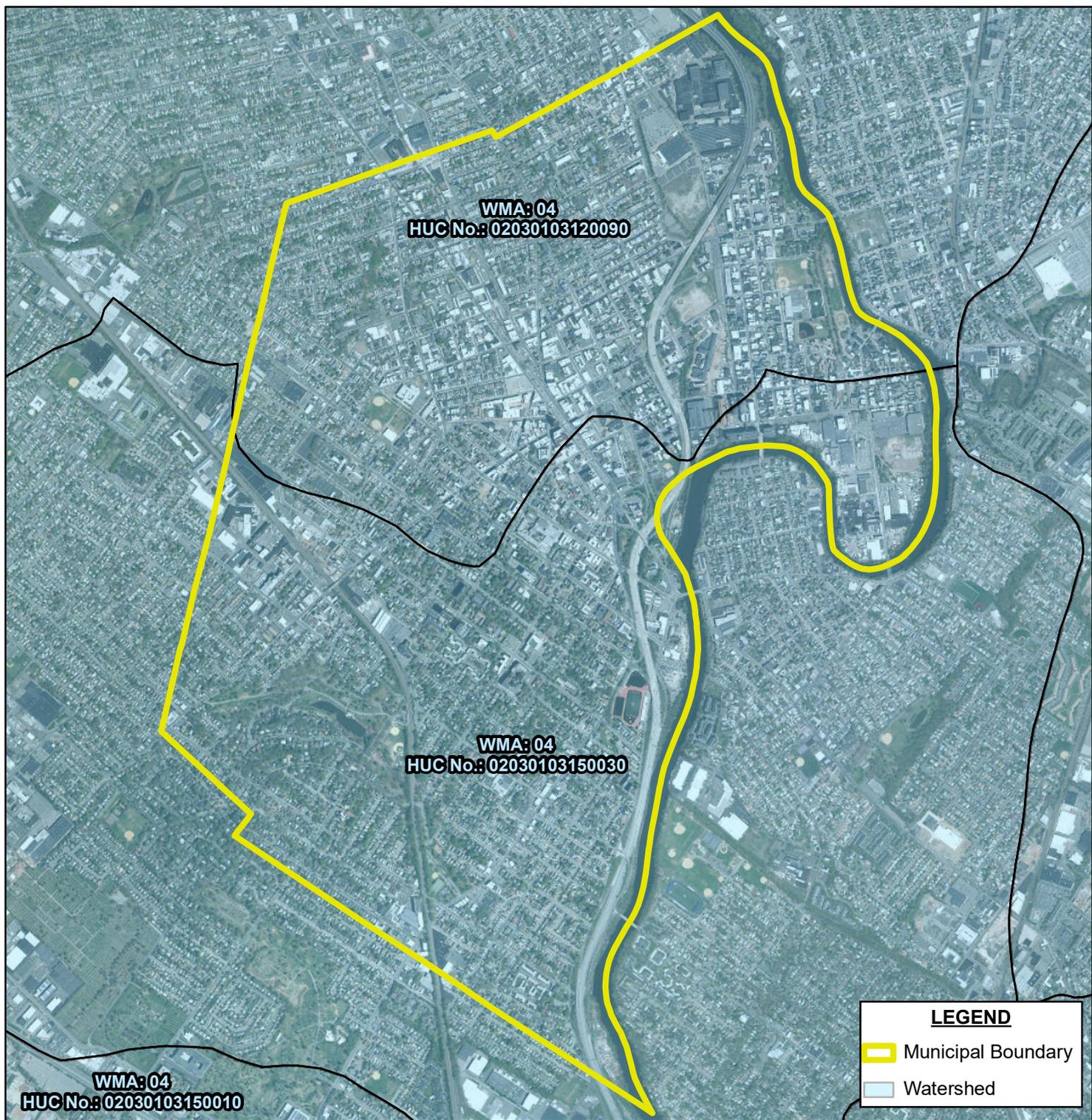
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GROUNDWATER RECHARGE MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN

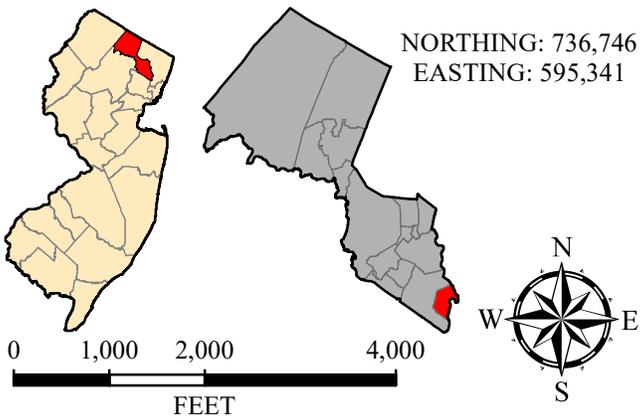
CITY OF PASSAIC

PASSAIC COUNTY NEW JERSEY

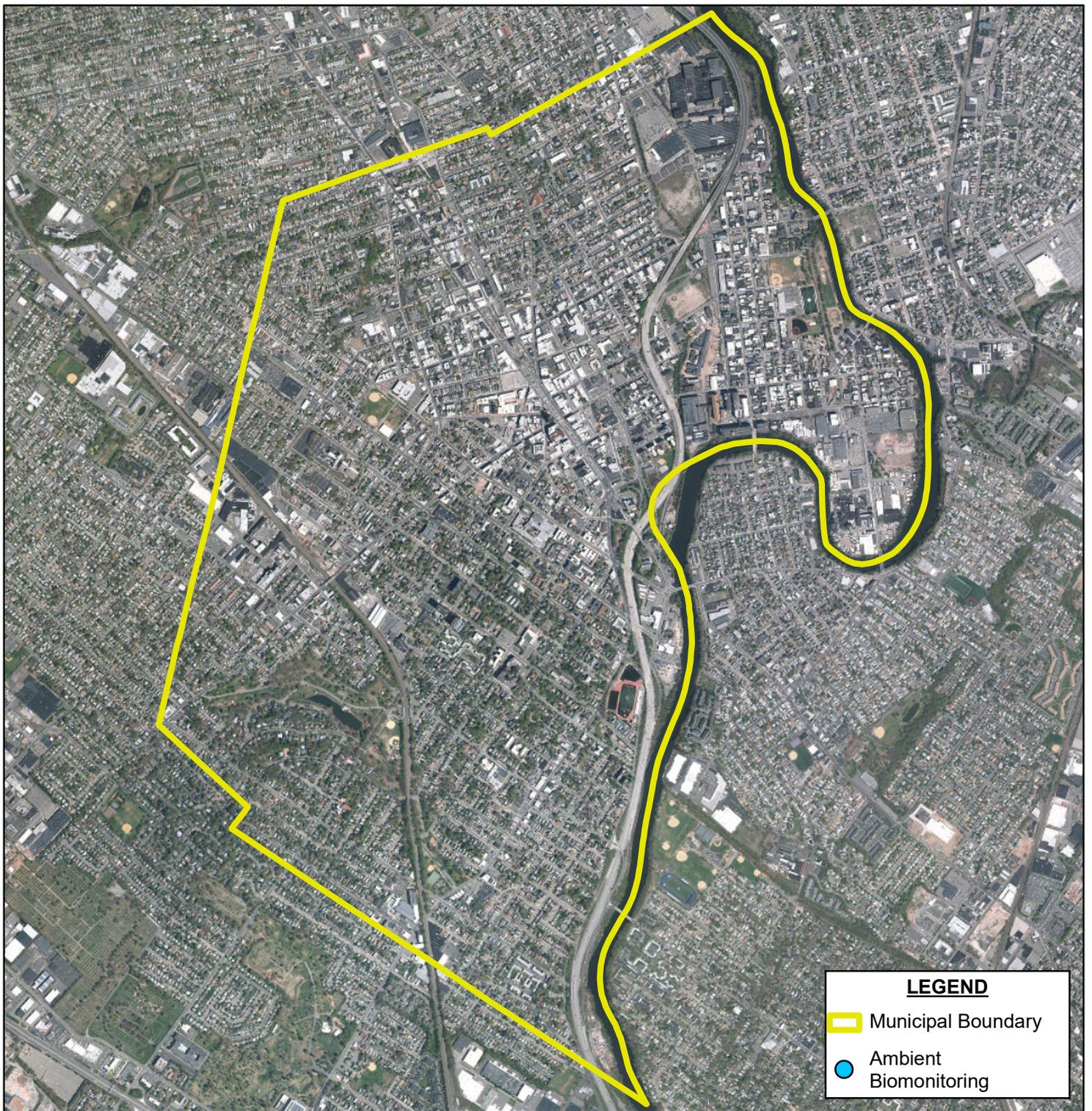
DR. BY: JMW	SCALE: 1 IN = 2,000 FT	JOB NO. PS-328
CKD. BY: FJR	DATE: OCTOBER 2021	FIGURE 12



SOURCE: NJDEP WATERSHED MANAGEMENT AREA DATALAYER



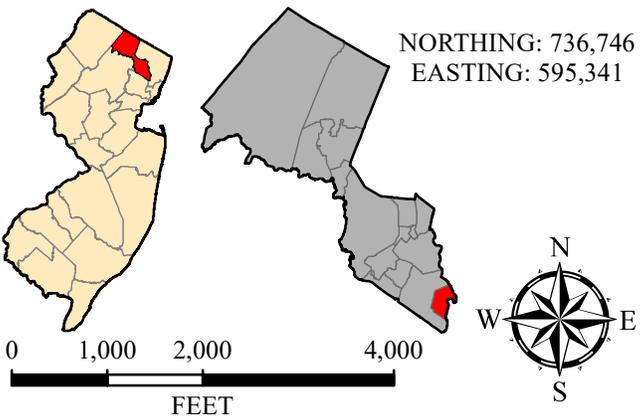
 BOSWELL ENGINEERING 330 PHILLIPS AVE., SOUTH HACKENSACK, N.J. 07606		
WATERSHED MANAGEMENT AREA MAP MUNICIPAL STORMWATER MANAGEMENT PLAN		
CITY OF PASSAIC		
PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 13



LEGEND

-  Municipal Boundary
-  Ambient Biomonitoring

SOURCE: NJDEP AMBIENT BIOMONITORING NETWORK (AMNET) DATALAYER



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**AMBIENT BIOMONITORING NETWORK MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN**

CITY OF PASSAIC

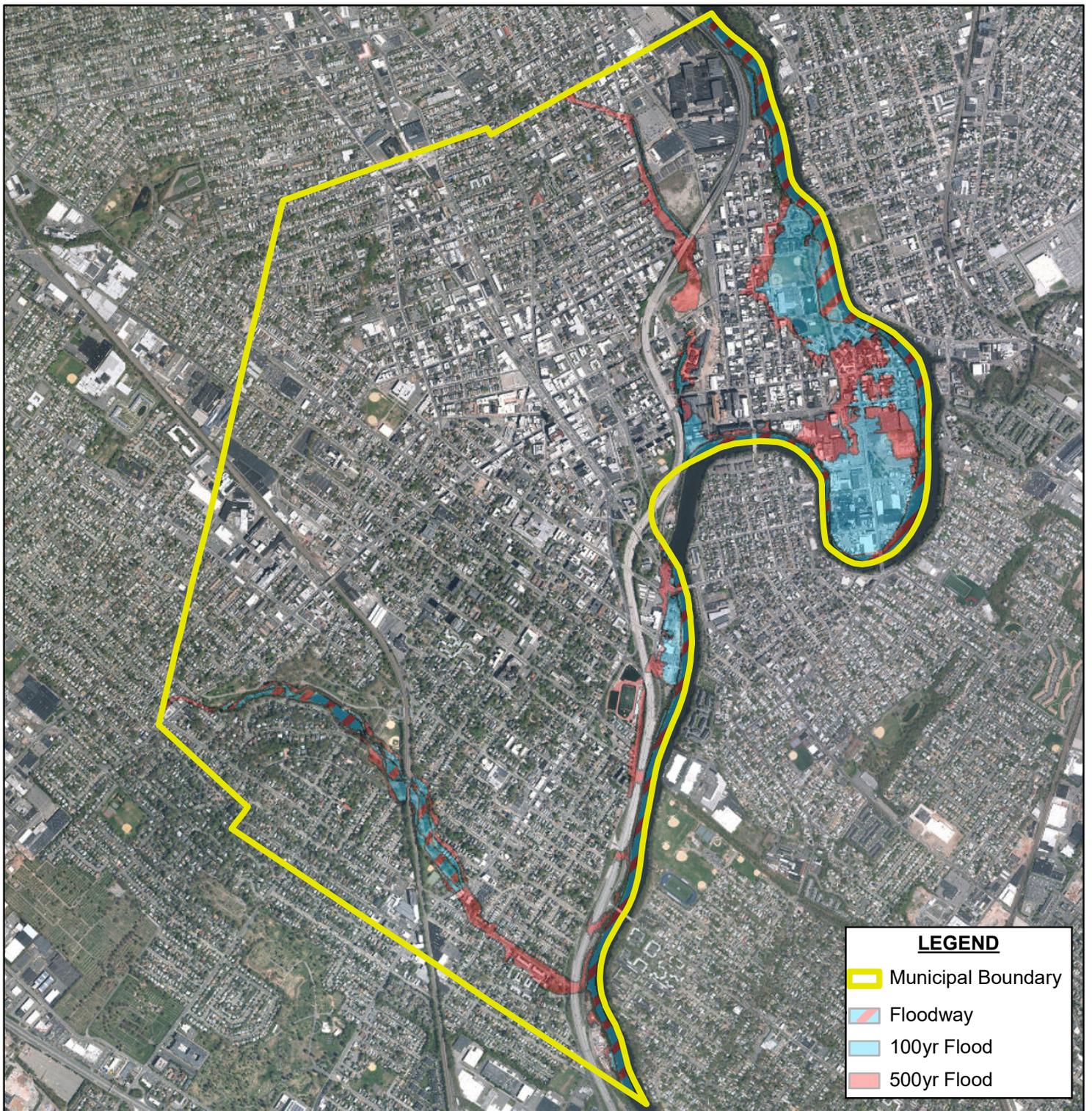
PASSAIC COUNTY

NEW JERSEY

DR. BY: JMW
CKD. BY: FJR

SCALE: 1 IN = 2,000 FT
DATE: AUGUST 2021

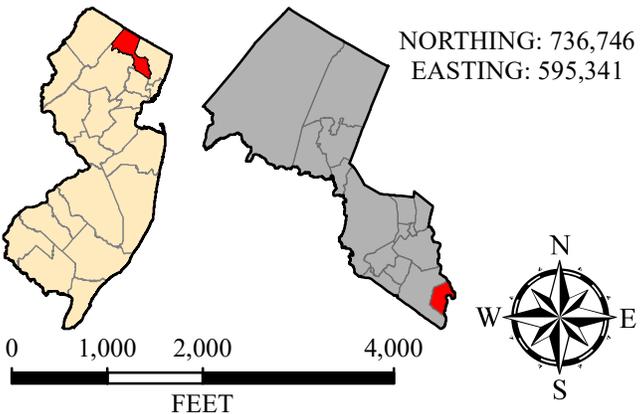
JOB NO. PS-328
FIGURE 14



LEGEND

-  Municipal Boundary
-  Floodway
-  100yr Flood
-  500yr Flood

SOURCE: PASSAIC COUNTY FEMA FLOOD DATA LAYER





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FEMA FLOOD MAP
MUNICIPAL STORMWATER MANAGEMENT PLAN

CITY OF PASSAIC

PASSAIC COUNTY		NEW JERSEY
DR. BY: JMW CKD. BY: FJR	SCALE: 1 IN = 2,000 FT DATE: AUGUST 2021	JOB NO. PS-328 FIGURE 15

V. Design and Performance Standards

The City has reviewed its existing ordinances and adopted the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include language for maintenance of stormwater management measures consistent with the Stormwater Management Rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and the safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins.

The City aims for non-structural measures to be considered first and shall include site design and preventive source controls. To confirm the effectiveness of such measures, applicants must verify the control of stormwater quantity impacts as detailed in the Stormwater Management Rules and the City's Stormwater Control Ordinance.

The Stormwater Management Rules detail the general standards for structural measures which shall be incorporated as needed to meet the soil erosion, infiltration, and runoff quantity standards as identified in the City's Stormwater Control Ordinance. The design standards for the use of structural stormwater management measures are identified within the New Jersey Stormwater Best Management Practices Manual and other designs or practices may only be used upon approval from the Hudson Essex Passaic Soil Conservation District (HEPSCD). The design and construction of such facilities must comply with the NJ Soil Erosion and Sediment Control Standards as well as any other applicable State regulations including the Freshwater Wetland Protection Act rules, the Flood Hazard Control Rules, the Surface Water Quality Standards, and the Dam Safety rules. Stormwater runoff quality controls for total suspended solids and nutrient load shall meet the design and performance standards as specified in the Stormwater Management Rules.

The Soil Erosion and Sediment Control Act of 1976 stipulates that any project proposing more than 5,000 square feet of soil disturbance must have a Soil Erosion and Sediment Control (SESC) Plan certified by the local district. Prior to any construction, the Building Department will review the application and, where applicable, require submission to the Hudson Essex Passaic Soil Conservation District to obtain a certification of approval prior to issuance of any construction permits.

In addition to the adoption of the above performance standards, during construction the City inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed. The City assumes responsibility for the operation and maintenance of municipally owned stormwater management facilities. Additionally, as per the Stormwater Control Ordinance, the City requires the maintenance of privately owned stormwater facilities and ensures compliance through annual inspections.

VI. Plan Consistency

The City is not within a Regional Stormwater Management Planning Area; therefore, this Plan does not need to be consistent with any Regional Stormwater Management Plans (RSWMP). As previously stated, according to the NJDEP Bureau of Nonpoint Pollution Control, Passaic does not currently have any applicable stream, lake, or shellfish TMDLs (*Appendix B*). At this time, the City's MSWMP is consistent with the current reported TMDLs, if any RSWMPs or TMDLs are developed in the future, this MSWMP will be updated as necessary to ensure consistency.

As previously stated, the City has incorporated green infrastructure and several non-structural stormwater strategies into their Zoning and Site Plan ordinances. The design of any development that disturbs at least 1 acre of land, increases impervious surface by at least 1/4 acre, creates 1/4 acre or more of "regulated motor vehicle surface"; or a combination of the aforementioned that totals an area of one-quarter acre or more must incorporate nonstructural stormwater management strategies "to the maximum extent practicable." The purpose of some of these non-structural strategies is to reduce damage to life and property by minimizing flooding. New major developments are reviewed for compliance with the Stormwater Management Rules at N.J.A.C. 7:8.

The MSWMP is consistent with the Residential Site Improvement Standards (RSIS) detailed at N.J.A.C. 5:21. The City will utilize the most current RSIS during the stormwater management review of residential development. This MSWMP will be updated to be consistent with any future changes to the RSIS.

The City's existing ordinances also require new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards as well as the requirements of all other applicable regulations. Any project with over 5,000 square feet of disturbance will require approval from the Hudson Essex Passaic Soil Conservation District. Projects disturbing one or more acres of land will require submission of a Request for Authorization (RFA) to the NJDEP Bureau of Non-Point Pollution Control. Additionally, all projects must be in compliance with the Passaic County Stormwater Management Guidance Manual which is in accordance with the New Jersey County Planning Enabling statutes (N.J.S.A. 40:27-1 et seq.). Approval of construction permits shall not be issued until all required approvals are received from the necessary districts, departments, and agencies.

Due to Passaic containing lands classified as PA 1 the City defers to the New Jersey State Development and Redevelopment Plan adopted March 1, 2001 as it pertains to development and redevelopment.

Furthermore, Passaic will refer to the Green Stormwater Infrastructure Element of the Passaic County Master Plan adopted November 29, 2018 for guidance pertaining to stormwater management. Passaic specifically will refer to Appendix A1 Passaic County Stormwater Management Guidance Manual in regards to detailed information on the use of stormwater best management practices (BMPs), and to ensure developers will utilize Green Stormwater Infrastructure (GSI) techniques that comply with the County's requirements for land development activities.

VII. Nonstructural Stormwater Management Strategies

Nonstructural measures are utilized in low impact development to reduce stormwater runoff impacts. The NJDEP Stormwater Management Rules at N.J.A.C. 7:8-2.4 require the design of any development that disturbs at least 1 acre of land, increases impervious surface by at least 1/4 acre, creates 1/4 acre or more of “regulated motor vehicle surface”; or a combination of the aforementioned that totals an area of one-quarter acre or more must incorporate nonstructural stormwater management strategies “to the maximum extent practicable.” N.J.A.C. 7:8-2.4(g) identifies the following nonstructural stormwater management strategies:

1. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
2. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
3. Maximize the protection of natural drainage features and vegetation;
4. Minimize the decrease in the "time of concentration" from pre-construction to postconstruction. "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed;
5. Minimize land disturbance, including clearing and grading;
6. Minimize soil compaction;
7. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers, and pesticides;
8. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
9. Provide other source controls to prevent or minimize the use or exposure of pollutants from development sites in order to prevent or minimize the release of those pollutants into stormwater runoff. These source controls include, but are not limited to:
 - i. Development design features that help to prevent accumulation of trash and debris in drainage systems;
 - ii. Development design features that help to prevent discharge of trash and debris from drainage systems;
 - iii. Development design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and
 - iv. When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

The above referenced measures can be grouped into four general categories:

1. Vegetation and Landscaping
2. Minimizing Site Disturbance
3. Impervious Area Management;
4. Time of Concentration Modifications

The City's Stormwater Control Ordinance has been updated to incorporate the Stormwater Management Rule amendments for March 2021. All relevant City ordinances, including the Zoning Ordinance and the most recent Master Plan reexamination, are under review to update verbiage to encourage the implementation of nonstructural stormwater management measures. This MSWMP has been developed pursuant to N.J.A.C. 7:8-3 and 4. The following assessment of the current ordinances and documents has been prepared for future revisions regarding the four general categories mentioned above:

Vegetation and Landscaping

Existing and proposed vegetation at a land development site can significantly reduce the site's impact on downstream waterways and water bodies. To better manage stormwater runoff as it pertains to vegetation the City has identified the following potential improvements.

- All future developments shall be reviewed with a focus on preserving natural vegetative cover. Applications will require a plan showing natural vegetated areas on the pre-developed site and a narrative to be accompanied with photographs describing each area's vegetated and hydrologic characteristics. The City is considering the establishment of easements or deed restrictions on specific portions of parcels and lots to prohibit any future disturbance or alteration to vegetated areas.
- Disturbed sites within the City shall utilize native plants to reduce potential runoff from fabricated surfaces including pavement and turf fields. The City is considering the incorporation of native ground cover requirements for proposed development projects.
- The City plans to review the existing impervious surface cover within the municipality to determine where the implementation of vegetative filters located immediately downstream of impervious surfaces such as roadways and parking lots to achieve pollutant removal, groundwater recharge, and runoff volume reduction. Additionally, vegetated buffers may be utilized adjacent to streams, creeks, and other waterways and water bodies can also help mitigate thermal runoff impacts, provide wildlife habitat, and increase site aesthetics.

Minimizing Land Disturbance

The City of Passaic's recommendations are similar to those for low impact development. Therefore, for all phases of development, the City will consider the New Jersey Geological Survey's recommendations as listed below: The City of Passaic will consider reviewing projects for low impact development as per the standards listed below:

1. Do not concentrate flows.
2. Minimize grading.
3. Build within landscape (design around existing topography).
4. Do not alter natural drainage areas.
5. Minimize the amount of imperviousness.
6. Increased structural loads at the site can contribute to ground failures.
7. Changes to existing soil profile, including cuts, fills, and excavations, should be minimized.

The City will also refer to the additional information on development found in Appendix A-10 of the New Jersey Department of Agriculture's Soil Erosion and Sediment Control Standards or from either the State Soil Conservation Committee (SSCC) or the New Jersey Geological Survey (NJGS).

Additionally, the City will consider the implementation of deed restrictions as it pertains to redevelopment and post-construction to limit the expansion of impervious cover.

Impervious Area Management

Impervious areas within watersheds can have significant impacts on stream health. Increased stormwater runoff often results in degradation of water quality; increased waterway velocities, erosion, and flooding; and nonpoint source pollution. Comprehensive management of impervious cover can help reduce these impacts on watercourses and waterbodies and help to increase surface storage, infiltration and groundwater recharge, lessen stormwater runoff, and reduced storm sewer construction, maintenance, and repair costs. Impervious area management is significant as 2,381 sq. mi. (73.52%) of the City is classified as impervious as of 2015 (**Figure 11**). With consideration to the overall benefits of impervious surface reduction and the regulations set forth in N.J.A.C. 5:21 RSIS the City is considering ordinance modifications discussed below.

During the design process, time of concentration modifications to support low impact development will be considered to avoid or decrease the time of concentration by controlling the site factors that impact the rate of runoff. Specific factors include surface roughness changes, slope reduction, and vegetated conveyance.

City Code and Ordinance Analysis

To manage stormwater and protect the public interest, the City of Passaic has implemented a number of ordinances and regulations that incorporate nonstructural stormwater management requirements. The City Code and Ordinances were reviewed with regard to incorporating nonstructural stormwater management strategies. A summary of the of the pertinent provisions is presented below:

Chapter 258A, entitled Stormwater Control, was reviewed with regard to incorporating nonstructural stormwater management strategies. Through the adoption of the new Stormwater Control Ordinance; to repeal and replace §§ 258A-1 through 258A-13 of the code; several changes have been made to incorporate nonstructural stormwater management strategies, as follows:

Section 258A-2. Definitions:

The definition of “Major Development” has been updated to incorporate the creation of one-quarter acre or more of “regulated motor vehicle surface” to include more projects to which these rules apply.

Including the updated definition of major development mentioned above, definitions have been included within this section to clarify and define various areas that pertain to nonstructural stormwater management strategies that include, but are not limited to, the following: “Regulated Impervious Surface”, “Regulated Motor Vehicle Surface”, “Green Infrastructure”, “New Jersey Stormwater BMP Manual”, etc.

Section 258A-4. Stormwater Management Requirements for Major Development:

The City has adopted changes to apply the total suspended solids (TSS) removal requirement to the runoff from motor vehicles surfaces.

Section 258A-5A. Nonstructural Stormwater Strategies:

The City has adopted standards for nonstructural management measures as follows:

- A. Buffers. Buffer areas (Refer to §§ 317-23, 317-28, 317-43, 317-51 and 317-53 of the City's Code.) are required along all lot and street lines separating residential uses from arterial and collector streets, separating a nonresidential use from either a residential use or residential zoning district line and along all street lines where loading and storage areas can be seen from the street. The buffer area shall use native vegetation, which requires less fertilization and watering than nonnative species. Buffer areas may be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces. Preservation of natural wood tracts and limiting land disturbance for new construction shall be incorporated where practical.
- B. Curbs and gutters. Curb cuts or flush curbs with curb stops are encouraged where practical to allow vegetated swales to be used for stormwater conveyance and to allow for the disconnection of impervious areas where practical.
- C. Drainage systems. An existing ordinance (Refer to §§ 263-4, 263-11, 263-14, 263-15, 317-9, 317-18, 317-31, 317-50 and 317-51.) may require that all streets be provided with inlets and pipes where the same are necessary for proper drainage. The use of natural vegetated swales in lieu of inlets and pipes is encouraged where practical.
- D. Driveways and access ways. The use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge should be considered for driveways and accessways where practical. Consideration should be given for subsurface soil conditions. The use of crowned driveways is also encouraged to promote disconnectivity between impervious surfaces and allow grass areas to promote groundwater recharge.
- E. Natural features. Natural features, such as trees, brooks, swamps, hilltops and views, are to be preserved whenever possible, and that care be taken to preserve selected trees to enhance soil stability and landscape treatment of the area. In addition, forested areas shall be maintained to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees.
- F. Nonconforming uses, structures or lots. The existing ordinance (Refer to §§ 317-10, 317-4 and 317-56 through 317-59) may allow an applicant/owner of an existing use to propose additions or alterations that exceed the permitted building and/or lot coverage percentages. The applicant should mitigate the impact of the additional impervious surfaces unless the stormwater management plan for the development provided for these increases in impervious surfaces. This mitigation effort must address water quality, flooding and groundwater recharge.

- G. Off-site and off-tract improvements. Any off-site and off-tract stormwater management and drainage improvements shall conform to the design and performance standards described here-in and in the City Code.
- H. Off-street parking and loading. Where practical, parking lots with more than 10 spaces and all loading areas should allow for flush curb with curb stop or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. The use of natural vegetated swales for the water quality design storm with overflow for larger storm events into storm sewers should be utilized where practical. A developer may demonstrate that fewer spaces would be required, provided that area is set aside for additional spaces if necessary. Pervious paving could be provided for overflow parking areas.
- I. Performance standards. Pollution source control must be evaluated in order to prohibit materials or wastes from being deposited upon a lot in such form or manner that they can be transferred off the lot, directly or indirectly, by natural forces such as precipitation, evaporation or wind. Materials and wastes that might create a pollutant or a hazard shall be enclosed with appropriate measures/devices.
- J. Shade trees. The existing ordinance (Refer to §§ 263-9, 263-16, 317-33, 317-51 and 317-59.) requires shade trees to be planted along the street on which the building fronts. In addition to this section, the City may adopt a tree preservation ordinance that restricts and otherwise controls the removal of mature trees throughout the City. This ordinance should recognize that the preservation of mature trees and forested areas must be considered in the management of environmental resources, particularly watershed management, air quality, and ambient heating and cooling. A critical disturbance area that extends beyond the driveway and building footprint where clearing of trees cannot occur shall be depicted on the plan minimizing land disturbance. Identification of forested areas and the percentage of wooded areas be protected from disturbance shall also be provided.
- K. Sidewalks. Sidewalks should be designed to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces or use permeable paving materials where appropriate.
- L. Soil erosion and sediment control. The applicant shall comply with the New Jersey Soil Erosion and Sediment Control Standards and/or the City's Soil Movement Ordinance (Refer to §§ 317-55 and 263-9 of the City's Code.) as applicable and should incorporate procedures to retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and install diversions, sediment basins and similar required structures prior to any on-site grading or disturbance.

The City's Stormwater Control Ordinance was adopted and implemented based on the New Jersey Department of Environmental Protection (NJDEP)'s model ordinance found at Appendix D of the BMP Manual. The City is currently considering adopting standards stronger than the statewide

minimum requirements following the Watershed Institute Enhanced Model ordinance. The Watershed Institute Enhanced Stormwater Management Ordinance includes the following provisions: A reduced threshold definition for major development; Requirements for major developments to treat runoff from all impervious surfaces for water quality; Requirements for stormwater management for minor developments over 250 square feet; Requirements that address redevelopment; Requirements for Low Impact Development techniques to be utilized; and the inclusion of maintenance reporting requirements. Additionally, the City is considering adopting a zoning ordinance to specifically address stormwater management requirements for minor development.

The City will also be considering a new ordinance to provide protection to the lands surrounding the public well fields. The ordinance standards will limit the use of specific potential hazardous materials within wellhead protection areas. Additionally, Best Management Practice procedures will be implemented for other potential pollutant sources in the wellhead protection areas.

As mentioned previously, the City lies within wellhead protection areas. A wellhead protection area is divided into three (3) tiers; the 2-year (Tier 1), 5-year (Tier 2), and 12-year (Tier 3); are intended to represent the time of travel (TOT) a groundwater contaminant in the zones could be expected to reach a municipal potable supply well. The NJDEP then prioritizes the investigation and remediation of contaminated sites within the 2 and 5-year tiers. Wellhead protection areas are shown in *Figure 7*. The City may also wish to adopt specific ordinances to further protect wellhead protection areas and minimize the infiltration of pollutants into aquifers.

In conclusions, the City will refer to the New Jersey Stormwater Best Management Practices Chapter 2 “Low Impact Development Techniques” during the review and adoption process of the amendments mentioned above.

VIII. Land Use/Build-Out Analysis

As previously stated, Appendix C of the New Jersey Best Management Practices Manual last revised in March of 2020 outlines that municipalities with less than one square mile of vacant or agricultural lands are not required to complete a “build-out” analysis. Therefore, this plan does not require a “build-out” analysis as the City of Passaic contains 0.051 sq. mi. (32.756 acres) of vacant land and no agricultural land as depicted in *Figure 4*.

A record search identified vacant property in the City as shown below:

Table 6: Vacant Properties Within the City of Passaic

Block	Lot	Owner	Parcel Size (Acres)
1001.03	2	CITY OF PASSAIC	2.46
1003	9	MARRERO MIRIAM	0.0574
1003	15	GREEN UNION LLC	0.0574
1009	8	FIRST INTERNATIONAL INVESTORS LLP	0.1156
1017	26	PASSAIC ST PROPERTIES LLC	0.313
1019.01	2	CYRWUS, SOPHIE	0.0574
1019.01	8	PB VREELAND ASOC LLC	0.0574
1019.01	30.01	SHVARTSMAN ARNOLD	0.121
1019.02	1	POWASNICK, FREDERICK & W	0.0574
1019.02	6	POWASNICK, FREDERICK & W	0.0944
1019.02	8	RODRIGUEZ ISMAEL	0.1622
1019.02	13	RODRIGUEZ ISMAEL	0.0316
1020	20	TMS PROPERTY LLC	0.0646
1020	22	TMS PROPERTY LLC	0.0646
1025	13	LOU GILL FAMILY LLC	0.0574
1030	1	101 SEVENTH ST LLC	5.2
1030	23	CONTEMPO REALTY LLC/W.KAPLAN CPA	6.49
1033	6	129 PASSAIC ST R LLC	0.287
1034	16	JAYMAR HOLDINGS LLC	0.0574
1034	25	SYL-ROM	0.0574
1034	27	SYL-ROM	0.0574
1034	29	SYL-ROM	0.0381
1035	7	161 PASSAIC ST LLC	0.115
1035	12	JACKIE EVANS INC	0.0574
1035	19	SANCHEZ, FELIX & CARMEN H/W	0.0565
1042	30	DISTMAR CORP	0.0574
1045	7	152-156 MARKET ST LLC	0.1722
1045	28	PEREZ, DOMINGO	0.115

Block	Lot	Owner	Parcel Size (Acres)
1051	1	FE CLIFTON LLC C/ORD MGMT.LLC.	0.0992
1079	41	MARTINE MANAGEMENT LLC	0.1653
1080	10	THE ST PAUL BAPTIST CHURCH	0.1148
1130	13	CIVITANO, D.&H/W SYNCHRIS REALTY	0.0103
1130.01	33	CANALS, FELIX	0.0453
1209	1	NJ BELL TELE.CO. PROP TX DEPT #3137	0.1091
1262.01	20	18 VAN HOUTEN LLC	0
1263	55	POJANOWSKI JOSEPH	0.0088
1263.01	1	234 MAIN AVENUE LLC	0.081
1292	17	MK PROPERTY HOLDING LLC	0.0413
1292.03	21	VELIZ LUCY & MEDINA GASTON	0.0535
1292.03	24	ZUNIGA RAMIRITO & MORAN JOANNA C	0.045
1292.03	50	ZUNIGA RAMIRITO & MORAN JOANNA C	0.078
1292.03	52	ZUNIGA RAMIRITO & MORAN JOANNA C	0.0526
1297.01	13	CRUZ CESAR	0.035
1321.01	11	CONGREGATION ZICHRON SHLOMO	0.0317
1321.01	20	FALSTROM CO	0.9024
1322	30	MUSTAFA MUSTAFA & SALAH DIN MUSTAFA	0.0594
1324	6	CONGREGATION E YEHOSHUA INC	0.1978
2143	1	HIDAYA LLC	0.0063
2143	2	HIDAYA LLC	0.1145
2147	12	PASSAIC 585 URBAN RENEWAL LLC	0.221
2150	12	3X BROADWAY LLC	0.112
2152	14	SAENZ EFREN AND OSVALDO SAENZ	0.0664
2153	5.01	JULIE RICHARD LLC	0.2725
2157	78	EST SIMMONS HENRY P (GILLEN JANE	0
2170	30	TABOR ASSOC LLC	0.1004
2172	29.01	RAMOS, MARIO	0.0779
2172	40	MOORE, A & JANIE H/W C/O E. MATHIS	0.0574
2172	63	174 GROVE STREET LLC	0.1469
2172	74	MANNA ARMANDO	0.1469
2172.01	31	VALLE, LUIS	0.0861
2172.01	66	OAK ENDURANCE LLC	0.1469
2172.01	68	295 OAK ST LLC	0.1469
2172.01	77	309 OAK ST LLC	0.0016

Block	Lot	Owner	Parcel Size (Acres)
2175	15	SPJP REALTY CO.	0.3998
2175.01	38	A BASIT MORTGAGE CO LLC	0.2322
2175.01	79	SEDLAK JOSEPH & ALYSSA	0.0574
2175.03	8	PEREZ CARLOS ETAL	0.0574
2175.03	17	ORTIZ MANUEL	0.0574
2175.03	34	ARMILLA CECILIO	0.0536
2175.04	45	URTEAGA LUIS W	0.0161
2184	5	TRUSTEES OF THE UNION B CHURCH	0.1582
2185	15	SMITH, WILLIE & MATTIE M. H/W	0.056
2185.01	27	HALL BRIAN & ROSA	0.0577
2186	7	3X SUMMER LLC	0.107
2186	8	SUMMER 17 LLC	0.2146
2186	42	SANTOS, AWILDA	0.0717
2187	27	425 HIGHLAND AVE LLC	0.099
2187.01	6	SHERIDEN PINES LLC	0.0263
2188	18	ROMEO, RONALD P. & KATHLEEN L. H/W	0.036
2188.01	10	JONES, SALLY	0.0011
2190	19	ELLEN CARL	0.0039
2190	29	ELLEN, CARL	0.0035
2190	29.01	SOTO ORLANDO	0.0074
2190	30	493 SOUTH 17TH STREE, LLC	0.0736
2193	16	MORABITO MICHELL	0.0384
2193	17	PALACIOS, ELIZABETH	0.0329
2193	18	BELAUNDE, JOSE LUIS & VILMA H/W	0.0428
2193	19	FELICIANO, ANDY & ADA I, H/W	0.0062
2193.02	3	BREITKOPFERWIN & W	0.0709
2193.02	16	MORABITO, MICHELE	0.0025
2194	13	CEDILLO DARWIN & JOHNNY	0.0068
2194.01	1	MAJKA JOSEPH A & SONS	0.007
2195	21	VELASQUEZ JONATHAN S	0.0571
2195.03	13	MACOTE HILARION	0.0574
2195.03	29	OLIVER BENNET	0.0668
2196.01	2	CONCEPCION JUAN	0.0757
2196.01	4	HAMMOND RESTATE PARTNERS LLC	0.1237
2196.01	9	HAMMOND RESTATE PARTNERS LLC	0.0787

Block	Lot	Owner	Parcel Size (Acres)
2197	8.01	14 HAMMOND AVE LLC	0.0737
2203	17	CORPORATION PRESIDING BISHOP	0.117
2203	18	CORPORATION PRESIDING BISHOP	0.2296
2203	19	CORPORATION PRESIDING BISHOP	0.2296
2203	22	CHURCH JESUS CHRIST LATTER DAY STS.	0.2093
2207	25	449 MAIN ASSOCIATES	0.1304
3213	43	SCHOEMANN AVI & JUDITH	0.172
3217	30	COMAN TIMIE L	0.0003
3217	33	BAEZ JUSTO & ESMERDA	0.0812
3219	31	MARTINEZ FERNANDO & BETINA	0.0576
3219	32.01	102.5 GRANT ST LLC	0.0837
3220	29	443 PAULISON AVE LLC	0.2096
3228	33.01	PLOTKIN, STUART & TOVAH	0.0262
3232	1	LAX DAWN	0.2574
3236	13	KOPPELE JEFFREY & CAROLINE	0.185
3245.02	10	BRIGHTON STUDIOS LLC	0.1284
3245.04	1	IR PROPERTY MANAGMENT LLC	0.0736
3245.04	5	TELEP, NICHOLAS & SALLY V. TELEP	0.0124
3246	1.01	TAYLOR SHIRLEY	0.0528
3246	42	ELLEN, CARL	0.0143
3246	50	BORIA RODOLFO	0.0689
3246	81	PSEG SER.CORP.CORP.PROP.DEPT.6TH FL	0.3329
3251	2.02	JULIE RICHARD LLC.	0.4741
3253	15	MUNK, CHIAM & BROCHA H/W	0.188
3256	72	SCHULMAN ELLI & LARA	0.2841
3256	76	ORCHARD PASSAIC LLC	0.0607
3257	52	PASSAIC CLIFTON DRIV URSELF R LLC	0.264
3258	37	MILLER PHILIP & ELIOVICH M	0.0012
3258	42.02	SD R E CONSLTNTS LLC & AVALON PROP	0.044
3270	29.02	JULIE RICHARD LLC	0.222
3271.01	10	PEREZ MAGDALENA	0.043
3271.01	19.01	S SAPIR LLC	0.0066
3273	25	430 VAN HOUTEN LLC	0.0568
3274.01	5	MARINARO DEVELOPMENT LLC	0.2449
3275.01	1	HOWARD WHSE. INC. C/O WAITEX WHSE.	0.1

Block	Lot	Owner	Parcel Size (Acres)
3276	12	RUBIO ANDERSON I & DIONISIO RI	0.0574
3276	23	BARTKOWSKI ADAM	0.0595
3276	31	STANISLAW WOLAK	0.0128
3276	33	MURUGAVEL CHELVARAJAN & YUMUNA	0.0326
3276	35	HALUPKA JOHN	0.0742
3276.01	1	PETER'S INVESTMENT INC.	0.0035
3277	5	DATA, STANISLAW	0.0757
3277	43	DATA, STANISLAW	0.1441
3277.01	16	KRZANOWSKI WALTER J & W	0.1149
3277.01	20	PALYDOWZCZ SEVERIN & OLHA TIC	0.0228
3277.01	37	WEISS AARON/PERLMUTER KAILA/ETAL.	0.0039
3279.01	1	KOBYLARZ, FRED J. & W	0.0573
3279.01	30	ELLEN, CARL	0.0021
3279.01	39	SENTER CHAIM ZEV & NECHAMA	0.0835
3279.01	103	HUTCHASON MARYLEA & CHRISTOPHER	0.0556
3279.01	108	HAYWARD, TIMOTHY B. & LISA H/W	0.0839
3286.03	50	TAYLOR DEBRA & DENISE M.	0.0185
3287	8	YESHIVA K'TANA OF PASSAIC	0.151
3298	90	SCHULMAN AVI & AHUVA H/W	0.0273
3300.02	35	SHAH KIRAN & ASHWIN H/W	0.052
3301	8	37 GRACE TERRACE LLC	0.1079
3304	20	TENNENHAUS SOLOMON	0.1148
3309.01	18	SANTANA NOLASCO & MAYRA MORALES H/W	0.005
3318.01	20	CONCORD ESTATES PASSAIC U R LLC	0.1077
3319	1	CONCORD ESTATES PASSAIC U R LLC	6.29
4055	5	EXCEL PROPERTIES LLC	0.0574
4060	16	265 HILLSIDE AVE LLC	0.0949
4064	42	EL TIO PRODUCTOS MEXICO LLC	0.0956
4067	8	189 MONROE ST LLC	0.0367
4067	9	PERFAY CORP	0.0398
4067	10	PERFAY CORPORATION	0.0765
4075	57	LALAMA DONALD D	0.0197
4075.01	2	IDIL PASSAIC URBAN RENEWAL LLC	7.1078
4089	49	DINZES, HAROLD & ETALS	0.023
4090	11	GONZALEZ ANGEL	0.0574

Block	Lot	Owner	Parcel Size (Acres)
4090	38	DONNA REALTY CO I LLC	0.0574
4091	31	MONROE PLAZA LLC/CO LEVY RAFAEL	0.0574
4092	35	MJ REALESTATE INC	0.057
4094	28	SIBAJA CARMEN	0.0566
4095	34	LOPEZ A. GEIGEL	0.0674
4095	35	LOPEZ GEIGEL & LOPEZ CRUZ H/W	0.0674
4095	36	LOPEZ GEIGEL	0.0674
4098	58	230 232 HARRISON ST LLC	0.504
4102.01	1	DENISE REALTY LLC	0.2328
4103.01	23	950 MAIN AVE LLC	0.0843
4106.01	10	CASEGA LLC	0.2407
4108	6	201 LEXINGTON AVE 123 LLC	0.2149
4108	33.01	CABA REALTY LLC	0.0713
4110	42	PINA MIGUEL & VIDAL ISABEL H/W	0.1118
4110	58	PLACENCIONAILDA & DAYSY	0.0222
4112	20.01	UCD II ENTERPRISES LLC	0.0954
4113	28	JACKSON CENTRAL REALTY LLC	0.0809
4117	19	DE DIOS, HERON & ADELA	0.063
4118	11	634 EAST 11TH ST CORP	0.351
4118	14	179 MAIN AVE LLC	0.3731
4129	26	168 JEFFERSON ASSOCIATES INC	0.0748
5000	1	CITY OF PASSAIC	0.332
5000.01	1	PASSAIC ST PROPERTIES LLC	0.039
5000.02	1	PASSAIC ST PROPERTIES LLC	0.6245
5000.03	1	99 SOUTH PASSAIC LLC	0.473
5000.04	1.01	MS TIC B LLC	0.2242

IX. Mitigation Plans

Upon review by the City's governing body, Passaic may utilize the following mitigation plan in the future. However, at this time the municipality is not granting variances or waivers from the conditions set forth within the adopted Stormwater Control Ordinance. Approval of the option to utilize a mitigation plan and choice of mitigation plan shall be under the sole discretion of the City agency providing review, i.e. Board of Adjustment, Planning Board, City Council, and the City Engineer.

This mitigation plan is provided for potential future implementation as it pertains to a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. Presented below is a hierarchy of options acceptable for review by the City.

Mitigation Project Criteria

1. The mitigation project must be implemented in the same drainage area as the proposed development and provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property. The mitigation project shall treat runoff that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

The applicant can propose the utilization of one of the following projects to compensate for the deficit of the performance standards resulting from the proposed project. More detailed information on the projects can be obtained from the City Engineer. Listed below are specific projects that can be used to address the mitigation requirement.

Groundwater Recharge

- Retrofit existing detention basins to provide additional cubic feet of average annual groundwater recharge.
- Replace existing deteriorated, impervious overflow parking lots with permeable paving to provide additional cubic feet of average annual groundwater recharge.

Water Quality

- Retrofit existing stormwater management facilities to provide the removal of 90 percent of total suspended solids (TSS) from the parking lot in question.

Water Quantity

- Install stormwater management measures in open spaces within various developments to reduce the peak flow from the upstream development on the receiving stream for the 2, 20, and 100-year storms.
2. If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in Option 1, the proposed project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance is given because the 90 percent TSS requirement is not met, the selected project may address water quality impacts due to applicable TMDLs.

Only a brief description of a potential project is presented here, it is important that the City has sufficient information on each project, including size of the project, permit requirements, land

ownership, and estimated project costs (i.e., permitting fees, engineering costs, construction costs, and maintenance costs).

The City may allow a developer to provide funding or partial funding to the municipality for an environmental enhancement project that has been identified in a Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The funding must be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.

Appendix A

Stormwater Control Ordinance

CITY OF PASSAIC
ORDINANCE NO. 2456-24

ORDINANCE AMENDING CITY CODE OF THE CITY OF PASSAIC, CHAPTER 258A
“STORMWATER CONTROL”

WHEREAS, N.J.S.A. 40:48-2 provides in relevant part that a municipality may make and enforce such ordinances, rules and regulations not contrary to the laws of this state or of the United States as it may deem necessary and proper for the good government, order and protection of persons and property, and for the preservation of the public health, safety and welfare of the municipality and its inhabitants; and

WHEREAS, the City of Passaic regulates the control and discharge of stormwater through the use of stormwater best management practices and nonstructural stormwater management strategies; and

WHEREAS, the New Jersey Department of Environmental Protection (“NJDEP” or the “Department”) has adopted amended stormwater management regulations and requires municipalities to revise their stormwater control ordinances in accordance with the regulations; and

WHEREAS, the City Code of the City of Passaic, Chapter 258A, “Stormwater Control” sets forth the rules and regulations governing the control of stormwater within the City of Passaic; and

WHEREAS, in the interest of the promotion of the general welfare, health and safety, the City Code of the City of Passaic, Chapter 258A “Stormwater Control” shall be amended as set forth below.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Passaic, that Chapter 258A, “Stormwater Control” § 258A-1 through § 258A-13 is hereby amended as follows:

§ 258A-1 THROUGH § 258A-11 shall be amended as reflected herein with the new text being underlined and the deletions being reflected in the crossed-out text.

SECTION I

§ 258A-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 ordinance is to establish minimum stormwater management requirements and controls for “major development,” as defined below in § 258A-2.

C. Applicability

1. This ordinance shall be applicable to the following major developments:

a. Non-residential major developments; and

- b. Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.
2. This ordinance shall also be applicable to all major developments undertaken by the City of Passaic.
3. An application required by ordinance pursuant to C.1 above that has been submitted prior to August 6, 2024, shall be subject to the stormwater management requirements in effect on August 5, 2024 .
4. An application required by ordinance for approval pursuant to C.1 above that has been submitted on or after March 2, 2021, but prior to August 6, 2024- shall be subject to the stormwater management requirements in effect on August 5, 2024
5. Notwithstanding any rule to the contrary, a major development for any public roadway or railroad project conducted by a public transportation entity that has determined a preferred alternative or reached an equivalent milestone before July 17, 2023, shall be subject to the stormwater management requirements in effect prior to July 17, 2023.

D. Compatibility with Other Permit and Ordinance Requirements

1. Development approvals issued pursuant to this ordinance 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 ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.
2. This ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

§ 258A-2: 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 "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” means 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” means 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” means 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” means the increase in soil bulk density.

“Contributory drainage area” means the area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

“Core” means a pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

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

1. A county planning agency or
2. 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” means the Department of Environmental Protection.

“Designated Center” means a State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

“Design engineer” means 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.

“Development” means 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.* 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” means 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” means 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.

“Environmentally constrained area” means 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” means 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 well head 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.

“Empowerment Neighborhoods” means 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.

“Erosion” means the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

“Green infrastructure” means a stormwater management measure that manages stormwater close to its source by:

1. Treating stormwater runoff through infiltration into subsoil;
2. Treating stormwater runoff through filtration by vegetation or soil; or
3. Storing stormwater runoff for reuse.

“HUC 14” or “hydrologic unit code 14” means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

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

“Infiltration” is the process by which water seeps into the soil from precipitation.

“Lead planning agency” means 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” means an individual “development,” as well as multiple developments that individually or collectively result in:

- A. The disturbance of one or more acres of land since February 2, 2004;
- B. The creation of one-quarter acre or more of “regulated impervious surface” since February 2, 2004;
- C. The creation of one-quarter acre or more of “regulated motor vehicle surface” since March 2, 2021; or
- D. A combination of B and C above that totals an area of one-quarter acre or more. The same surface shall not be counted twice when determining if the combination area equals one-quarter acre or more.

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 paragraphs 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” means 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” means 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” means any city, borough, town, township, or village.

“New Jersey Stormwater Best Management Practices (BMP) Manual” or “BMP Manual” means 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 § 258A-4.F. of this ordinance 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" means an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

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

"Person" means any individual, corporation, company, partnership, firm, association, political subdivision of this State and any state, interstate or Federal agency.

"Pollutant" means 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, ground waters or surface waters of the State, or to a domestic treatment works. "Pollutant" includes both hazardous and nonhazardous pollutants.

"Public roadway or railroad" means a pathway for use by motor vehicles or trains that is intended for public use and is constructed by, or on behalf of, a public transportation entity. A public roadway or railroad does not include a roadway or railroad constructed as part of a private development, regardless of whether the roadway or railroad is ultimately to be dedicated to and/or maintained by a governmental entity.

"Public transportation entity" means a Federal, State, county, or municipal government, an independent State authority, or a statutorily authorized public-private partnership program pursuant to P.L. 2018, c. 90 (N.J.S.A. 40A:11-52 *et seq.*), that performs a public roadway or railroad project that includes new construction, expansion, reconstruction, or improvement of a public roadway or railroad.

"Recharge" means the amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

§ 258A-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 § 258A-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 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlnebergi* (bog turtle).
- C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of § 258A-4. 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 § 258A-4.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 § 258A-4.O, P, Q and R to the maximum extent practicable;
 3. The applicant demonstrates that, in order to meet the requirements of § 258A-4.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 § 258A-4.D.3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of § 258A-4.O, P, Q and R that were not achievable onsite.
- 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 § 258A-4.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://dep.nj.gov/stormwater/bmp-manual/>**
- F. Where the BMP tables in the NJ Stormwater Management Rule are different due to updates or amendments with the tables in this ordinance 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

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	60-80	No	No	--

(Notes corresponding to annotations ^(a) through ^(g) are found under 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)	50-90	Yes	No	N/A

(Notes corresponding to annotations ^(b) through ^(d) are found under 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	40-60	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	50-90	Yes	No	N/A

Notes to Tables 1, 2, and 3:

- (a) subject to the applicable contributory drainage area limitation specified at § 258A-4.O.2;
- (b) designed to infiltrate into the subsoil;
- (c) designed with underdrains;
- (d) designed to maintain at least a 10-foot-wide area of native vegetation along at least 50 percent 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 two percent;
- (f) designed with a slope of equal to or greater than two percent;
- (g) manufactured treatment devices that meet the definition of green infrastructure at § 258A-2;
- (h) manufactured treatment devices that do not meet the definition of green infrastructure at § 258A-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 § 258A-6.B. Alternative stormwater management measures may be used to satisfy the requirements at § 258A-4.O only if the measures meet the definition of green infrastructure at § 258A-2. Alternative stormwater management measures that function in a similar manner to a BMP listed at Section O.2 are subject to the contributory drainage area limitation specified at Section 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 Section 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 § 258A-4.D is granted from § 258A-4.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 one-third the width of the diameter of the orifice or one-third 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 § 258A-8.C;
 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, 7.4, and 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 § 258A-8; and
 5. The size of the orifice at the intake to the outlet from the stormwater management BMP shall be a minimum of two and one-half inches in diameter.
- J. Manufactured treatment devices may be used to meet the requirements of this subchapter, 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 § 258A-2 may be used only under the circumstances described at § 258A-4.O.4.

- K. Any application for a new agricultural development that meets the definition of major development at § 258A-2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at § 258A-4.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 § 258A-4.P, Q and R shall be met in each drainage area, unless the runoff from the drainage areas converge onsite 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 ordinance shall be reflected in a deed notice recorded in the Passaic County Clerk's Office located at: 401 Grand Street # 130, Paterson, NJ 07505. 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 § 258A-4.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 § 258A-10.B.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 ordinance 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 § 258A-4 of this ordinance 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 Office of the Clerk of the County of Passaic and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with 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 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 § 258A-4.P and Q, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at § 258A-4.F. and/or an alternative stormwater management measure approved in accordance with § 258A-4.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 three 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 § 258A-4.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 § 258A-4.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 § 258A-4.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 § 258A-4.G may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 258A-4.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 § 258A-4.P, Q and R, unless the project is granted a waiver from strict compliance in accordance with § 258A-4.D.

P. Groundwater Recharge Standards

1. This subsection contains the minimum design and performance standards for groundwater recharge as follows:
 - (a) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § 258A-5, either:
 - [1] Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or
 - [2] Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the projected 2-year storm, as defined and determined pursuant to Section §258A-5.D of this ordinance, is infiltrated.
 - (b) This groundwater recharge requirement does not apply to projects within the “urban redevelopment area,” or to projects subject to 4 below.
 - (c) The following types of stormwater shall not be recharged:
 1. 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 approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C, or Department landfill closure plan and areas; and areas** with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

2. 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 one-quarter 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) Eighty percent 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 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
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 percent 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, and

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 § 258A-4.P, Q and R.

(7) In accordance with the definition of FWI 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 FWI.

(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 percent of the anticipated load from the developed site, expressed as an annual average.

(10) This 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 § 258A-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 **current and projected** 2-, 10-, and 100-year storm events, **as defined and determined in Section §258A-5.C and D, respectively, of this ordinance**, do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;
 - (b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for **the current and projected** 2-, 10- and 100-year storm events, **as defined and determined pursuant to Section §258A-5.C and D, respectively, of this ordinance**, 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 ordinances in the drainage area;
 - (c) Design stormwater management measures so that the post-construction peak runoff rates for the current and projected 2-, 10- and 100-year storm events, as defined and determined pursuant to Section §258A-5.C and D, respectively, of this ordinance, are 50, 75 and 80 percent, respectively, of the pre-construction 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 2.i, ii and iii 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.

§ 258A-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://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21422>

or at United States Department of Agriculture Natural Resources Conservation Service, **New Jersey State Office**.

- ~~(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 coefficient **curve numbers** and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term runoff coefficient "**curve number**" applies to both the NRCS methodology above at § 258A-5.A.1.i. ~~and the Rational and Modified Rational Methods at Section V.A.1.ii.~~ A runoff coefficient **curve number** 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 **have 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 pre-construction 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 pre-construction 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/greport/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.

- C. **The precipitation depths of the current two-, 10-, and 100-year storm events shall be determined by multiplying the values determined in accordance with items 1 and 2 below:**

1. **The applicant shall utilize the National Oceanographic and Atmospheric Administration (NOAA), National Weather Service's Atlas 14 Point Precipitation Frequency Estimates: NJ, in accordance with the location(s) of the drainage area(s) of the site. This data is available at:**

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj; and

2. **The applicant shall utilize Table 5: Current Precipitation Adjustment Factors below, which sets forth the applicable multiplier for the drainage area(s) of the site, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county. Alternately, separate rainfall totals can be developed for each county using the values in the table below.**

Table 5: Current Precipitation Adjustment Factors (new)

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.01	1.02	1.03
Bergen	1.01	1.03	1.06
Burlington	0.99	1.01	1.04
Camden	1.03	1.04	1.05
Cape May	1.03	1.03	1.04
Cumberland	1.03	1.03	1.01
Essex	1.01	1.03	1.06
Gloucester	1.05	1.06	1.06
Hudson	1.03	1.05	1.09
Hunterdon	1.02	1.05	1.13
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03
Monmouth	1.00	1.01	1.02
Morris	1.01	1.03	1.06
Ocean	1.00	1.01	1.03
Passaic	1.00	1.02	1.05
Salem	1.02	1.03	1.03
Somerset	1.00	1.03	1.09
Sussex	1.03	1.04	1.07
Union	1.01	1.03	1.06
Warren	1.02	1.07	1.15

D. Table 6: Future Precipitation Change Factors provided below sets forth the change factors to be used in determining the projected two-, 10-, and 100-year storm events for use in this chapter, which are organized alphabetically by county. The precipitation depth of the projected two-, 10-, and 100-year storm events of a site shall be determined by multiplying the precipitation depth of the two-, 10-, and 100-year storm events determined from the National Weather Service's Atlas 14 Point Precipitation Frequency Estimates pursuant to (c)1 above, by the change factor in the table below, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development and/or its drainage area lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county. Alternately, separate rainfall totals can be developed for each county using the values in the table below.

Table 6: Future Precipitation Change Factors (new)

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.22	1.24	1.39
Bergen	1.20	1.23	1.37
Burlington	1.17	1.18	1.32
Camden	1.18	1.22	1.39
Cape May	1.21	1.24	1.32
Cumberland	1.20	1.21	1.39
Essex	1.19	1.22	1.33
Gloucester	1.19	1.23	1.41
Hudson	1.19	1.19	1.23
Hunterdon	1.19	1.23	1.42
Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33
Monmouth	1.19	1.19	1.26
Morris	1.23	1.28	1.46
Ocean	1.18	1.19	1.24
Passaic	1.21	1.27	1.50
Salem	1.20	1.23	1.32
Somerset	1.19	1.24	1.48
Sussex	1.24	1.29	1.50
Union	1.20	1.23	1.35
Warren	1.20	1.25	1.37

§ 258A-7: 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:

<https://dep.nj.gov/stormwater/bmp-manual/>.

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://dep.nj.gov/stormwater/maintenance-guidance/>.

B. Submissions required for review by the Department should be mailed to:

The Division of Watershed Protection and Restoration, New Jersey Department of Environmental Protection, Mail Code 501-02A, PO Box 420, Trenton, New Jersey 08625-0420.

§ 258A-9: 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 ordinances may, pursuant to their authority, require existing stormwater management BMPs to be retrofitted to meet one or more of the safety standards in § 258A-8.C.1, § 258A-8.C.2, and § 258A-8.C.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~~ **greater** 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.

§ 258A-11: Maintenance and Repair

A. Applicability

Projects subject to review as in § 258A-1.C of this ordinance shall comply with the requirements of § 258A-10.B and § 258A-10.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 NJ 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 § 258A-10.B.3 above is not a public agency, the maintenance plan and any future revisions based on § 258A-10.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 non-vegetated linings.
7. The party responsible for maintenance identified under § 258A-10.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 § 258A-10.B.6 and B.7 above.
8. The requirements of § 258A-10.B.3 and B.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.

<https://dep.nj.gov/stormwater/maintenance-guidance/>.

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 notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (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.

ALL OF WHICH IS ADOPTED THIS ___ DAY OF JULY, 2024, BY THE CITY COUNCIL OF THE CITY OF PASSAIC.

SECTION II

If any section or provision of this ordinance shall be invalid in any court the same shall not affect the other sections or provisions of this ordinance except so far as the section or provision so declared invalid shall be inseparable from the remainder or any portion thereof.

SECTION III

All ordinances or parts of ordinances to inconsistent herewith are hereby repealed to the extent of such inconsistency.

SECTION IV

This ordinance shall take effect upon publication as provided by law.

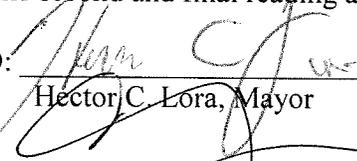
INTRODUCED BY COUNCILPERSON: Maritza Colon - Montanez

SECONDED BY COUNCILPERSON: Terrence Love

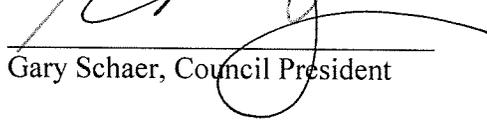
Record of Council Vote on Final Passage	Aye	Nay	Abstain	Absent
COLON-MONTANEZ, M.	X			
GARCIA, J.				X
LOVE, T.	X			
MELO, T.	X			
MUNK, C.	X			
SCHWARTZ, D.	X			
SCHAER, G.	X			

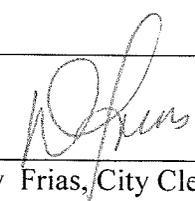
Adoption of first reading at a meeting of the Council of the City of Passaic, NJ on July 16, 2024

Adopted on the second and final reading after the hearing on August 6, 2024

APPROVED: 
Hector C. Lora, Mayor

Date


Gary Schaer, Council President


Weatherly Frias, City Clerk