



Municipal Stormwater Management Plan

City of Margate

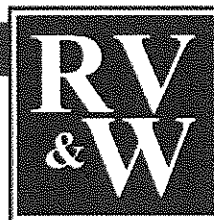
*January 2005
Updated June 2015*

Prepared By

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A handwritten signature in black ink, appearing to read "E. Walberg", is written over a horizontal line.

Edward J. Walberg, P.E.
N.J. License No. 37259



REMINGTON
VERNICK
& WALBERG
ENGINEERS

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I. Introduction

The City of Margate City originally adopted the Municipal Stormwater Management Plan in 2005 in accordance with the requirements contained in N.J.A.C. 7:8 Stormwater Management Rules of the State of New Jersey. The plan was subsequently filed with the County of Atlantic as required in N.J.A.C. 7:8.

This Municipal Stormwater Management Plan (MSWMP) documents and updates the strategy for the City of Margate to address stormwater-related impacts. The update to the 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 development, defined as projects that disturb one or more acre of land or increase impervious surfaces by one-quarter acre or more. These standards are intended to minimize the adverse impact of stormwater runoff on water quality/quantity and the loss of groundwater recharge that provides base flow in receiving water bodies.

Within this plan, there are also several methods proposed to prevent any extra flooding or damage due to excess runoff water. Key ideas are established to take preemptive actions that will help any properties and the municipality as a whole.

In addition, this plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

Although, required by N.J.A.C. 7:8, a detailed buildout analysis of the City has not been performed. However, an analysis has been performed showing developable vacant land within the City. For the purposes of the analysis, properties within wetland areas and lots not meeting current lot area standards have been excluded.

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 final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards are sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

II. Goals

The goals of this Stormwater Management Plan Update are as follows:

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

To achieve these goals, this plan outlines specific stormwater design and performance standards for new major development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included 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 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.

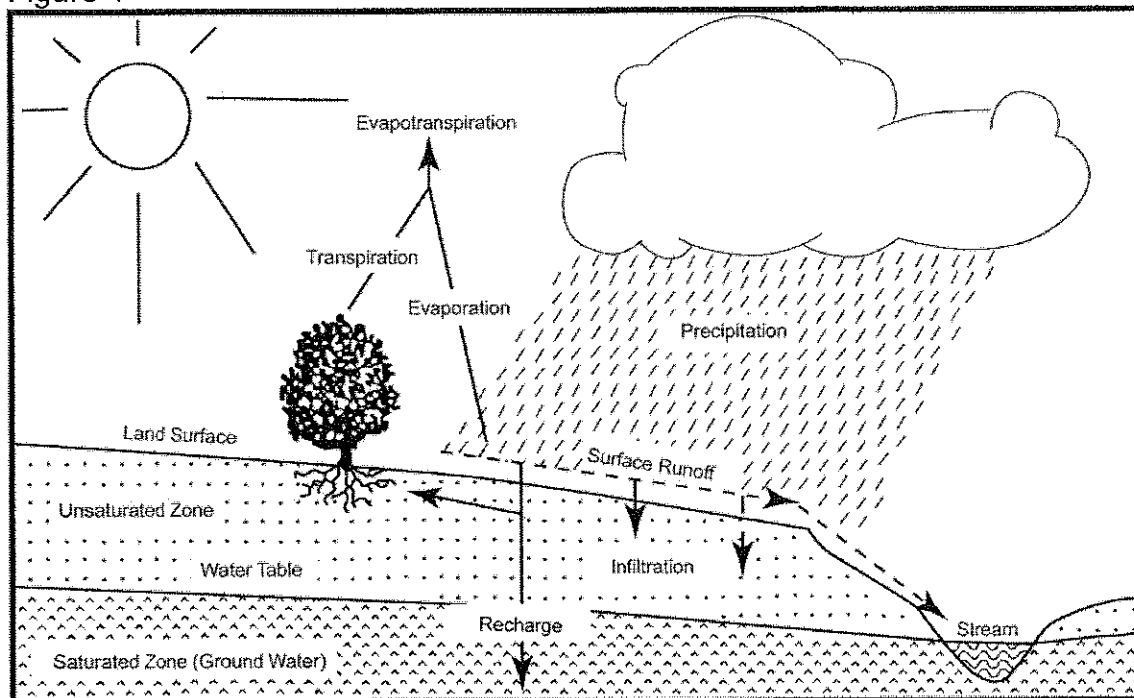
In addition, impervious areas that are connected to each other through gutters, channels and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways 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.

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 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.

Figure 1



Source: New Jersey Geological Survey Report GSR-32
Groundwater Recharge in the Hydrologic Cycle

IV. Background

The City of Margate is located on Absecon Island and is approximately 1.50 miles long and 1.0 miles at its widest point. It is bordered by Ventnor City to the Northeast and Longport Borough to the Southwest, with the Atlantic Ocean to the East and Beach Thoroughfare (the "Bay") to the West.

Margate City is a Walsh Act city located in Atlantic County, New Jersey. As of the 2010 census, the city had a total population of 6,354. Margate City is the home of Lucy the Elephant, a large wooden elephant 65 ft (19.7 m) tall.

According to the United States Census Bureau, the city has a total area of 4.1 km² (1.6 mi²). 3.7 km² (1.4 mi²) of it is land and 0.5 km² (0.2 mi²) of it is water. The total area is 11.39% water.

As of the census of 2010, there are 6,354 people, 3,156 households, and 1,805 families residing in the city. The population density is 1,733.7/km² (4,490.3/mi²). There are 7,144 housing units at an average density of 1,941/km² (5,207.4/mi²).

Margate City has a long and rich history. Originally known as South Atlantic City, in 1869 the State Legislature paved the way for Margate to be chartered as a municipality. In 1909 the name was changed to Margate City.

The City is developed to near maximum build-out based upon available land and environmental regulations. A review of the "Existing Conditions" aerial map and

The Development Constraints map, contained within Appendix A of this plan, indicates there are few, if any, large areas of unconstrained, undeveloped land remaining. Non-developed areas (other than uplands infill or other smaller parcels) cannot be developed due to existing NJDEP Freshwater Wetlands regulations.

The permanent population has declined since 1970. The 1970 City population was 10,576 as indicated the County Master Plan, and declined from (1980-2000), with resident populations of 9,179, 8,437, and 8,193 for census years 1980, 1990 and 2000, respectively. The South Jersey Transportation Planning Organization (SJTPO) projects the population for the City will be 6,164 in 2040.

The NJDEP has established an Ambient Biomonitoring Network (AMNET) to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-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. It should be noted that the closest AMNET site to Margate City is located on Mill Road at the Northfield /City Egg Harbor Township border.

Being a part of a barrier island, Margate City has no freshwater rivers or major streams within its jurisdiction. It is bordered by the Atlantic Ocean and the Intra Coastal Waterway (e.g., "Beach Thoroughfare") on the bayside. A review of the NJDEP's Integrated Water Quality Monitoring and Assessment Report (Year 2012, 305(b) and 303(d) (Integrated List)), finds that none of the waters in Margate as being listed as a high priority for establishing Total Maximum Daily Loads (TMDL's).

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.

It should be noted that as part of the city's Municipal Separate Storm Sewer (MS4) Permit, existing inlets and outfalls are inspected and repairs/maintenance are made. At that time, existing water quantity and erosion problems (if any) are assessed and abated to the maximum extent practicable.

Since the City has been mostly developed for several decades, there has not been a significant increase in impervious cover to the extent that local groundwater recharge is significantly decreasing.

However, major development is required to comply with the requirements contained in §240 Stormwater Management of the City Code (Appendix B).

V. Design and Performance Standards

The City has 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/quantity and loss of groundwater recharge in receiving water bodies. This was implemented by adoption of the §240 Stormwater Management of the Margate City Code in 2006.

The design and performance standards include the 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 language for safety standards consistent with N.J.A.C. 7:8-6 (Safety Standards for Stormwater Management Basins).

During construction, City inspectors observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed. All streets within the City and the stormwater management systems are under control of the City, with the exception of Ventnor Avenue (Atlantic County Route 619) and Jerome Avenue (Atlantic County Route 563) from Ventnor Avenue to the Margate Bridge.

Projects located on Ventnor Avenue (CR 629) and Jerome Avenue (CR 563) are subject to Atlantic County review when required by N.J.S.A. 40:27-6 et seq. Atlantic County is responsible for the storm sewer system located within Ventnor Avenue and the portion located within Jerome Avenue from Ventnor Avenue to the Margate Bridge. All work performed in these roads is inspected by the County. It should be noted that Atlantic County is currently in the process of upgrading the storm sewer system on the north side of Ventnor Avenue from West Drive to Delavan Avenue. The County anticipates that the work will be completed in the Fall of 2015.

Projects that disturb more than 5,000 square feet are required to obtain certification from the Cape Atlantic Conservation District. The Cape Atlantic Conservation District is responsible for insuring the soil erosion and sediment control measures required by the certification are adhered to during construction.

VI. Preventative Measures

The City has instituted a variety of means to help reduce flooding in the City. The following are actions the City takes in respect to reducing flooding and managing stormwater runoff (See Appendix E for additional information):

1. Requires bulkheads along the Atlantic Ocean to be constructed to elevation 13.0 (NAVD 88).

2. Requires bulkheads constructed on the canals, lagoon and Beach Thoroughfare to be constructed to a minimum elevation of 7.5 (NAVD 88).
3. Sweeps all streets in the City weekly.
4. Inspects and cleans all stormwater inlets at a minimum on an annual basis.
5. Inspects stormwater system upon citizen complaints.
6. Installed rubber tide check valves on all outfalls with an ultimate discharge to Beach Thoroughfare.
7. Replaces concrete gutter on streets during street reconstruction projects to prevent ponding of stormwater.
8. Replaces substandard inlets and inlet casting during street reconstruction projects (See Appendix C).
9. Upgrades stormwater pipe sizes during street reconstruction projects, when feasible.

Since the adoption of the Stormwater Management Plan in 2006, The City has replaced and/or installed approximately:

1. 71,700 linear feet of concrete gutter.
2. 150 linear feet of 6" diameter storm sewer pipe.
3. 2,600 linear feet of 8" storm sewer pipe
4. 2,800 feet of 10" storm sewer pipe.
5. 3,900 linear feet of 12" diameter storm sewer pipe.
6. 1,700 linear feet of 15" diameter storm sewer pipe.
7. 50 linear feet of 15" diameter storm sewer pipe sliplining
8. 215 linear feet of 16" diameter storm sewer pipe.
9. 50 linear feet of 18" diameter storm sewer pipe.
10. 2,900 linear feet of 24" diameter storm sewer pipe.
11. 2,100 linear feet of 30" diameter storm sewer pipe.
12. 45 linear feet of 36" diameter storm sewer pipe.
13. 230 new storm sewer inlets.
14. 4 reconstructed inlets.
15. 105 new storm sewer manholes.
16. 20 inlet casting replacements with compliant inlet curb pieces and bicycle safe grates.
17. 4 new rubber tide check valves on outfalls
18. 1 new storm sewer pump station

As evidenced, by the amount of storm sewer system replacements and installation, the City is committed to improving stormwater management in the City.

The City intends to continue improving the storm sewer system throughout the city as part of their capital improvement program. The City has plans for installing the following as part of the City's 2014 Road Program (to be constructed in 2015):

1. 5,750 linear feet of concrete gutter.

2. 825 linear feet of 12" diameter storm sewer pipe.
3. 510 linear feet of 18" diameter storm sewer pipe.
4. 25 linear feet of 20" storm sewer pipe.
5. 80 linear feet of 30" diameter storm sewer pipe.
6. 24 new storm sewer inlets.
7. 11 new storm sewer manholes.

In addition, The City has entered into an interlocal services agreement (Resolution contained in Appendix D) with the County of Atlantic, City of Ventnor City and the Atlantic County Utilities Authority for the refurbishment of the Ventnor Gardens Storm Water Pump Station. The Ventnor Gardens Storm Water Pump Station was originally constructed in the 1960's to help alleviate flooding impacts in the southeastern section of Margate and southwestern section of Ventnor City. During the 1970's the stormwater pump station became inoperable as has continued to be so since then. The project will consist of the installation of three (3) new stormwater pumps, emergency generator, electrical and building upgrades to the station.

Many flooding issues within the City are brought to the attention of the City through the input of residents. All issues are reviewed by either the City's Public Works Department or by the City Engineer and addressed appropriately.

VII. Buildout Analysis

Margate is predominantly built out. Typically new building construction is the result of a structure being demolished on a property and a new one being built in its place. An analysis has been performed to determine the potential for future building construction in the City. A review of the vacant land in 2014 in the City was performed. Upon a determination of the vacant parcels, each was evaluated to determine whether freshwater wetlands impacted the lot and whether the lot contained sufficient area, based on current zoning, to support building construction. Based upon this review, approximately seventy-eight (78) lots were identified as buildable with a combined total area of approximately 7.64 acres (0.012 square miles). Since most lots are not contiguous with other vacant lots, development will continue to be primarily infill. Large scale development is not likely to occur. Though some of the larger lots may be able to be subdivided with two or three new buildings being constructed.

VIII. Plan Consistency

The City is not within a Regional Stormwater Management Planning Area and no TMDLs have been developed for waters within the City; therefore this plan does not need to be consistent with any regional stormwater management plans (RSWMPs) nor any TMDLs. If any RSWMPs or TMDLs are developed in the future, this Municipal Stormwater Management Plan will be updated to be consistent.

The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The municipality utilizes the most current update of the RSIS in the storm water management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The City's Stormwater Management Ordinance requires all new development disturbing more than 5,000 square feet and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards.

IX. Non-Structural Stormwater Management Strategies

Non-structural stormwater strategies for design of new developments, or redevelopment, as defined per the NJDEP Stormwater Design Regulations (NJAC -5.3(b)), include the following objectives:

- A. Protection of areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss.
- B. Minimizing impervious surfaces and breakup or disconnecting the flow of runoff over impervious surfaces.
- C. Maximum protection of natural drainage features and vegetation.
- D. Minimizing the decrease in the "time of concentration" from pre-construction conditions to post-construction conditions.
- E. Minimizing land disturbance during clearing and grading.
- F. Minimizing soil compaction.
- G. Providing low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides.
- H. Providing vegetated open channel conveyance systems discharging into and through stable vegetative areas.
- I. Providing other source controls to prevent or minimize erosion.

It should be noted that due to less of one (1) square mile of vacant or developable lands, outside of environmentally-constrained areas remaining, that Margate is exempt from the requirement to evaluate the extent to which the City's Master Plan implements the non-structural strategies referenced above.

However, as indicated previously, Margate has adopted the NJDEP model stormwater control ordinance, as amended for use and enforcement within the City. This ordinance includes methodologies for incorporating non-structural stormwater strategies identified above, in design, "to the maximum extent practicable".

If an applicant (or his/her Engineer) contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management strategies identified in (b) below into the design

of a particular project, the applicant will identify the strategy and provide a basis for the contention. It is understood that any project requiring NJDEP Land Use Regulation Program permitting or approvals will also be subject to a similar stormwater review by the appropriate agency.

Once the ordinance text was finalized, it was submitted to the Atlantic County Planning Board for review, was approved and finally applied on September 21, 2006.

X. Mitigation Plans

Mitigation plans may be provided for a proposed development(s) that is granted a variance or exemption from the stormwater management design and performance standards. Mitigation projects can be identified in the plan fewer than three (3) categories: Groundwater Recharge; Water Quality; and Water Quantity.

At the discretion of the City, a detailed mitigation plan may be developed at a subsequent date or future master plan re-examination.

XI. Recommended Actions

Since the City is predominantly developed, most stormwater management focuses on correcting existing infrastructure issues as well as preventing future development from causing additional flooding within the City. As such, the following are recommendations to enhance these objectives:

1. Adopt a plot plan ordinance to insure proposed grading on development, not subject to Subdivision or Site Plan approval, does not cause flooding on adjacent properties or the property being developed.
2. Update the Municipal Storm Sewer Map. The map was last updated in 1993.
3. Continue to upgrade the storm sewer system as part of the City's Capital Improvement Program.
4. Encourage the use of native species for landscaping to reduce the amount of irrigated landscaping.
5. Encourage the use rain barrels on building downspouts.
6. Encourage the installation of downspout infiltration systems.
7. Create an on-line storm sewer report where individuals can list observed issues with the storm sewer system.
8. Incorporate the recommendations from the Post Sandy Planning Grant Phase I project currently being undertaken by the City into the City Code.
9. Replace existing bay side rubber tide check valves.
10. Evaluate the feasibility of additional stormwater pump stations.

Appendix A - Mapping

Figure 2 – U.S.G.S. Quadrangle/ Hydrologic Units (HUC14s)

Figure 3 – Wellhead Protection Areas/Groundwater Recharge Areas

Figure 4 – Zoning Districts

Figure 5 – Wetlands

Figure 6 – Soils

Figure 7 – Floodprone Areas

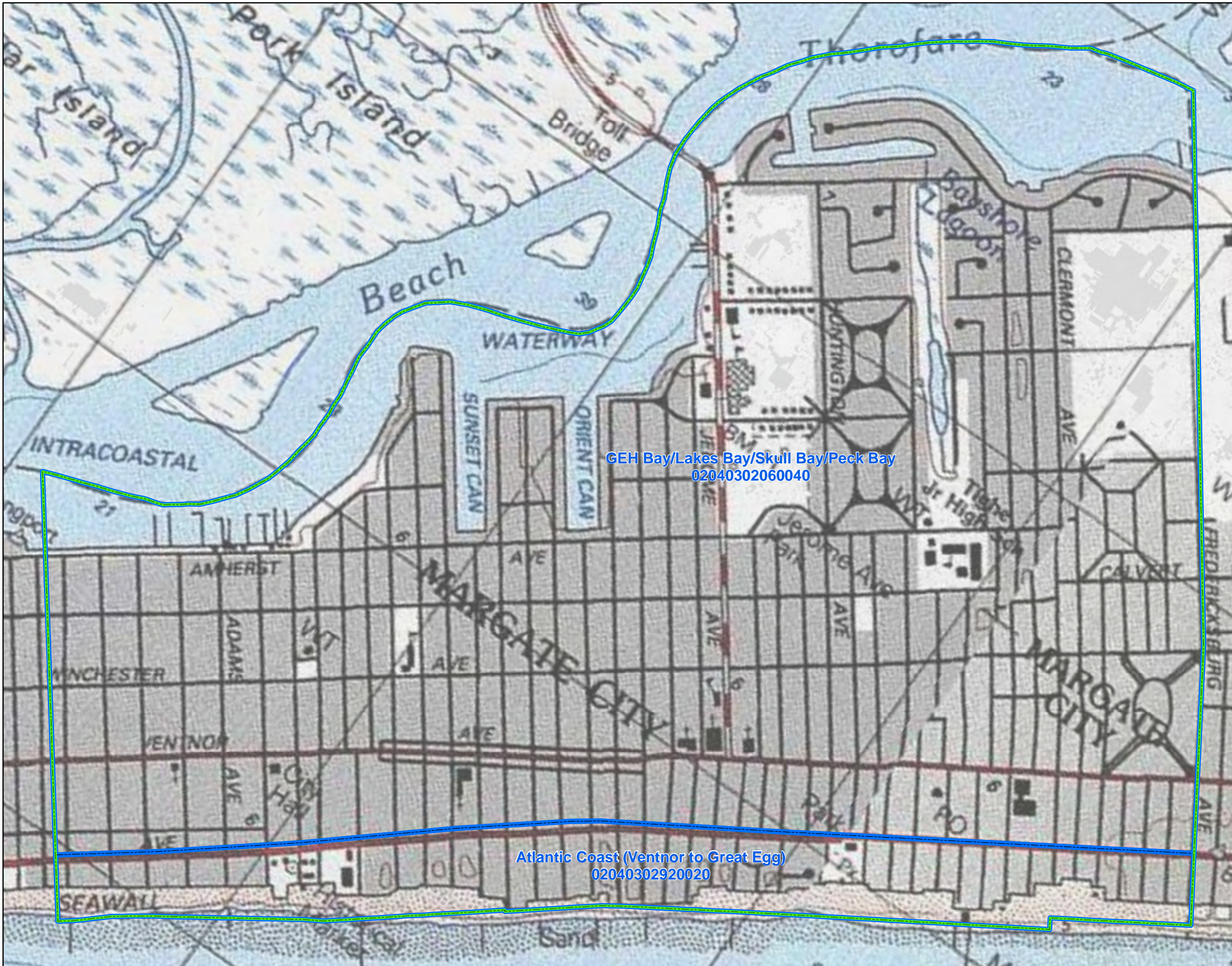
Figure 8 – Aerial Photo of Existing Conditions

Figure 9 – Development Constraints Map



U.S.G.S. Quad/ HUC Delineations

City of Margate


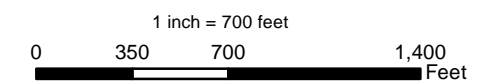
Atlantic County, New Jersey



Legend

-  HUC 14 Delineation
-  Municipal Boundary

Note:
Margate is on the Atlantic City, NJ & Ocean City, NJ U.S.G.S.
Quadrangle Maps



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Data Sources:
 Public Community Water Supply Wells and Groundwater Recharge
 Values provided by NJDEP Division of Water Supply and Geoscience
<http://www.state.nj.us/dep/njgs/>
 Parcel and Boundary data provided by Margate's current taxmaps
 last revised 1/20/2015.

GROUNDWATER RECHARGE/ WELL HEAD PROTECTION AREAS

City of Margate

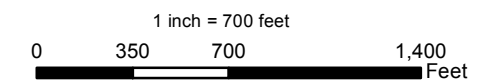
Atlantic County, New Jersey



Legend

- Public Community Water Supply Wells
- Groundwater Recharge Values**
- 8 to 10 in/yr
- 1 to 7 in/yr
- 0 in/yr
- Hydric Soils
- Wetlands and Open Water
- Parcels
- Blocks
- Municipal Boundary

Note:
 There are no Well Head Protection Areas as designated by NJDEP in Margate

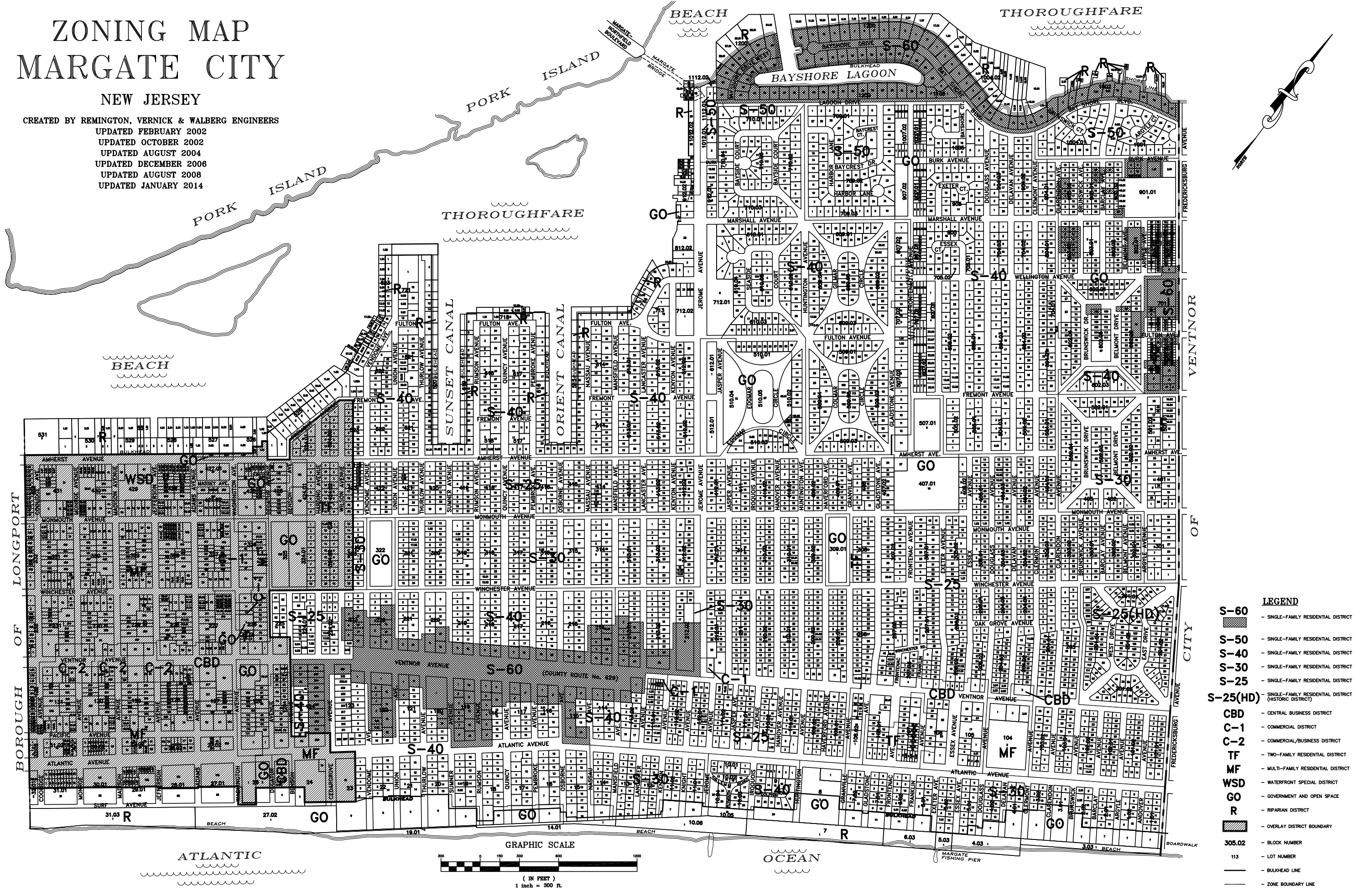
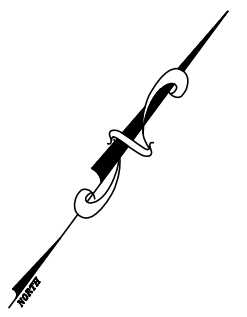


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ZONING MAP MARGATE CITY

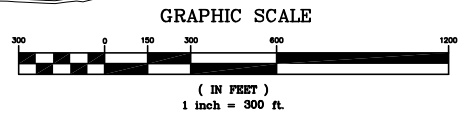
NEW JERSEY

CREATED BY REMINGTON, VERNICK & WALBERG ENGINEERS
 UPDATED FEBRUARY 2002
 UPDATED OCTOBER 2002
 UPDATED AUGUST 2004
 UPDATED DECEMBER 2006
 UPDATED AUGUST 2008
 UPDATED JANUARY 2014



LEGEND

	S-60	- SINGLE-FAMILY RESIDENTIAL DISTRICT
	S-50	- SINGLE-FAMILY RESIDENTIAL DISTRICT
	S-40	- SINGLE-FAMILY RESIDENTIAL DISTRICT
	S-30	- SINGLE-FAMILY RESIDENTIAL DISTRICT
	S-25	- SINGLE-FAMILY RESIDENTIAL DISTRICT
	S-25(HD)	- SINGLE-FAMILY RESIDENTIAL DISTRICT (HISTORIC DISTRICT)
	CBD	- CENTRAL BUSINESS DISTRICT
	C-1	- COMMERCIAL DISTRICT
	C-2	- COMMERCIAL/BUSINESS DISTRICT
	TF	- TWO-FAMILY RESIDENTIAL DISTRICT
	MF	- MULTI-FAMILY RESIDENTIAL DISTRICT
	WSD	- WATERFRONT SPECIAL DISTRICT
	GO	- GOVERNMENT AND OPEN SPACE
	R	- RIPARIAN DISTRICT
		- OVERLAY DISTRICT BOUNDARY
	305.02	- BLOCK NUMBER
	113	- LOT NUMBER
		- BULKHEAD LINE
		- ZONE BOUNDARY LINE

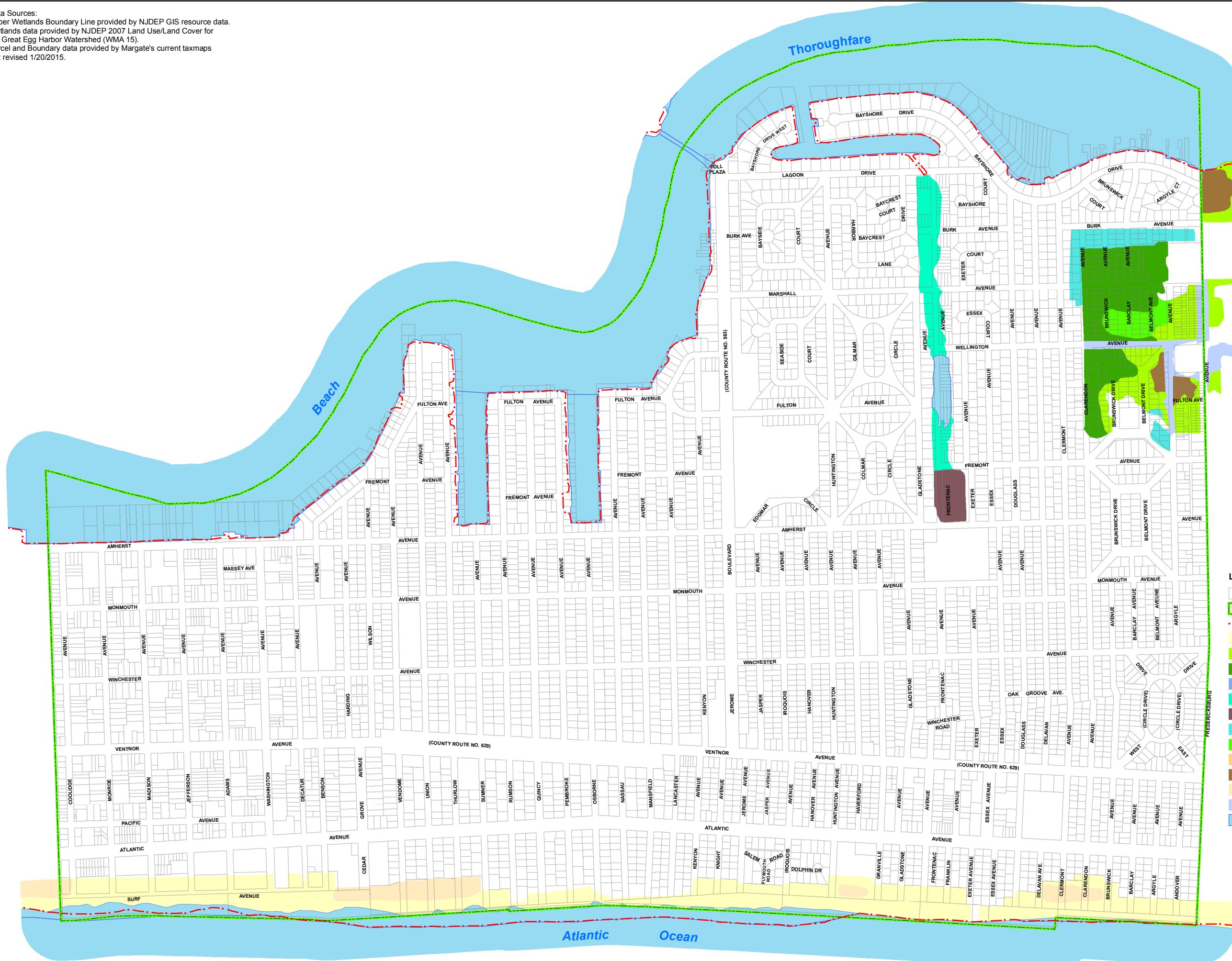


Data Sources:
 Upper Wetlands Boundary provided by NJDEP GIS resource data.
 Wetlands data provided by NJDEP 2007 Land Use/Land Cover for
 the Great Egg Harbor Watershed (WMA 15).
 Parcel and Boundary data provided by Margate's current taxmaps
 last revised 1/20/2015.

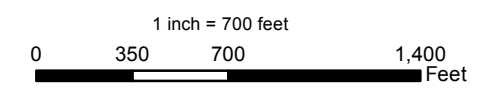
WETLANDS

City of Margate

Atlantic County, New Jersey



- Legend**
- Parcels
 - Municipal Boundary
 - Upper Wetlands Boundary
 - BEACHES
 - DECIDUOUS SCRUB/SHRUB WETLANDS
 - DECIDUOUS WOODED WETLANDS
 - DISTURBED WETLANDS (MODIFIED)
 - HERBACEOUS WETLANDS
 - MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA
 - MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE
 - MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)
 - PHRAGMITES DOMINATE COASTAL WETLANDS
 - PHRAGMITES DOMINATE INTERIOR WETLANDS
 - VEGETATED DUNE COMMUNITIES
 - WETLAND RIGHTS-OF-WAY
 - OPEN/TIDAL WATER



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Data Sources:
 Soils data provided by Natural Resource Conservation Service (NRCS).
 Parcel and Boundary data provided by Margate's current taxmaps
 last revised 1/20/2015.

SOILS

City of Margate

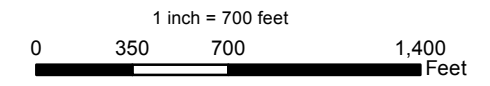
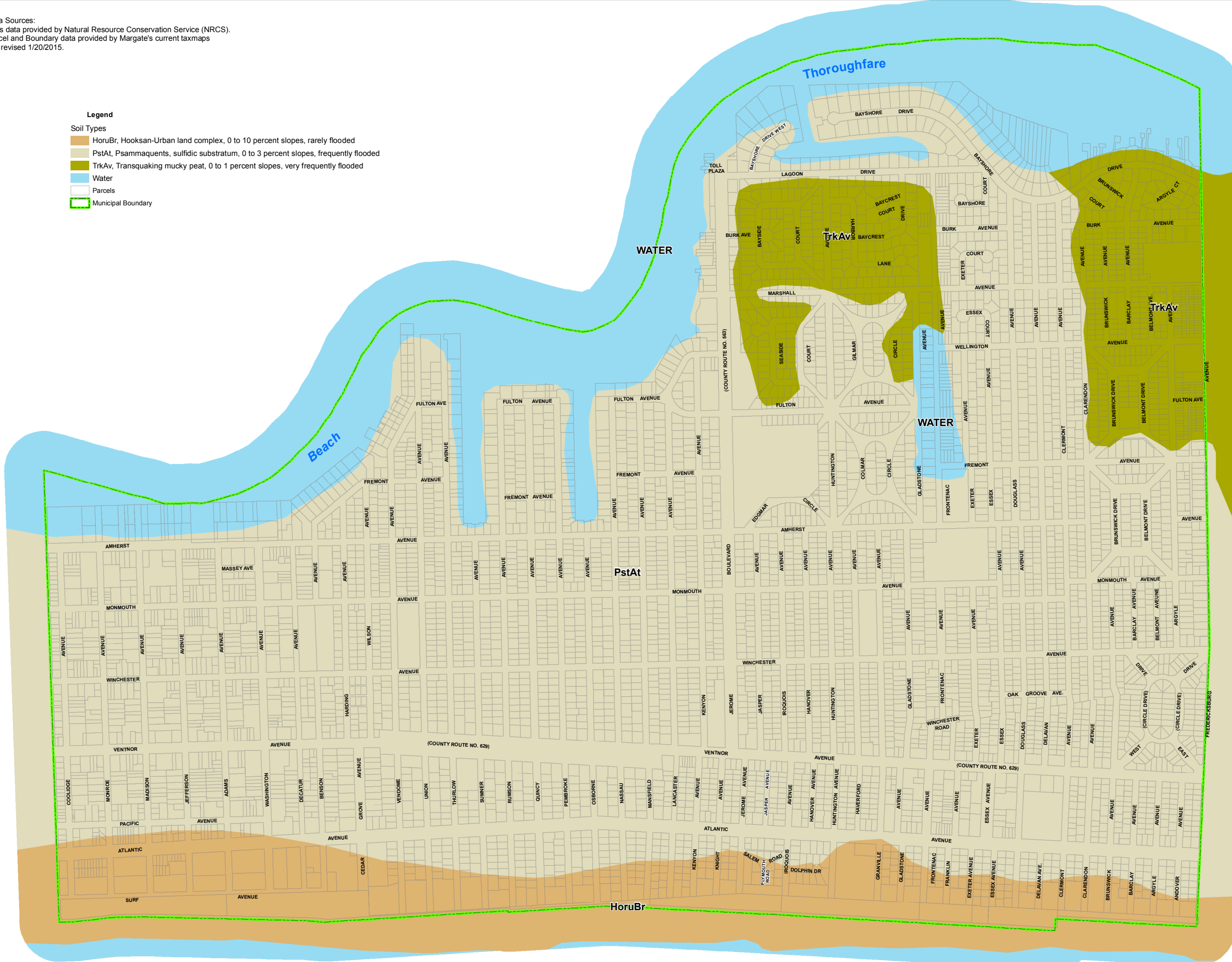
Atlantic County, New Jersey



Legend

Soil Types

- HoruBr, Hooksan-Urban land complex, 0 to 10 percent slopes, rarely flooded
- PstAt, Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded
- TrkAv, Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded
- Water
- Parcels
- Municipal Boundary



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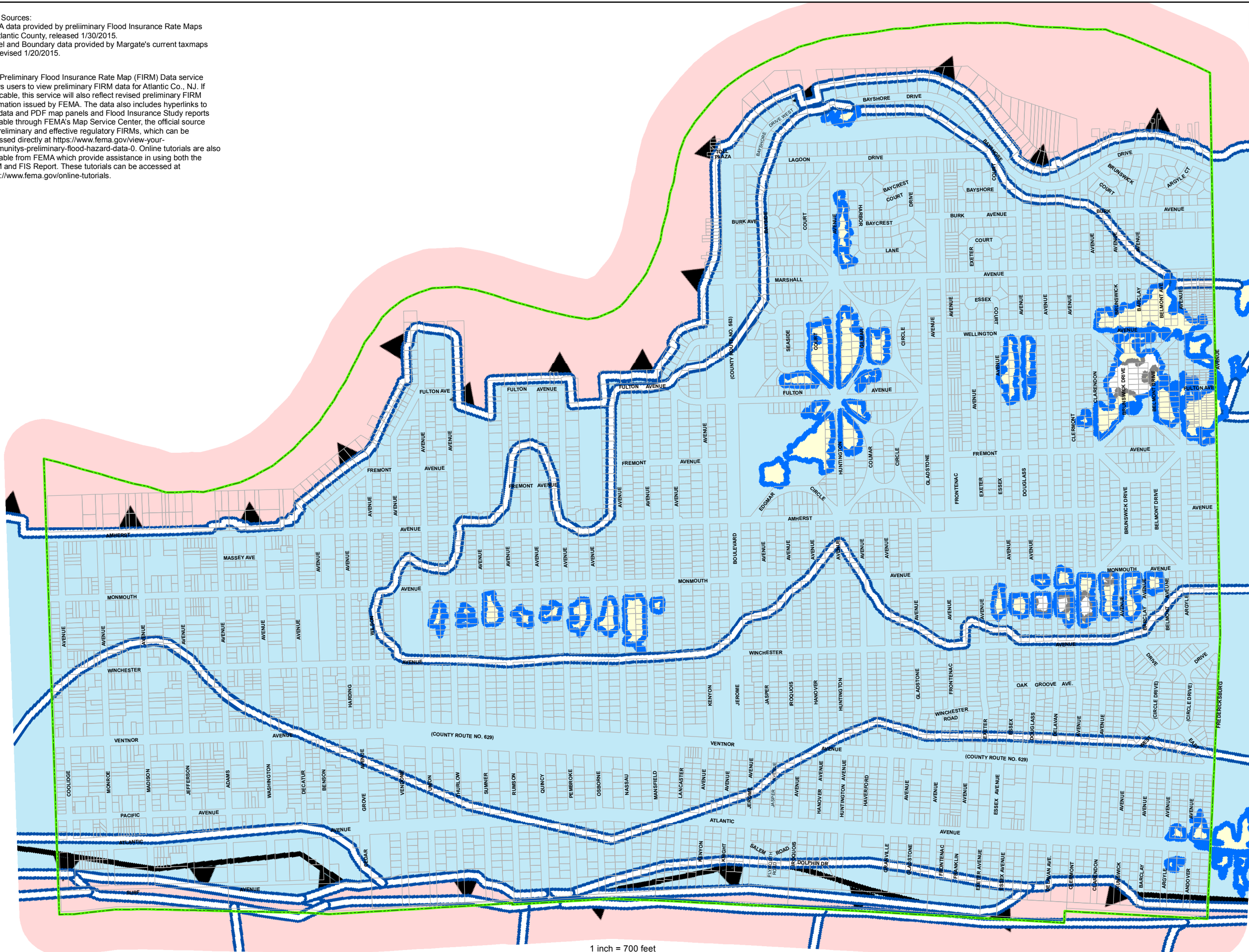
Data Sources:
 FEMA data provided by preliminary Flood Insurance Rate Maps for Atlantic County, released 1/30/2015.
 Parcel and Boundary data provided by Margate's current taxmaps last revised 1/20/2015.

This Preliminary Flood Insurance Rate Map (FIRM) Data service allows users to view preliminary FIRM data for Atlantic Co., NJ. If applicable, this service will also reflect revised preliminary FIRM information issued by FEMA. The data also includes hyperlinks to GIS data and PDF map panels and Flood Insurance Study reports available through FEMA's Map Service Center, the official source for preliminary and effective regulatory FIRMs, which can be accessed directly at <https://www.fema.gov/view-your-communities-preliminary-flood-hazard-data-0>. Online tutorials are also available from FEMA which provide assistance in using both the FIRM and FIS Report. These tutorials can be accessed at <https://www.fema.gov/online-tutorials>.

FLOODPRONE AREAS

City of Margate

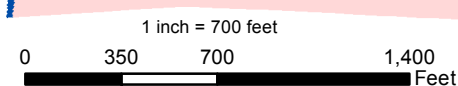
Atlantic County, New Jersey



Legend

Preliminary FEMA Firm Data

- Zone A
- Zone AE
- Zone AO
- Zone VE
- Zone D
- Floodway
- Zone X - 0.2 PCT
- Limit of Moderate Wave Action
- Parcels
- Municipal Boundary



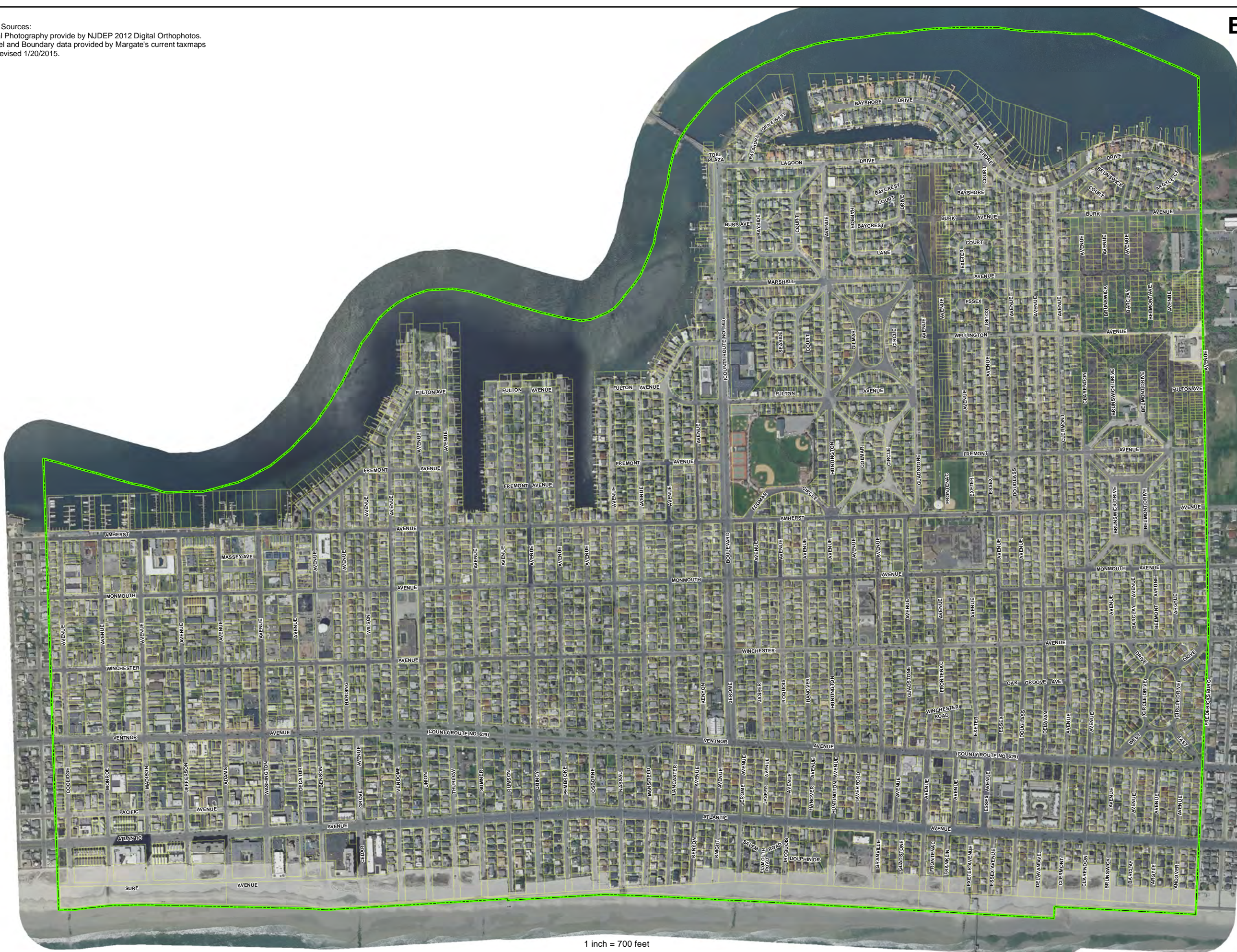
Remington, Vernick and Walberg Engineers
 845 North Main Street
 Pleasantville, NJ 08232
 (609)-645-7110 Fax: (609) 645-7076
www.rve.com

Data Sources:
Aerial Photography provide by NJDEP 2012 Digital Orthophotos.
Parcel and Boundary data provided by Margate's current taxmaps
last revised 1/20/2015.



EXISTING CONDITIONS

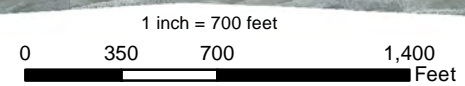
City of Margate

Atlantic County, New Jersey



Legend

-  Parcels
-  Municipal Boundary



Remington, Vernick and Walberg Engineers
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Pleasantville, NJ 08232
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www.rve.com

Data Sources:
 Habitat Areas provided by the New Jersey Department of Environmental Protection Division of Fish & Wildlife's Landscape Project version 3.1. More information available at <http://www.state.nj.us/dep/fgw/ensp/landscape/about.htm>
 Wetlands data provided by NJDEP 2007 Land Use Land Cover for the Great Egg Harbor Watershed (WMA 15).
 Parcel and Boundary data provided by Margate's current taxmaps last revised 1/20/2015.

DEVELOPMENT CONSTRAINTS

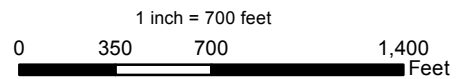
City of Margate

Atlantic County, New Jersey



Legend

- NJDFW Landscape Project v 3.1 Regulated Habitat Areas
 - State Threatened (Rank 3)
 - State Endangered (Rank 4)
 - Federal Threatened & Endangered (Rank 5)
- Freshwater Wetlands
- Tidal Water
- Parcels
- Municipal Boundary



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&W

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Appendix B - Chapter 240 Stormwater Management

Chapter 240. STORMWATER MANAGEMENT

[HISTORY: Adopted by the Board of Commissioners of the City of Margate City 9-21-2006 by Ord. No. 2006-27. Amendments noted where applicable.]

GENERAL REFERENCES

Uniform construction codes — See Ch. 110.

Dumpsters — See Ch. 127.

Flood damage prevention — See Ch. 145.

Land use — See Ch. 175.

Sewers — See Ch. 227.

Storm sewers — See Ch. 239.

Streets and sidewalks — See Ch. 242.

Water — See Ch. 269.

§ 240-1. Scope and purpose.

A.

Policy statement. Flood control, groundwater recharge, and pollutant reduction through nonstructural or low-impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans 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. It is the purpose of this chapter to establish minimum stormwater management requirements and controls for "major development," as defined in § 240-2.

C.

Applicability.

(1)

This chapter shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:

(a)

Nonresidential major developments; and

(b)

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

(2)

This chapter shall also be applicable to all major developments undertaken by the City of Margate.

D.

Compatibility with other permit and ordinance requirements. Development approvals issued for subdivisions and site plans pursuant to this chapter are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this chapter shall be

held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This chapter 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 chapter 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.

§ 240-2. Word usage; definitions.

A.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

B.

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, unless modified specifically for the City of Margate. As used in this chapter, the following terms shall have the meanings indicated:

CAFRA CENTERS, CORES OR NODES

Those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

CAFRA PLANNING MAP

The geographic depiction of the boundaries for Coastal Planning Areas, CAFRA Centers, CAFRA Cores and CAFRA Nodes pursuant to N.J.A.C. 7:7E-5B.3.

COMPACTION

The increase in soil bulk density.

CORE

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

COUNTY REVIEW AGENCY

An agency designated by the County Board of Chosen Freeholders 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

The New Jersey Department of Environmental Protection.

DESIGNATED CENTER

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

DESIGN ENGINEER

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

DEVELOPMENT

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, by any person, 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 lands, 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.

DRAINAGE AREA

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

EMPOWERMENT NEIGHBORHOOD

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

ENVIRONMENTALLY CRITICAL AREA

An area or feature which is of significant environmental value, including, but not limited to, stream corridors; natural heritage priority sites; habitat 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.

EROSION

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

IMPERVIOUS SURFACE

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

INFILTRATION

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

MAJOR DEVELOPMENT

Any "development" that provides for ultimately disturbing one or more acres of land, or more than 10,000 square feet of new impervious coverage. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation.

MUNICIPALITY

The City of Margate.

NODE

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

NUTRIENT

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

PERSON

Any individual, corporation, company, partnership, firm, association, the City of Margate, or political subdivision of this state subject to municipal jurisdiction pursuant to the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

POLLUTANT

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

RECHARGE

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

SEDIMENT

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

SITE

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

SOIL

All unconsolidated mineral and organic material of any origin.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA1)

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

STATE PLAN POLICY MAP

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

STORMWATER

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

STORMWATER MANAGEMENT BASIN

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

STORMWATER MANAGEMENT MEASURE

Any structural or nonstructural strategy, practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of

stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

STORMWATER RUNOFF

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

TIDAL FLOOD HAZARD AREA

A flood hazard area, which may be influenced by stormwater runoff from inland areas, but which is primarily caused by the Atlantic Ocean.

URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD

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

URBAN ENTERPRISE ZONES

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

URBAN REDEVELOPMENT AREA

Previously developed portions of areas:

(1)

Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;

(2)

Designated as CAFRA Centers, Cores or Nodes;

(3)

Designated as Urban Enterprise Zones; and

(4)

Designated as Urban Coordinating Council Empowerment Neighborhoods.

WATERS OF THE STATE

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

WETLANDS or WETLAND

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

§ 240-3. General standards.

A.

Design and performance standards for stormwater management measures.

(1)

Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in § 240-4. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

(2)

The standards in this chapter apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in

receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or water quality management plan adopted in accordance with Department rules. The stormwater management requirements within this chapter, as they relate to "major development," supersede other design requirements stipulated in Chapter 175, the Land Use Ordinance of the City Code, including but not limited to the following sections:

(a)

Article III, Application Requirements and Development Procedures.

(b)

Article IV, Development Requirements and Standards.

§ 240-4. 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 § 240-10.

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 muhlenbergi* (bog turtle).

C.

The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 240-4F and

G.

(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 groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 240-4F and G 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 nonstructural and structural stormwater management strategies and measures, the

option selected complies with the requirements of § 240F and G to the maximum extent practicable;

(3)

The applicant demonstrates that, in order to meet the requirements of § 240F and G, existing structures currently in use, such as homes and buildings, would need to be condemned; and

(4)

The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under Subsection D(3) above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of § 240F and G that were not achievable on site.

E.

Nonstructural stormwater management strategies.

(1)

To the maximum extent practicable, the standards in § 240F and G shall be met by incorporating nonstructural stormwater management strategies set forth at § 240-4E into the design. The applicant shall identify the nonstructural measures incorporated into the design of the project. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in Subsection E(2) below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

(2)

Nonstructural stormwater management strategies incorporated into site design shall:

(a)

Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

(b)

Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

(c)

Maximize the protection of natural drainage features and vegetation;

(d)

Minimize the decrease in the "time of concentration" from preconstruction to postconstruction. "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed;

(e)

Minimize land disturbance including clearing and grading;

(f)

Minimize soil compaction;

(g)

Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

(h)

Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

(i)

Provide other source controls to prevent or minimize the use or exposure of pollutants at the site, in order to prevent or minimize the release of those pollutants into stormwater runoff. Such source controls include, but are not limited to:

[1]

Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy § 240-4E(3) below;

[2]

Site design features that help to prevent discharge of trash and debris from drainage systems;

[3]

Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

[4]

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.

(3)

Site design features identified under § 240-4E(2)(i)[2] above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard, see § 240-4E(3)(c) below.

(a)

Grates.

[1]

Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface waterbody under that grate:

[a]

The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996); or

[b]

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

[2]

Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors.

(b)

Whenever design engineers use a curb-opening inlet, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) shall have an area of no more than seven square inches, or be no greater than two inches across the smallest dimension.

(c)

This standard does not apply:

[1]

Where the review agency determines that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

[2]

Where flows from the water quality design storm as specified in § 240-4G(1) are conveyed through any device (e.g., end-of-pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

[a]

A rectangular space 4 5/8 inches long and 1 1/2 inches wide (This option does not apply for outfall netting facilities.); or

[b]

A bar screen having a bar spacing of 0.5 inch.

[3]

Where flows are conveyed through a trash rack that has parallel bars with one-inch spacing between the bars, to the elevation of the water quality design storm as specified in § 240-4G(1); or

[4]

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

(4)

Any land area used as a nonstructural stormwater management measure to meet the performance standards in § 240-4F and G shall be dedicated to a government agency, subjected to a conservation restriction filed with the appropriate County Clerk's office, or subject to an approved equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the reviewing agency is maintained in perpetuity.

(5)

Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in § 240-7, or found on the Department's Web site at www.njstormwater.org.

F.

Erosion control, groundwater recharge and runoff quantity standards.

(1)

This subsection contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.

(a)

The minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

(b)

The minimum design and performance standards for groundwater recharge are as follows:

[1]

The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § 240-5, either:

[a]

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

[b]

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

[2]

This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to Subsection F(1)(b)[3] below.

[3]

The following types of stormwater shall not be recharged:

[a]

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

[b]

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

[4]

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 and other subsurface structures in the vicinity or downgradient of the groundwater recharge area.

(c)

In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § 240-5, complete one of the following:

[1]

Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, postconstruction runoff hydrographs for the two-, ten-, and one-hundred-year storm

events do not exceed, at any point in time, the preconstruction runoff hydrographs for the same storm events;

[2]

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

[3]

Design stormwater management measures so that the postconstruction peak runoff rates for the two-, ten- and one-hundred-year storm events are 50%, 75% and 80%, respectively, of the preconstruction peak runoff rates. The percentages apply only to the postconstruction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed. The percentages shall not be applied to postconstruction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge; or

[4]

In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with Subsection F(1)(c)[1], [2] and [3] above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge.

(2)

Any application for a new agricultural development that meets the definition of major development at § 240-2 shall be submitted to the appropriate Soil Conservation District for review and approval in accordance with the requirements of this section and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For the purposes of this section, "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 manufacturing of agriculturally related products.

G.

Stormwater runoff quality standards.

(1)

Stormwater management measures shall be designed to reduce the postconstruction load of total suspended solids (TSS) in stormwater runoff by 80% of the anticipated load from the developed site, expressed as an annual average. Stormwater management measures shall only be required for water quality control if an additional 1/4 acre of impervious surface is being proposed on a development site. 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 Pollution Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. 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 1. The calculation of the volume of runoff may take into account the implementation of nonstructural and structural stormwater management measures.

Table 1: Water Quality Design Storm Distribution

Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)
0	0.0000	65	0.8917
5	0.0083	70	0.9917
10	0.0166	75	1.0500
15	0.0250	80	1.0840
20	0.0500	85	1.1170
25	0.0750	90	1.1500
30	0.1000	95	1.1750
35	0.1330	100	1.2000
40	0.1660	105	1.2250
45	0.2000	110	1.2334
50	0.2583	115	1.2417
55	0.3583	120	1.2500
60	0.6250		

(2)

For purposes of TSS reduction calculations, Table 2 below presents the presumed removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in § 240-7, or found on the Department's Web site at www.njstormwater.org. The BMP Manual and other sources of technical guidance are listed in § 240-7. TSS reduction shall be calculated based on the removal rates for the BMPs in Table 2 below. Alternative removal rates and methods of calculating removal rates may be used if the design engineer provides documentation demonstrating the capability of these alternative rates and methods to the review agency. A copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the following address: Division of Watershed Management, New Jersey Department of Environmental Protection, P.O. Box 418, Trenton, New Jersey 08625-0418.

(3)

If more than one BMP in series is necessary to achieve the required eighty-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

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

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

Table 2: TSS Removal Rates for BMPs

Best Management Practice	TSS Percent Removal Rate
Bioretention systems	90
Constructed stormwater wetland	90
Extended detention basin	40 to 60

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

Where

R = total TSS percent load removal from application of both BMPs

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

Infiltration structure	80
Manufactured treatment device	See § 240-6C
Sand filter	80
Vegetative filter strip	60 to 80
Wet pond	50 to 90

(4)

If there is more than one on-site drainage area, the eighty-percent TSS removal rate shall apply to each drainage area, unless the runoff from the subareas converge on site, in which case the removal rate can be demonstrated through a calculation using a weighted average.

(5)

Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the postconstruction 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 nonstructural strategies and structural measures that optimize nutrient removal while still achieving the performance standards in § 240-4F and G.

(6)

Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in § 240-7.

(7)

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

(8)

Special water resource protection areas shall be established along all waters designated Category One at N.J.A.C. 7:9B, and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC14 drainage area. These areas shall be established for the protection of water quality, aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, and exceptional fisheries significance of those established Category One waters. These areas shall be designated and protected as follows:

(a)

The applicant shall preserve and maintain a special water resource protection area in accordance with one of the following:

[1]

A three-hundred-foot special water resource protection area shall be provided on each side of the waterway, measured perpendicular to the waterway from the top of the bank outwards or from the center line of the waterway where the bank is not defined,

consisting of existing vegetation or vegetation allowed to follow natural succession is provided.

[2]

Encroachment within the designated special water resource protection area under Subsection G(8)(a)[1] above shall only be allowed where previous development or disturbance has occurred (for example, active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. In no case shall the remaining special water resource protection area be reduced to less than 150 feet as measured perpendicular to the top of bank of the waterway or center line of the waterway where the bank is undefined. All encroachments proposed under this subsection shall be subject to review and approval by the Department.

(b)

All stormwater shall be discharged outside of and flow through the special water resource protection area and shall comply with the standard for off-site stability in the "Standards For Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq.

(c)

If stormwater discharged outside of and flowing through the special water resource protection area cannot comply with the standard for off-site stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., then the stabilization measures in accordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:

[1]

Stabilization measures shall not be placed within 150 feet of the Category One waterway;

[2]

Stormwater associated with discharges allowed by this section shall achieve a ninety-five-percent TSS postconstruction removal rate;

[3]

Temperature shall be addressed to ensure no impact on the receiving waterway;

[4]

The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable;

[5]

A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

[6]

All encroachments proposed under this section shall be subject to review and approval by the Department.

(d)

A stream corridor protection plan may be developed by a regional stormwater management planning committee as an element of a regional stormwater management plan, or by a municipality through an adopted municipal stormwater management plan. If a stream corridor protection plan for a waterway subject to § 240-4G(8) has been approved by the Department of Environmental Protection, then the provisions of the

plan shall be the applicable special water resource protection area requirements for that waterway. A stream corridor protection plan for a waterway subject to Subsection G(8) shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in Subsection G(8)(a)[1] above. In no case shall a stream corridor protection plan allow the reduction of the Special Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.

(e)

Subsection G(8) does not apply to the construction of one individual single-family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before February 2, 2004, provided that the construction begins on or before February 2, 2009.

§ 240-5. 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 the NRCS National Engineering Handbook Section 4 — Hydrology and Technical Release 55 — Urban Hydrology for Small Watersheds; or

(b)

The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

(2)

For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at § 240-5A(1)(a) and the Rational and Modified Rational Methods at § 240-5A(1)(b). A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

(3)

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

(4)

In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious

surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 — Urban Hydrology for Small Watersheds and 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 Ground-Water 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 <http://www.state.nj.us/dep/njgs/>; or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427, Trenton, New Jersey 08625-0427; (609) 984-6587.

§ 240-6. Standards for structural stormwater management measures.

A.

Standards for structural stormwater management measures are as follows:

(1)

Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, 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)

Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than 1/3 the width of the diameter of the orifice or 1/3 the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of § 240-8D.

(3)

Structural 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 through 7.5 shall be deemed to meet this requirement.

(4)

At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of 2 1/2 inches in diameter.

(5)

Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at § 240-8.

B.

Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by § 240-4 of this chapter.

C.

Manufactured treatment devices may be used to meet the requirements of § 240-4 of this chapter, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

§ 240-7. Sources for technical guidance.

A.

Technical guidance for stormwater management measures can be found in the documents listed at Subsection A(1) and (2) below, which are available from Maps and Publications, New Jersey Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey 08625; telephone (609) 777-1038.

(1)

Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures, such as bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

(2)

The New Jersey Department of Environmental Protection Stormwater Management Facilities Maintenance Manual, as amended.

B.

Additional technical guidance for stormwater management measures can be obtained from the following:

(1)

The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. [1] The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625; (609) 292-5540;

[1]:

Editor's Note: See now N.J.A.C. 2:90-1.3(a)(3).

(2)

The Rutgers Cooperative Extension Service, (732) 932-9306; and

(3)

The Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625, (609) 292-5540.

§ 240-8. Safety standards for stormwater management basins.

A.

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

B.

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 basin to ensure proper functioning of the basin 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.

(d)

The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

(2)

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

(a)

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

(b)

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

(c)

The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

(3)

For purposes of this Subsection B(3), escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

(a)

If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure. With the prior approval of the reviewing agency identified in § 240-8C, a free-standing outlet structure may be exempted from this requirement.

(b)

Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than 2 1/2 feet. Such safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately 2 1/2 feet below the permanent water surface, and the second step shall be located one to one and 1 1/2 feet above the permanent water surface. See § 240-8D for an illustration of safety ledges in a stormwater management basin.

(c)

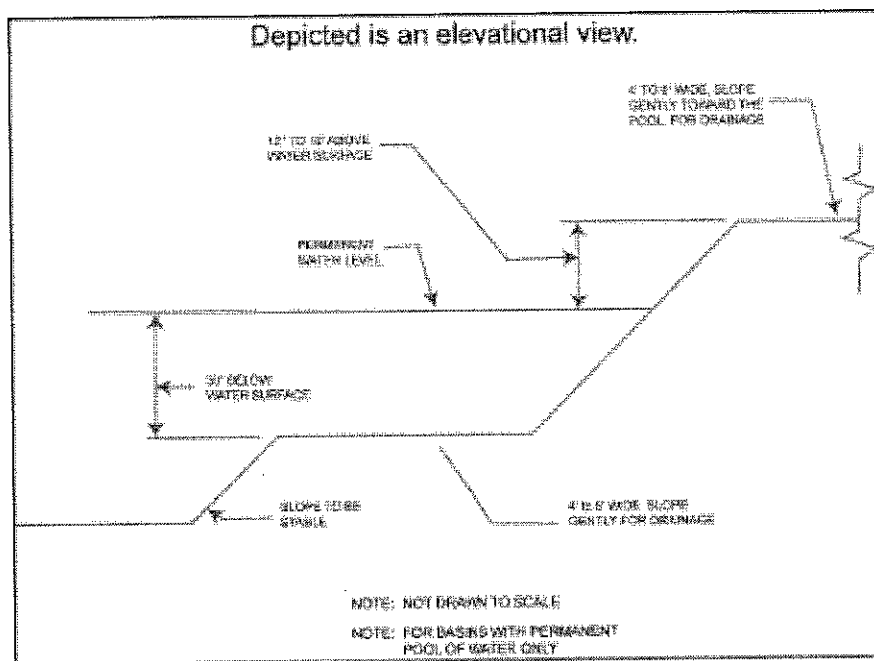
In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

C.

Variance or exemption from safety standards. A variance or exemption from the safety standards for stormwater management basins may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

D.

Illustration of safety ledges in a new stormwater management basin.



§ 240-9. Requirements for site development stormwater plan.

A.

Submission of site development stormwater plan.

(1)

Whenever an applicant seeks municipal approval of a development subject to this chapter, the applicant shall submit all of the required components of the checklist for the site development stormwater plan at § 240-9C below as part of the submission of the applicant's application for subdivision or site plan approval.

(2)

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

(3)

The applicant shall submit 12 copies of the materials listed in the checklist for site development stormwater plans in accordance with § 240-9C of this chapter.

B.

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

C.

Checklist requirements. The following information shall be required:

(1)

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

(2)

Environmental site analysis: a written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.

(3)

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

(4)

Land use planning and source control plan. This plan shall provide a demonstration of how the goals and standards of Subsection C(3) through (6) are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

(5)

Stormwater Management Facilities Map. The following information, illustrated on a map of the same scale as the Topographic Base Map, shall be included:

(a)

Total area to be paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

(b)

Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

(6)

Calculations.

(a)

Comprehensive hydrologic and hydraulic design calculations for the predevelopment and postdevelopment conditions for the design storms specified in § 240-4 of this chapter.

(b)

When the proposed stormwater management control measures (e.g., infiltration basins) depends on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

(7)

Maintenance and repair plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § 240-10.

(8)

Waiver from submission requirements. The municipal official or board reviewing an application under this chapter may, in consultation with the municipal engineer, waive submission of any of the requirements in § 240-9C(1) through (6) of this chapter when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

§ 240-10. Maintenance and repair.

A.

Applicability. Projects subject to review as in § 240-1C of this chapter shall comply with the requirements of § 240-10B and C.

B.

General maintenance.

(1)

The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(2)

The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or

homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

(3)

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.

(4)

If the person responsible for maintenance identified under § 240-10B(2) above is not a public agency, the maintenance plan and any future revisions based on § 240-10B(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.

(5)

Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

(6)

The person responsible for maintenance identified under § 240-10B(2) above shall 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.

(7)

The person responsible for maintenance identified under § 240-10B(2) above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

(8)

The person responsible for maintenance identified under § 240-10B(2) above shall 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 § 240-10B(6) and (7) above.

(9)

The requirements of § 240-10B(3) and (4) do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency.

(10)

In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 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.

C.

Nothing in this section 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.

§ 240-11. Violations and penalties.

[Amended 11-5-2009 by Ord. No. 27-2009]

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this chapter or found to be in violation of the provisions of this chapter shall be subject to the following penalties: a fine not to exceed \$1,000 or imprisonment for a term not to exceed 90 days, or to both such fine and imprisonment.

§ 240-12. When effective.

This chapter shall take effect immediately upon the approval by the county review agency, or 60 days from the receipt of the ordinance by the county review agency if the county review agency should fail to act.

Appendix C - Chapter 239 Storm Sewers

Chapter 239. STORM SEWERS

[HISTORY: Adopted by the Board of Commissioners of the City of Margate City as indicated in article histories. Amendments noted where applicable.]

GENERAL REFERENCES

Uniform construction codes — See Ch. 110.

Dumpsters — See Ch. 127.

Flood damage prevention — See Ch. 145.

Land use — See Ch. 175.

Sewers — See Ch. 227.

Stormwater management — See Ch. 240.

Streets and sidewalks — See Ch. 242.

Water — See Ch. 269.

Article I. Retrofitting of Storm Drain Inlets

[Adopted 9-3-2009 by Ord. No. 23-2009]

§ 239-1. Purpose.

An article requiring the retrofitting of existing storm drain inlets which are in direct contact with repaving, repairing, reconstruction, or resurfacing or alterations of facilities on private property, to prevent the discharge of solids and floatables (such as plastic bottles, cans, food wrappers and other litter) to the municipal separate storm sewer system(s) operated by the City of Margate so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

§ 239-2. Word usage; definitions.

A.

For the purpose of this article, the following terms, phrases, words, and their derivations shall have the meaning stated herein unless their use in the text of this article 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.

B.

As used in this article, the following terms shall have the meanings indicated:

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by the City of Margate or other public body, and is designed and used for collecting and conveying stormwater.

PERSON

Any individual, corporation, company, partnership, firm, association, or political subdivision of this state subject to municipal jurisdiction.

STORM DRAIN INLET

An opening in a storm drain used to collect stormwater runoff and includes, but is not limited to, a grate inlet, curb-opening inlet, slotted inlet, and combination inlet.

WATERS OF THE STATE

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

§ 239-3. Prohibited conduct.

No person in control of private property (except a residential lot with one single-family house) shall authorize the repaving, repairing (excluding the repair of individual potholes), resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), reconstructing or altering any surface that is in direct contact with an existing storm drain inlet on that property unless the storm drain inlet either:

A.

Already meets the design standard below to control passage of solid and floatable materials; or

B.

Is retrofitted or replaced to meet the standard in § 239-4 below prior to completion of the project.

§ 239-4. Design standard.

Storm drain inlets identified in § 239-3 above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this section, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard, see Subsection C below.

A.

Grates.

(1)

Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface waterbody under that grate:

(a)

The New Jersey Department of Transportation (NJDOT) bicycle-safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996); or

(b)

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

(2)

Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains.

Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors.

B.

Whenever design engineers use a curb-opening inlet, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) shall have an area of no more than seven square inches, or be no greater than two inches across the smallest dimension.

C.

This standard does not apply:

(1)

Where the municipal engineer agrees that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

(2)

Where flows are conveyed through any device (e.g., end-of-pipe netting facility, manufactured treatment device, or a catch-basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

(a)

A rectangular space $4 \frac{5}{8}$ inches long and $1 \frac{1}{2}$ inches wide (This option does not apply for outfall netting facilities.); or

(b)

A bar screen having a bar spacing of 0.5 inch;

(3)

Where flows are conveyed through a trash rack that has parallel bars with one-inch spacing between the bars; or

(4)

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

§ 239-5. Enforcement.

This article shall be enforced by the Margate City Police Department and /or the Code Officials of the City of Margate.

§ 239-6. Violations and penalties.

Any person who is found to be in violation of the provisions of this article shall be subject to a fine not to exceed \$1,000 for each storm drain inlet that is not retrofitted to meet the design standard.

Appendix D - City Resolution No. 239-2013

RESOLUTION No.

239 of 2013

AUTHORIZING THE CITY OF MARGATE CITY TO ENTER INTO AN INTERLOCAL SERVICES AGREEMENT WITH THE COUNTY OF ATLANTIC, THE CITY OF VENTNOR CITY AND THE ATLANTIC COUNTY UTILITIES AUTHORITY REGARDING TO THE VENTNOR GARDENS STORM WATER STATION

WHEREAS, the City of Margate City in cooperation with the County of Atlantic, the City of Ventnor City and the Atlantic County Utilities Authority desires to enter into an Interlocal Services Agreement which will provide for the refurbishment of the Ventnor Gardens Storm Water Station so as to provide a storm water pump station which will beneficially impact storm water management for portions of Ventnor, Margate and the Atlantic County roadway, Ventnor Avenue; and

WHEREAS, pursuant to *N.J.S.A. 40:8A-1 et seq.* commonly known as "The Interlocal Services Act", legislation has been provided so as to enable municipalities and other governmental entities to enter into contracts with each other for the sharing of services; and

WHEREAS, an Interlocal Services Agreement has been prepared on behalf of the County of Atlantic, City of Ventnor City, Atlantic Utilities Authority and the City of Margate City, which Agreement provides, among other things, for the expenditure of funds not to exceed 1.5 million dollars, and for which the County and each of the Municipalities shall be responsible for one-third of the cost, so as to restore the Ventnor Gardens Storm Water Station to operational status; and

WHEREAS, an application is being processed with the New Jersey Department of Environmental Protection, Environmental Infrastructure Trust, for an aid package which would consist of 18% grant, 57% interest free loan and 25% market rate loan which would help finance the project in whole or in part; and

WHEREAS, Atlantic County Utilities Authority has agreed to undertake the construction of the improvements either directly or by way of third-party contractor and to manage all aspects of engineering plans, specifications and permitting; and

WHEREAS, the Governing Body of the City of Margate City desires to implement the aforesaid Interlocal Services Agreement and in the event funding is not obtained from third parties, to commit the City of Margate City, subject to appropriation, for up to one-third or a maximum of \$500,000.00 to pay Margate's proportionate share of the project.

NOW, THEREFORE BE IT RESOLVED, by the Board of Commissioners of the City of Margate City, County of Atlantic and State of New Jersey that the Mayor is hereby authorized to execute, on behalf of the City of Margate City, the aforesaid Interlocal Services Agreement.

Date:

I, **THOMAS HILTNER, Municipal Clerk** for the **City of Margate City**, County of Atlantic, State of New Jersey, do hereby certify that the foregoing Resolution was duly adopted at a regular meeting of the **Margate Board of Commissioners** held this day of _____, 2013 and in witness whereof I have hereunder set my hand and official seal on this date of _____ 2013.

Thomas D. Hiltner, City Clerk

Appendix E - 2014 MSRP Annual Report - Tier A Municipality

MSRP ANNUAL REPORT - Tier A

You have completed the Annual Report submittal process. You may print or save a copy of this submittal report for your records.

Service ID: 489813
Facility Name: MARGATE CITY
Reporting Period: January 1, 2014 through December 31, 2014
NJPDES Permit #: NJG0153150
Activity ID: DST090001

Contacts

Name: PATRICK POWER
Title: PUMP STATION OPERATOR
Contact Type: Stormwater Coordinator
Organization Name: MARGATE CITY
Organization Type: Municipal
E-Mail:
Phone: (609) 517-6792 (Work Phone Number)
(609) 822-3462 (Fax Number)
Contact Address: 9001 WINCHESTER AVE
Margate, New Jersey 08402

Uploaded Attachments

Attachment Name	Attachment Description	File Name
MS4 Tier A Permit Annual Repor	Questionnaire	ms4-tiera-supp-quest.pdf

Annual Report Details - Part A**Municipality Information**

Team member responsible for completing the report:	
Team member email address:	

Stormwater Pollution Prevention Plan

1. Has the municipality revised its Stormwater Pollution Prevention Plan during the last calendar year?	Yes
2. Date of the last revised SPPP:	06/13/2014

Public Notice

1. Is the municipality complying with applicable State and local public notice requirements when providing for public participation in the ongoing development and implementation of the stormwater program?	Yes
--	-----

Report Details - Part B

Post-Construction Stormwater Management in New Development and Redevelopment

1. Is the municipality reviewing and approving major development residential projects in accordance with the Residential Site Improvement Standards (RSIS)?	Yes
2. Did the municipality adopt a municipal stormwater management plan?	Yes
3. Most recent date of adopted municipal stormwater management plan:	03/31/2005
4. Status of this plan (If not adopted):	
5. Did the municipality adopt the municipal stormwater control ordinance provided by NJDEP without change?	Yes
6. Most recent date the municipality adopted a municipal stormwater control ordinance:	09/21/2006
7. What is the current status of the ordinance?	
8. Did the municipality submit the adopted municipal stormwater management plan to the appropriate county review agency for approval?	Yes
9. Most recent date the adopted Municipal Stormwater Management Plan was submitted to the appropriate county review agency for approval:	04/27/2005
10. If yes, did the municipality send the adopted municipal stormwater control ordinance to the appropriate county review agency for approval?	Yes
11. Most recent date the adopted Municipal Stormwater Control Ordinance was submitted to the appropriate county review agency for approval:	10/04/2006
12. Status of county review:	Approved
13. Did the municipality adopt the review agency's required amendments and resubmit to the county review agency?	
14. Is the Stormwater Control Ordinance in effect?	Yes
15. Most recent effective date of Stormwater Control Ordinance:	12/04/2006
16. Ordinance Number(s):	0116 t 225

17. What is the current status of the adopted plan and ordinance?	
18. Are you reviewing projects as part of your site plan and subdivision approval process to ensure that they comply with your municipality's effective municipal stormwater control ordinance(s)?	Yes
19. How many projects that were subject to either the municipal stormwater control ordinance or the stormwater provisions of RSIS did the municipality review?	20
20. Does the municipal stormwater management plan contain a mitigation plan?	No
21. Has the municipality granted any variances or exemptions from the design and performance standards for stormwater management measures set forth in the approved municipal stormwater management plan and stormwater control ordinance(s)?	
22. If yes, how many variances or exemptions from the design and performance standards has the municipality granted?	
23. If granted any variances or exemptions, did you submit a written report to the county review agency describing the variance or exemption and the required mitigation?	
24. Does the municipality's plan review evaluate storm drain inlet protection for solids and floatables in accordance with Attachment C of the permit?	Yes
25. Does the municipality require plans for long-term operation and maintenance for stormwater BMPs?	Yes
26. Are you ensuring that adequate long-term operation and maintenance of stormwater BMPs is being performed on property that you do not own or operate? Please keep an inventory of stormwater BMPs indicating type, function and location in a format provided by the Department onsite and available for inspection or upon request.	Yes
27. Briefly indicate how this is being accomplished (e.g., ordinance requiring operation and maintenance by private entity; operation and maintenance by you or other governmental entity):	by code enforcement/construction official
28. Is the municipality's stormwater management plan re-examined at each re-examination of the master plan in accordance with N.J.A.C. 7:8-4?	N/A - we did not re-examine our master plan this year
29. Date re-examination report was last adopted:	

Report Details - Part C

Local Public Education Program

1. Have you developed a Local Public Education Program?	Yes
---	-----

2. Have you conducted educational activities that total a minimum of 10 points (between January 1, 2014 and December 31, 2014)?	Yes
3. School Presentations (1 point per visit / maximum of 5 points per year):	0
4. Website (1 point):	1
5. Stormwater Display (2 points):	2
6. Giveaway (2 points):	2
7. Citizen Stormwater Advisory Committee (2 points):	0
8. Utilize Department Materials (2 points each / maximum of 4 points per year):	4
9. Poster Contest (2 points):	0
10. Stormwater Training for Elected Municipal Officials (3 points):	0
11. Mural (3 points):	0
12. Mailing (3 points):	3
13. Partnership Agreement / Local Event (3 points):	0
14. Ordinance Education (5 points):	0

Storm Drain Inlet Labeling

1. Have you established a storm drain inlet labeling program?	Yes
2. Indicate the percentage or number of sectors labeled to date:	100%
3. Other Amount:	
4. Is your municipality maintaining the labels (i.e. replacing and/or repainting)?	Yes

Improper Disposal of Waste

Have you adopted and are you enforcing a regulatory mechanism for:

1. Pet Waste Ordinance:	Yes
2. Date adopted:	03/13/2003
3. Litter Ordinance/State Litter Statute:	Litter Ordinance
4. Date adopted:	04/25/1991
5. Improper Disposal of Waste Ordinance:	Yes
6. Date adopted:	04/25/1991
7. Wildlife Feeding Ordinance:	Yes
8. Date adopted:	04/07/2005

9. Containerized Yard Waste Ordinance / Yard Waste Collection Program Ordinance:	Adopted Both
10. Date adopted:	03/01/2005
11. Illicit Connection Ordinance:	Yes
12. Date adopted:	02/10/1994
13. Refuse Container/Dumpster Ordinance:	Yes
14. Date adopted:	09/03/2009
15. Private Storm Drain Inlet Retrofitting Ordinance:	Yes
16. Date adopted:	09/03/2009
17. Status of these ordinances (If not adopted):	
18. Method(s) of enforcement (e.g., summons, warnings, additional signs, etc.):	Warnings
19. Are you distributing the Pet Waste Information Sheets with pet licenses?	Yes

Report Details - Part D

MS4 Outfall Pipe Mapping

1. Has the municipality completed the mapping of the MS4 outfall pipes?	Yes
2. Date completed:	02/25/1993
3. Number of outfall pipes that you operate in the municipality:	42
4. How many MS4 outfall pipes are mapped?	42

Illicit Connection Elimination Program

1. Does the municipality have an ongoing program to detect and eliminate illicit connections to municipally owned or operated outfall pipes?	Yes
2. How many outfall pipes were inspected during the past calendar year?	42
3. Number of illicit connections detected during the past calendar year:	0
4. Number of illicit connections eliminated during the past calendar year: Please attach, in a format provided by the Department, a list of all outfalls found to have an illicit connection since the inception of the program. The list must include the outfall	0

location, receiving water body, source of illicit connection and the date the illicit connection was eliminated.	
--	--

Street Sweeping Program

1. In the past calendar year, were all required streets swept?	Yes
--	-----

2. What was the total number of miles swept?	7869
--	------

List the total amount of materials collected for each month since January 1, 2014, in tons.

3. Units:	Tons
4. January:	0
5. February:	5.55
6. March:	2.57
7. April:	35.5
8. May:	33.22
9. June:	38.28
10. July:	23.68
11. August:	0
12. September:	25.96
13. October:	30.06
14. November:	15.22
15. December:	31.35
16. Total (Note: 1.053 cubic yards = 1 ton):	241.39
17. Explain the reason if reporting zero (0) for a month above:	Sweepers out of service

Storm Drain Inlet Retrofitting

1. Has the municipality completed repaving, repairing, reconstruction, or alterations on any road surfaces in direct contact with municipally owned or operated storm drain inlets?	Yes
---	-----

2. Approximately what percentage of storm drains within the municipality currently meet the standard?	40
---	----

Stormwater Facility Maintenance

Stormwater facilities include, but are not limited to, catch basins, extended detention basins, low flow bypasses, underground detention, dry wells, manufactured treatment

devices, pervious paving buffers, infiltration basins/trenches, sand filters, constructed wetlands, wet ponds, bioretention, rooftop vegetated cover, vegetative filters, and stormwater conveyance systems. Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwg/pdf/Tier_A/A%20-%20pdf%206.pdf.

1. Have you developed a Stormwater Facility Maintenance Program?	Yes
--	-----

Other Stormwater Facilities

1. Were all stormwater facilities that you operate inspected?	Yes
2. Were any found to be in need of cleaning or repair in order to function properly?	Yes
3. During the past calendar year, were any stormwater facilities (excluding catch basins) cleaned?	Yes
4. Were repairs made?	Yes
5. Describe repair(s) or if repairs have not yet been made, provide a schedule for the repair(s):	Wet Well cleaning/ VFD'S repaired

Catch Basins

1. Total number of catch basins that the municipality operates:	705
2. Total number of catch basins inspected:	705
3. Total number of catch basins cleaned:	705
4. Amount of materials removed from catch basins, in tons, during the past calendar year:	48.28
5. Units:	Tons

Report Details - Part E

Outfall Pipe Stream Scouring Remediation

For all outfall pipes undergoing remediation through a scour remediation program, attach additional page(s) as necessary indicating the location of the outfall pipe (including the alphanumeric identifier), the repair start date, and the repair completion date.

1. Has the municipality developed a prioritized list of outfall pipes requiring outfall pipe stream scouring remediation?	N/A - we have no outfall pipe stream scouring
---	---

De-icing Material and Sand Storage

1. Does the municipality have a permanent structure for all de-icing material storage?	Yes
2. If sand is being stored outside, is it set back 50 feet from storm sewer inlets, ditches or other stormwater conveyance channels, and surface water bodies?	N/A - no sand stored outdoors

Fueling Operations

1. Is the municipality implementing Standard Operating Procedures for vehicle fueling and receiving of bulk fuel deliveries at maintenance yard operations?	Yes
---	-----

Vehicle Maintenance

1. Is the municipality implementing Standard Operating Procedures for vehicle maintenance and repair activities at maintenance yard operations?	Yes
---	-----

Good Housekeeping Practices

1. Is the municipality implementing Good Housekeeping Practices for all materials or machinery listed in the Inventory Requirements for Municipal Maintenance Yard Operations (including maintenance activities and ancillary operations)?	Yes
--	-----

Equipment and Vehicle Washing

1. Has the municipality implemented measures to properly handle the discharge of equipment and vehicle wash wastewater from municipal maintenance yard operations?	Yes
2. Please indicate which option you implemented to eliminate the unpermitted discharge:	Connected to sanitary sewer
3. Date the management measure was implemented:	03/12/2003
4. What is the NJPDES permit number that authorizes the discharge of vehicle and equipment wash wastewater?	
5. Is the municipality maintaining records of vehicle and equipment washing?	

Annual Employee Training

1. Did the municipality conduct training for employees on stormwater related topics as required under the MS4 permit (e.g., police officers trained on ordinances)?

Yes

2. List date(s) of employee training:

03/25/2014

Report Details - Part F

Sharing of Responsibilities

Does the municipality share services with another entity to satisfy a permit requirement?

No

Incidents of Non-compliance

1. Did your Public Complex have any incidents of non-compliance?

No

2. Identify the steps being taken to remedy the noncompliance and to prevent such incidents from recurring. **(If the text box is not large enough to complete this section, please provide your report as an attachment and upload it on the next screen. Please reference the attachment in the textbox.)**

Certification

Certifier:

Certifier ID:

Challenge/Response

Question:

Challenge/Response

Answer:

Certification PIN:

Date/Time of

Certification:

"I certify under penalty of law that this Annual Report and Certification and all attached documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate this information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering this information, the information in this Annual Report and Certification and all attached documents is, to the best of my knowledge and belief, true, accurate and complete.

"I certify that the municipality is in compliance with its stormwater program, Stormwater Pollution Prevention Plan (SPPP) and the NJPDES Tier A Municipal Stormwater General Permit No. NJG0153150 except for any incidents of non-compliance which are identified herein. For any

Incidents of non-compliance, the Annual Report identifies the steps being taken to remedy the non-compliance and to prevent such incidents from recurring.

"I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

Please note, no changes will be allowed to be made to this report upon its certification. If you need to correct or modify the report after certification, please contact your case manager at (609) 633-7021 so they may enable that function.

General

Date

MS4 Tier A Permit Annual Report - Supplemental Questionnaire

General Information	
A. Municipal Information	
Municipality: Margate	County: Atlantic
1. Has the municipality identified the stormwater team in the SPPP? <input checked="" type="radio"/> Yes <input type="radio"/> No	
2. Municipal Population: 6500	3. Municipal Area (acres/sqm.): 1.4 sqm
B. Sharing of Responsibilities – Permit Section D1	
1. If the municipality shares services, what requirement do the shared services satisfy?	
<input type="checkbox"/> Public Notice <input type="checkbox"/> Post-Construction Stormwater Management in New Development and Redevelopment <input type="checkbox"/> Local Public Education <input type="checkbox"/> Improper Disposal of Waste <input type="checkbox"/> Illicit Connection Elimination and MS4 Outfall Pipe Mapping <input type="checkbox"/> Solids and Floatable Controls <input type="checkbox"/> Maintenance Yard Operations <input type="checkbox"/> Employee Training <input type="checkbox"/> N/A, there are no shared services	
Permit Implementation - Ordinances	
A. Ordinances - Permit Sections F5 and F6	
1. <i>Pet Waste Ordinance</i> Entity responsible for enforcement: City of Margate Code Enforcement	
2. <i>Litter Ordinance/State Litter Statute</i> Entity responsible for enforcement: City of Margate Code Enforcement	
3. <i>Improper Disposal of Waste Ordinance</i> Entity responsible for enforcement: City of Margate Code Enforcement	
4. <i>Wildlife Feeding Ordinance</i> Entity responsible for enforcement: City of Margate Code Enforcement	
5. <i>Containerized Yard Waste Ordinance/Collection Program</i> Entity responsible for enforcement: City of Margate Public Works	
6. <i>Illicit Connection Ordinance</i> Entity responsible for enforcement: City of Margate Public Works	
7. <i>Refuse Container/Dumpster Ordinance</i> Entity responsible for enforcement: City of Margate Public Works	
8. <i>Private Storm Drain Inlet Retrofitting Ordinance:</i> Entity responsible for enforcement: City of Margate Public Works	

9a. How many violations of these ordinances were enforced?

0

9b. Which of the above ordinances had the most violations?

none

B. Illicit Connection Elimination Program – Permit Section F6

1. During the past calendar year, has the municipality identified any pipes or discharges with unknown owners entering the MS4? Yes No
2. If yes, how many?

C. Storm Drain Inlet Retrofitting – Permit Section F7b

Existing storm drain inlets are required to be retrofitted to meet the design standard (contained in Attachment C of the permit) when such inlets are owned or operated by the Tier A Municipality and are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), or alterations of facilities owned or operated by the Tier A Municipality. For exemptions to this standard, refer to "Exemptions" in Attachment C.

1. At the completion of the above projects, did all of the storm drain inlets meet this standard? Yes No

Permit Implementation - Inventory

A. MS4 Outfall Pipe Mapping – Permit Section F6

1. Which map format is used:
 Tax Map SIIA Electronic (e.g. AutoCAD, Micro Station, GIS) USGS Quadrangle Other

1a. If other, what is the format that the municipality uses?

2. Date of last revision: 1993

3. Is the map updated annually? Yes No

4. Has the municipality investigated its MS4 for previously unmapped outfalls? Yes No

4a. How many outfalls were found? zero

5. What percentage of mapped outfalls in the municipality have been visually inspected during the last calendar year?
100%

6. Are the municipality's outfall pipes labelled in the field? Yes No

6a. If yes, do the labels match the alphanumeric code in the municipality's map? Yes No

7. Does the municipality's map identify outfalls that do not discharge to surface waters? Yes No

8. Does the municipality's map identify surface water body names? Yes No

9. Does the municipality's map identify streets? Yes No

10. Does the municipality's map identify blocks and lots? Yes No

11. Does the municipality's map identify MS4 conveyance systems (pipes, swales, ditches)? Yes No

12. Does the municipality's map identify other stormwater facilities? Yes No

12a. Please identify other stormwater facilities noted on the map (select as many as apply):

- | | |
|--|--|
| <input type="checkbox"/> Bioretention Systems | <input type="checkbox"/> Constructed Stormwater Wetlands |
| <input type="checkbox"/> Dry Wells | <input type="checkbox"/> Extended Detention Basins |
| <input type="checkbox"/> Grass Swales | <input type="checkbox"/> Infiltration Basins |
| <input type="checkbox"/> Manufactured Treatment Devices (MTDs) | <input type="checkbox"/> Pervious Paving Systems |
| <input type="checkbox"/> Rooftop Vegetated Cover | <input type="checkbox"/> Sand Filters |
| <input type="checkbox"/> Vegetative Filters | <input type="checkbox"/> Wet Ponds |
| <input type="checkbox"/> Retrofitted Storm Drain Inlets | |

13. Does the municipality's map identify areas with scour, erosion, and/or flooding and drainage control issues?
 Yes No

B. Storm Drain Inlet Labeling – Permit Section F4b

1. How many labels have been replaced or repainted during the past calendar year to ensure legibility?
6

Permit Implementation - Inventory

A. Stormwater Facility Inspection and Maintenance – Permit Section F7c

Stormwater facilities include, but are not limited to, catch basins, extended detention basins, low flow bypasses, underground detention, dry wells, manufactured treatment devices, pervious paving, riparian buffers, infiltration basins/trenches, sand filters, constructed wetlands, wet ponds, bioretention, rooftop vegetated cover, vegetative filters, and stormwater conveyance systems. Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf

1. Does the municipality's stormwater maintenance program include the following:
- 1a. An inventory of facilities? Yes No
 - 1b. An inspection schedule? Yes No
 - 1c. A maintenance schedule? Yes No
 - 1d. An inspection log noting when inspections were conducted? Yes No
 - 1e. A maintenance log noting any maintenance performed on individual facilities? Yes No
2. Does the municipality inspect stormwater facilities that are not owned by the municipality? Yes No
- 2a. Does the municipality review maintenance logs for stormwater facilities that are not owned by the municipality?
 Yes No

3. During the past calendar year, how many stormwater facilities (excluding catch basins) were repaired?
zero

4. During the past calendar year, how many stormwater facilities (excluding catch basins) were cleaned?
One Stormwater pump station

B. Stormwater Facility Inspection and Maintenance – Permit Section F7c

1. Does the municipality have a stormwater outfall pipe scouring detection, remediation, and maintenance program?
 Yes No
2. How many instances of scour has the municipality found during the past calendar year?

Permit Implementation - Inventory

A. De-icing Material and Sand Storage – Permit Section F8a

1. What type of de-icing material does the municipality use (select as many as appropriate)?
- Sodium Chloride
 - Calcium Chloride
 - Potassium Acetate
 - Brine Solution
 - Unknown
 - Other (if other, please specify):

B. Equipment and Vehicle Washing – Permit Section F8b

1. Does the municipality utilize an underground storage tank for managing vehicle wash wastewater? Yes No

2. Which of the following options does the municipality use to manage vehicle wash wastewater? (select all that apply)

- Vehicle wash reclaim system
- Capture and haul system
- Discharge to sanitary sewer
- Discharge to groundwater
- Washed off site
- Do not wash vehicles

Permit Implementation – Stormwater Management – Permit Section F3

Note: This portion of the annual report should be completed by a person knowledgeable in post-construction stormwater management project review and approvals.

1. Name of person completing this section: Edward J. Walberg P.E., P.P., CME
2. Title of person completing this section: City Engineer

A. Municipal Stormwater Management Plan (Plan)

1. Most recent date of re-examination of municipal master plan: 2006
2. Does the plan identify and address water bodies of concern (listed on Impaired Water Bodies List, TMDL, high quality water, existing erosion)? Yes No
3. Does the plan identify and address areas of inadequate drainage? Yes No
4. Does the plan include programs or BMPs and associated timeframes specifically addressing these impairments or pollutants? Yes No
5. Does the plan identify how to incorporate future development pressures on the existing stormwater management infrastructure? Yes No
6. Are mitigation projects listed in the municipality's mitigation plan? Yes No No mitigation plan

B. Stormwater Control Ordinance

1. What is the ordinance's definition of major development?
Any "Development" that provides for ultimately disturbing one or more acres of land, or more than 10,000 SQ of new impervious coverage. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil, bedrock. Clearing cutting or removing of vegetation.

2. Has the municipality adopted a new stormwater control ordinance during the past year? Yes No
3. If yes, did the municipality send the adopted municipal stormwater control ordinance to the appropriate county review agency for approval? Yes No

C. Review of Major Development for Stormwater Management

1. Did the municipality have any agricultural development projects that were granted exemptions under the Right to Farm Act? Yes No
2. Do any municipal ordinances promote the use of nonstructural strategies? Yes No Unknown
3. Does the municipality hold pre-application meetings to discuss incorporation of nonstructural strategies for individual projects? Yes No
4. Does the municipality allow infiltration BMPs to infiltrate during the 2, 10, or 100 year storm events for quantity control? Yes No
5. Does the municipality conduct municipal inspections of sites both during and after the construction is completed to ensure that BMPs function as designed? Yes No

D. Inventory and Maintenance

Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwg/pdf/Tier_A/A%20-%20pdf%206.pdf.

1. Did the municipality update its map and inventory to include newly approved projects constructed within the last calendar year? Yes No

2. How many infiltration BMPs were approved during the past calendar year? 0

3. How many subsurface infiltration basins have been constructed during the past calendar year? 0

3a. How many of these subsurface infiltration basins were inspected during construction in the past calendar year?
n/a

3b. Did the final inspection include the following? Mark all that apply:

- Permeability test
- Visual inspection
- Check for drain down time
- Unknown

4. Select the methods the municipality uses to ensure that stormwater facilities that are not owned by the municipality will be properly maintained:

- Maintained by municipality
- Inspections
- Homeowners associations
- Shared services
- Fees
- Surety bonds
- Other

4a. If other, what are the methods for ensuring stormwater facilities are maintained?

5. In the past calendar year, has the municipality reviewed and approved any major residential developments that place an individual property owner as the responsible entity for the maintenance of any stormwater management facility(ies) that receive drainage from multiple parcels? Yes No

E. Stormwater Management Training

1. Have any of the current members of the planning or zoning board taken any NJDEP provided training for board members on the Stormwater Management rules? Yes No Unknown

2. Have the municipality's inspector(s) for stormwater management taken any of the following classes:

2a. Stormwater Management and BMPs for Engineers through Rutgers University or NJDEP : Yes No Unknown

2b. Municipal Engineering Construction Inspection Program, Part 1 through Rutgers University: Yes No Unknown

2c. Municipal Engineering Construction Inspection Program, Part 2 through Rutgers University: Yes No Unknown

2d. Soils & Site Evaluation for Septic Disposal Systems & Stormwater BMPs through Rutgers University:
 Yes No Unknown

2e. Other stormwater training classes:

3. How many construction inspectors for stormwater management does the municipality have? 2

4. How many operation and maintenance inspectors for stormwater management does the municipality have? 2
5. How many plan reviewers for stormwater management does the municipality have? 2
6. How many municipal engineers/stormwater plan reviewers have taken the NJDEP Stormwater Management and BMP Manual course offered through Rutgers University or NJDEP? 0
Education
A. Annual Employee Training – Permit Section F9
1. Is the municipality maintaining a record of the dates on which employees have received training? <input checked="" type="radio"/> Yes <input type="radio"/> No
2. Type of training media on those dates: <input checked="" type="checkbox"/> Video <input type="checkbox"/> Mentoring <input type="checkbox"/> Vendor Training

This Supplemental Questionnaire must be attached to your Annual Report to be considered complete. If you experience any difficulty in this process, please contact your municipal case manager at 609-633-7021.

1. Once you have completed the Questionnaire, use the "Save" function to save your answers to the Questionnaire to your computer. This can be done by going to FILE > then Save or Ctrl + S.
2. The completed and saved Questionnaire must then be uploaded as an attachment, in Part 7, to your Annual Report before the Annual Report is submitted to the Department.
3. To access the Annual Report, open the link to "NJDEP Online Portal" at http://www.nj.gov/dep/dwg/tier_a.htm. In Part 7, you will be asked to complete information regarding the file(s) to be uploaded. Navigate to your saved Questionnaire and then hit the "Upload" button in the lower right section of Part 7. The Annual Report will indicate if the Questionnaire was successfully uploaded. Then click on the "Continue" button and proceed with finalizing your Annual Report.

SPPP Form 9 – Yard Waste Ordinance/Collection Program

Municipality
Information

Municipality: Margate County Atlantic

NJPDES #: 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 03/04/2013

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

Grass Clippings etc.

1) Shall be separated from household trash and placed in biodegradable paper bags.

2) Are collected on the same as regular trash days via separate pick up

Shrubs, Branches, Tree Clippings etc.

Must be securely tied in bundles no greater than 4ft. in length and not to exceed 50 lbs.

Collections schedule can be found on website and in city calendar, which is sent out every April.

SPPP Form 10 - Ordinances

Municipality
Information

Municipality: Margate County Atlantic

NJPDES # : 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 03/04/2013

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

Pet Waste 03/13/2003

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

Litter 04/25/1991

Improper Waste Disposal 04/25/1991 and 07/14/1994

Wildlife Feeding 04/07/2005

Yard Waste 02/10/1994 and 03/2005

Illicit Connections 02/10/1994

How will these ordinances be enforced?

Refuse Containers/ Dumpster Ordinance 09/03/2009

Private catch basin retrofitting ordinance 09/03/2009

By code enforcement officials

SPPP Form 11 – Storm Drain Inlet Retrofitting

Municipality Information

Municipality: Margate County Atlantic

NJPDES # : 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 06/13/2014

What type of storm drain inlet design will generally be used for retrofitting?

type a,b,c

Repaving, repairing, reconstruction or alteration project name	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains w/ hydraulic exemptions
<i>2009 Bayshore ct, Clarendon ave, delevan ave, huntington ave, oakgrove ave</i>	<i>01/01/2009</i>		<i>12/01/2009</i>	<i>29</i>	
<i>2010 road program</i>	<i>01/01/2010</i>		<i>01/12/2011</i>	<i>47</i>	
<i>2011 road program</i>	<i>04/01/2011</i>		<i>02/29/2012</i>	<i>23</i>	
<i>2012 road program</i>	<i>10/01/2012</i>		<i>12/22/2012</i>	<i>10</i>	
<i>2013 road program</i>	<i>05/01/2013</i>		<i>06/13/2014</i>	<i>15</i>	

Are you claiming any alternative device exemptions or historic place exemptions for any of the above projects? Please explain:

SPPP Form 12 – Street Sweeping and Road Erosion Control Maintenance

Municipality Information

Municipality: Margate County: Atlantic

NJPDES #: 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 03/04/2013

Street Sweeping

Please describe the street sweeping schedule that you will maintain.

(NOTE: Attach a street sweeping log containing the following information: date and area swept, # of miles swept and the total amount of materials collected.)

Margate has 2 full time sweepers

Schedule as follows

Monday- Bayshore drive area

Tuesday-Coolidge to Union Aves

Wednesday-Thurlow to Jerome Aves

Thursday-Jasper to Gladstone Aves

Friday-Frontenac to Fredericksburg Aves

Road Erosion Control Maintenance

Describe your Road Erosion Control Maintenance Program, including inspection schedules. A list of all sites of roadside erosion and the repair technique(s) you will be using for each site should be attached to this form.

(NOTE: Attach a road erosion control maintenance log containing the following information: location, repairs, date)

N/A

SPPP Form 13 – Stormwater Facility Maintenance

Municipality
Information

Municipality: Margate County: Atlantic

NJPDES #: 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 3/04/2013

Please describe your annual catch basin cleaning program and schedule. Attach a map/diagram or additional pages as necessary.

Margate City will implement an annual catch basin cleaning program to maintain catch basin function and efficiency. All catch basins will be inspected once each year. As per our contract with Video Pipe Services all catch basins will be cleaned annually. Maintenance will be scheduled for those catch basins that are in disrepair

Video Pipe Services contract provides

600 hrs of cleaning sanitary sewer and Storm sewer lines and Structures in the City of Margate

160hrs of televising Sanitary and Storm sewer lines and Structures in the City of Margate

Please describe your stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the municipality. Attach additional pages as necessary.

(NOTE: Attach a maintenance log containing information on any repairs/maintenance performed on stormwater facilities to ensure their proper function and operation.)

Margate City will implement a stormwater facility maintenance program to ensure that all stormwater facilities operated by Margate function properly. Margate operates the following.

-stormwater pump station

-stormwater pipelines

-catch basins

All inspected annually

SPPP Form 14 - Outfall Pipe Stream Scouring Remediation

Municipality
Information

Municipality: Margate County: Atlantic

NJPDES #: 0153150 PI ID #: 207200

Team Member/Title: Patrick S. Power/Operator

Effective Date of Permit Authorization (EDPA): 04/01/2004

Date of Completion: 09/21/2006 Date of most recent update: 3/04/2013

Describe your stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control active, localized stream and stream bank scouring. Attach additional pages as necessary.

(NOTE: Attach a prioritized list of sites observed to have outfall pipe stream and stream bank scouring, date of anticipated repair, method of repair and date of completion.)

Outfall pipes are inspected annually and any scouring issues will be handled accordingly.