

OCEAN COUNTY WASTEWATER MANAGEMENT PLAN

Replacing All Previously Adopted Wastewater Management Plans

VOLUME 2 of 2
MUNICIPAL CHAPTERS

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

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1. BARNEGAT TOWNSHIP

Component of the Ocean County Wastewater Management Plan
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I. Overview of Municipality

The Township of Barnegat is located in the southern central portion of Ocean County, fronting on Barnegat Bay to the east. All land west of the Garden State Parkway is within the Pinelands Comprehensive Management Plan Area. Barnegat's original town center is located to the east of the Parkway, and features many 19th century homes and a number of commercial buildings of similar age. More recent commercial development is located along Route 9 and West Bay Avenue. There are several age restricted retirement communities located west of the Parkway and several other large residential developments to the east.

In 2010, the U.S. Census Bureau estimated Barnegat Township's total population as 20,936. The same year, the Census documented 9,085 housing units, of which 957 were vacant. 521 of these vacant units were counted as seasonal vacancies. NJTPA projects that Barnegat's population will grow by 22.27% by the year 2035, to a total of 26,936 people. The municipal wastewater conveyance infrastructure is capable of handling seasonal fluctuations and future growth in population.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Fronting on Barnegat Bay, a large portion of Barnegat Township's land east of Route 9 is covered by wetlands, including emergent wetlands in the municipality's easternmost marshes. Most of this low lying area has been incorporated into the Edwin B. Forsythe Wildlife Refuge. Additional wetlands are present along stream corridors in the western portions of the municipality. Most of the land west of the Garden State Parkway is forested, and much of the western third of the Township lies within Natural Heritage Priority Sites. There is no preserved agricultural land in Barnegat.

Table 1 provides a breakdown of the Township's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	5,457.35	21.17%
Public Open Space/Recreational Areas	11,201.71	43.46%
Habitat T&E	18,478.90	71.69%
Natural Heritage Priority Sites	3,940.05	15.29%
Riparian Zones	1,689.42	6.55%
Preserved Agriculture	0.00	0.00%
Surface Water	3,974.90	15.42%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Article II, Chapter 55-6	7/5/2005
Master Plan		4/26/2011
Stormwater [County - MSWMP]	Article XXI, Chapter 55-320	2/20/1990 [3/18/2008]
Riparian Zone	Article II, Chapter 55-28*	10/4/2010
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Article V, Chapter 55-126.15	9/1/2001
*complies with NJAC 7:15		
Source: http://www.barnegat.net/code-books/barnegat-township-land-use-code-book/		



III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Barnegat east of the Garden State Parkway is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines, which connect to an OCUA interceptor that runs roughly along 7th Street, south to north, beginning near the municipal boundary with Stafford Township. This interceptor continues northward to Birdsall Street, where it converts to a force main and continues along Main Street. At the intersection of Main Street and Route 9, the force main converts back to an interceptor and follows the course of Route 9 to the Ocean-Indianola Lift Station (CPS-8) located at the Ocean Township municipal boundary. From there, wastewater is conveyed to the CWPCF in Berkeley Township.

Wastewater generated in a portion of the Township located west of the Garden State Parkway is directed to the SWPCF in Stafford Township, via connection to Stafford Township’s municipal collection system. In OCUA’s original master plan, all of Barnegat Township west of the Garden State Parkway was in the Southern Planning Area. Since then, several amendments to the Ocean County WQMP have realigned the boundaries of the Southern and Central Planning Areas west of the Garden State Parkway to facilitate the easiest means of connection for several developments. The current boundaries of OCUA’s planning areas are shown in Map 5.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. East of the Garden State Parkway there are 461.66 acres of developable land divided into 457 residential lots and 68 commercial lots. There is no industrial development in the Township. All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land located east of the Garden State Parkway is included in the designated sewer service area. West of the Garden State Parkway, recent development in the Pinelands Regional Growth Area is included in the sewer service area, while the remainder is usually served by septic systems. These developments proceed under the jurisdiction of the Pinelands Commission in accordance with their regulations. Because Barnegat is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V). The Delta Map displays the changes to Barnegat’s sewer service area.

Existing Areas Served By Public Water Supply Facilities

Barnegat Township’s public drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via six wells. The system is operated by the Barnegat Township Water and Sewer Utilities, and is capable of pumping 8.352 MGD. Map 6 shows Barnegat’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.



IV. On-Site, Non-Industrial Wastewater Facility Tables

There are three small developments located in the Southern Planning Area of the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these three systems are provided in Tables 3, 4, and 5:

Table 3: NJPDES - Brighton at Barnegat Mobile Home Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084361	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Hometown Brighton At Barnegat, LLC	
7. Operator of Facility:		Hometown America Management, LLC	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Barnegat Township, Ocean County	
b. Street Address:		35 Brighton Road, Route 72	
c. Block(s) and Lot(s):		Block 85, Lots 1.01, 1.02; Block 86, Lots 3.01, 3.02	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 18.35 sec. west	
b. Latitude:		39 deg. 45 min. 38.31 sec. north	
11. Present Permitted Flow:		0.055 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		481*	481
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Barnegat Township	Residential	0.036 MGD**	0.036 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.036 MGD	0.036 MGD
*Estimate provided by Kathy Collins			
**Estimate based on 75 gallons per day per person			

Table 4: NJPDES - Long Beach RV Resort			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0132560	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Carefree RV Resorts	
7. Operator of Facility:		Carefree Property Management, LLC	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Barnegat Township, Ocean County	
b. Street Address:		30 Route 72	
c. Block(s) and Lot(s):		Block 90, Lot 14.01	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 52.18 sec. west	
b. Latitude:		39 deg. 45 min. 39.645 sec. north	
11. Present Permitted Flow:		0.015 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 765*	Approximately 765
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Barnegat Township	Residential	0.012 MGD**	0.012 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.012 MGD	0.012 MGD
*There are 255 sites which vary in occupancy, as per Barbara Shackelford. None of the sites have sewer hook-ups.			
**This estimate assumes full occupancy (3 people per site for all 255 sites), contributing 15 gallons per day through use of shower and bathroom facilities, plus 580 gallons per day from the laundry facility, plus 327 gallons per day from the main lodge (0.100 gallons per square foot per day). As such, 11475 + 580 + 327 = 12382 gallons per day, or 0.012 MGD.			



Table 5: NJPDES - Pinewood Estates Mobile Home Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0064823	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Rissman Investment Company	
7. Operator of Facility:		Arnold Taranto, Licensed Operator	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Barnegat Township, Ocean County	
b. Street Address:		Route 72	
c. Block(s) and Lot(s):		Block 86, Lot 2	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 14.69 sec. west	
b. Latitude:		39 deg. 45 min. 32.73 sec. north	
11. Present Permitted Flow:		0.113 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		642*	642
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Barnegat Township	Residential	0.023 MGD*	0.023 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.023 MGD	0.023 MGD

*Estimate provided by Pinewood Estates

V. Future Wastewater and Water Demand

Municipal Zoning

Table 6: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C-M	Marine Commercial	65.14	0.41
CN	Neighborhood Commercial	275.35	152.79
C-PHD	Commercial Planned Highway Development	358.86	148.3
CV	Village Commercial	173.78	19.89
M-H	Mobile Home Residential	156.46	30.92
ML 1	Residential	159.34	104.97
ML 2	Residential	114.78	83.73
ML 3	Residential	72.5	37.76
ML 4	Multifamily Residential	34.74	4.29
ML 5	Multifamily Residential	5.64	1.66
PA	Preservation Area	5,687.41	614.37
PF	Preserved Forest Pinelands	4,465.35	2,090.92
PI	Planned Industrial	558.68	226.24
PV	Pinelands Village	53.07	39.44
PW	Preserved Waterfront	7,445.60	6.61
R-10	Residential	57.12	3.93
R-15	Residential	22.11	4.99
R-20	Residential	875.56	186.22
R-40	Residential	474.14	146.34
R-6	Residential	435.45	17.23
R-7.5	Residential	395.36	12.39
RC	Residential Conservation	347.45	187.73
RC-7.5	Residential Cluster	316.99	56.18
RH	Residential High	541.12	208.53
RL	Residential Low	62.24	5.6
RL/AC	Residential Low/Adult Community	1,908.92	993.27
RM	Residential Medium	166.07	6.84
R-MF	Residential Multifamily	289.56	8.28
CC	Commercial Core – Overlay	42.28	9.69
TC	Town Center – Overlay	812.93	148.33



“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 7: Wastewater Flow Directed to OCUA Facilities	
CWPCF	
Source	(MGD)
Existing Flow	1.230
Projected Residential	1.096
Projected Commercial	0.374
Total Future Planning Flow	2.700
SWPCF	
Source	(MGD)
Existing Flow	0.024
Projected Residential	0.088
Projected Commercial	0.000
Total Future Planning Flow	0.112

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Barnegat Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 6 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 8: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	1,703.09	1,530.69	3,653.56	7,509,976.73
Southern	283.06	283.06	291.75	0.00

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Barnegat Township’s municipal ordinance applicable to septic connection was adopted in 2001 (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 9: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301110	368.89	299.63	138.51	301.67	507.40	601.30
02040301120	42.22	127.58	7.38	40.21	49.60	167.79
02040301130	482.01	670.72	102.17	270.07	584.18	940.79
02040301180	932.46	664.64	62.83	342.10	995.29	1,006.74
Totals	1,825.58	1,762.57	310.89	954.05	2,136.47	2,716.62

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:



Table 10: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301110	4.6	429.53	93.38	601.30
02040301120	5.8	419.16	72.27	167.79
02040301130	5.0	597.06	119.41	940.79
02040301180	4.5	8,096.76	1,799.28	1,006.74

The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Barnegat's portions of HUC11s 02040301110, 02040301120, and 02040301130. However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in each of these three HUC11s; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11s, inclusive of Barnegat Township, are less than each HUC11's total capacity for development while maintaining optimal nitrate dilution. Information on these HUC11s' septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township's residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 11: Public Water Purveyor Capacity								
Barnegat Township Water and Sewer Utilities								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
6.912	5,568	1,344	154.000	140.109	13.891	1,162.000	1,019,560	142.440

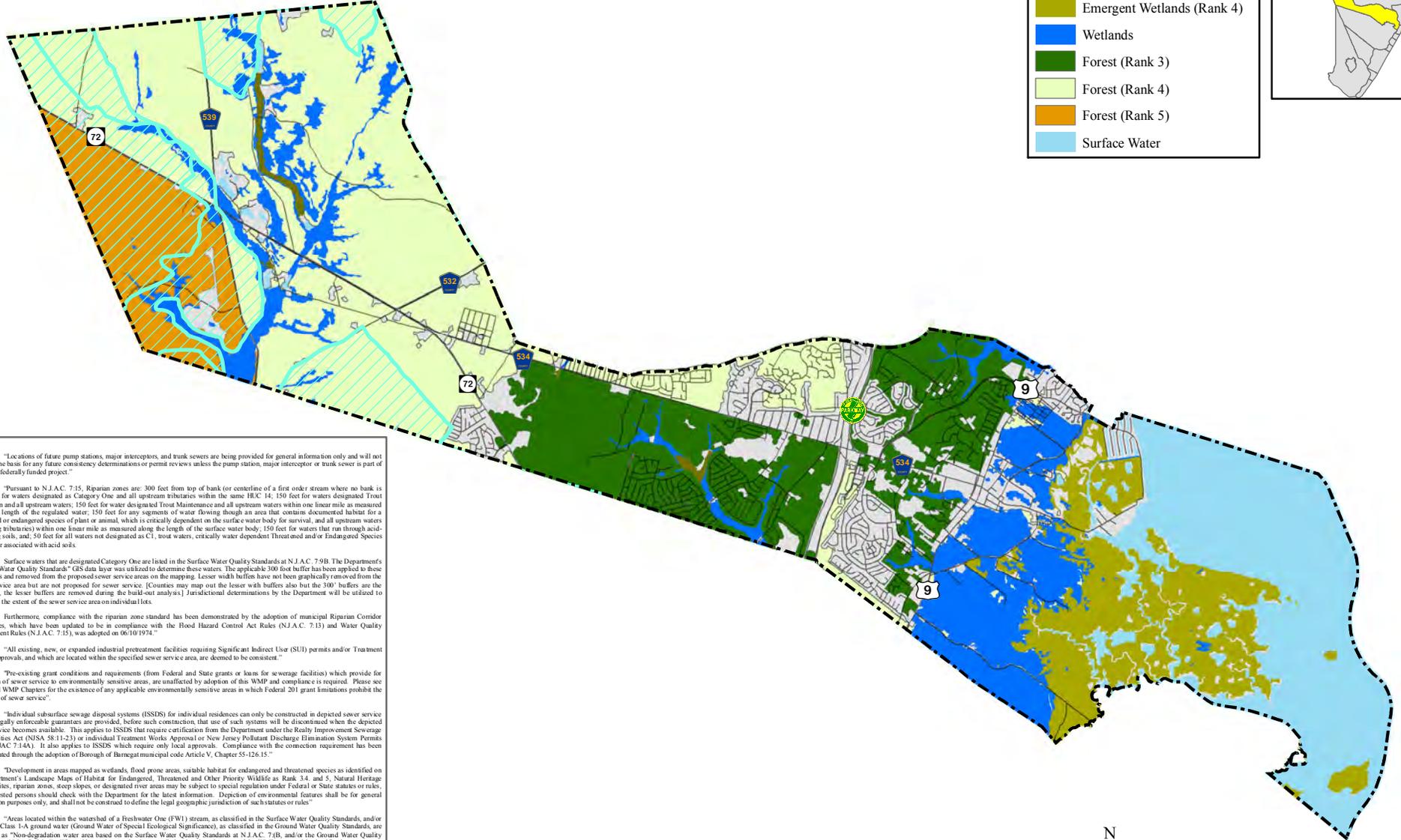
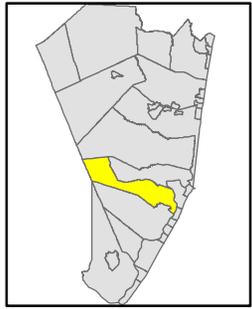
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Forest (Rank 5)
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C-1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

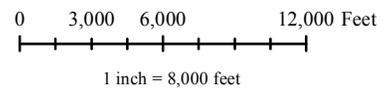
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Barnegat municipal code Article V, Chapter 55-126.15."

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BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

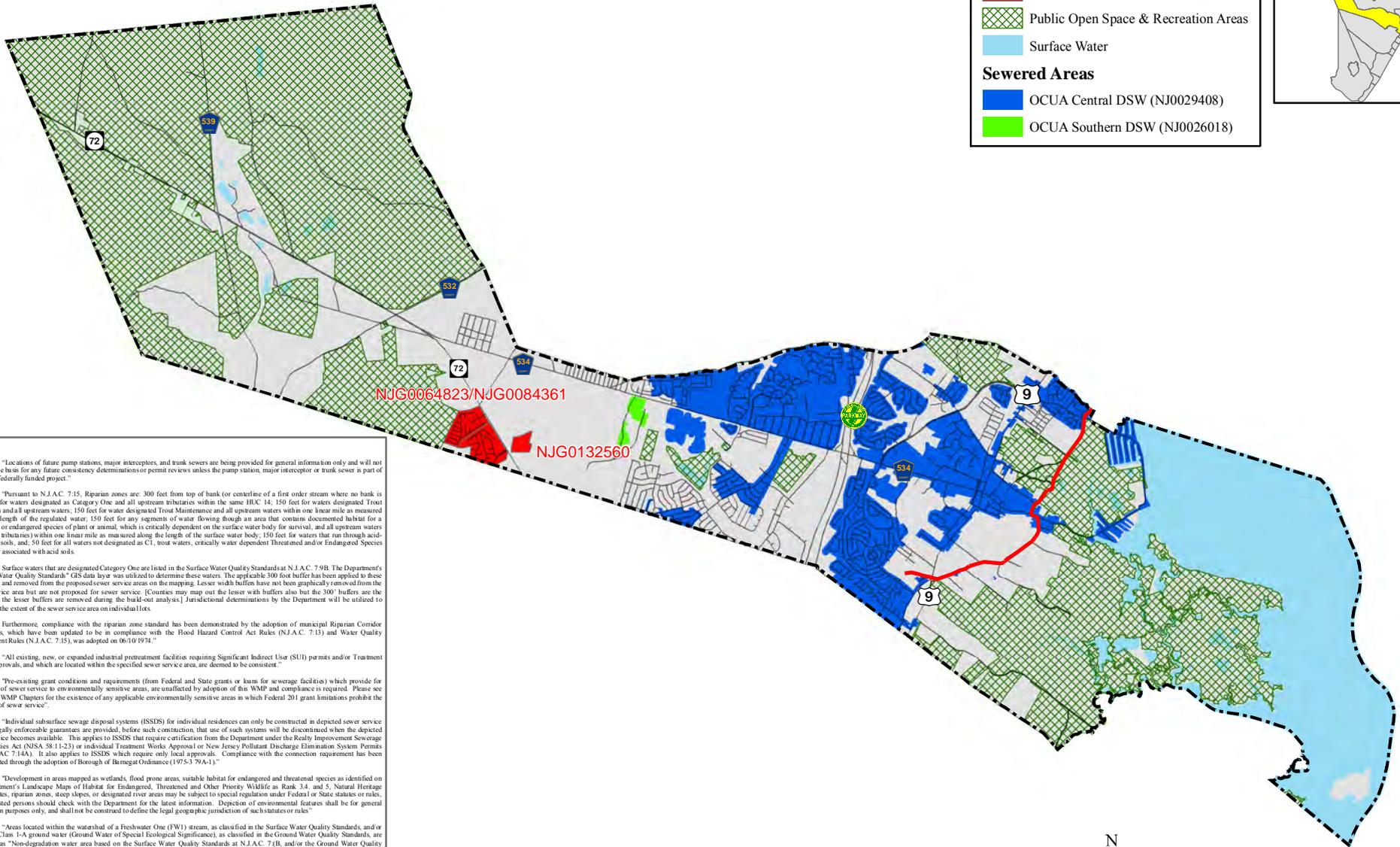
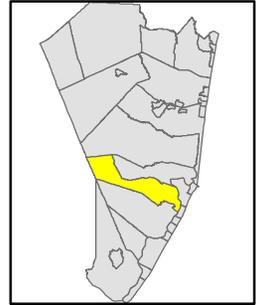
MAP 1
ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, September 2012
 Sources: New Jersey Department of Environmental Protection

PINEWOOD ESTATES	NJG0064823
BRIGHTON AT BARNEGAT MANUFACTURED HOME COMM	NJG0084361
SCRUBBIE PINES CAMPGROUND	NJG0132560

Legend

-  Interceptor
 -  Roads
 -  DGW/Sanitary Subsurface Disposal
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)
 -  OCUA Southern DSW (NJ0026018)



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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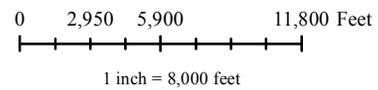
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Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection
Ocean County Utilities Authority



BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

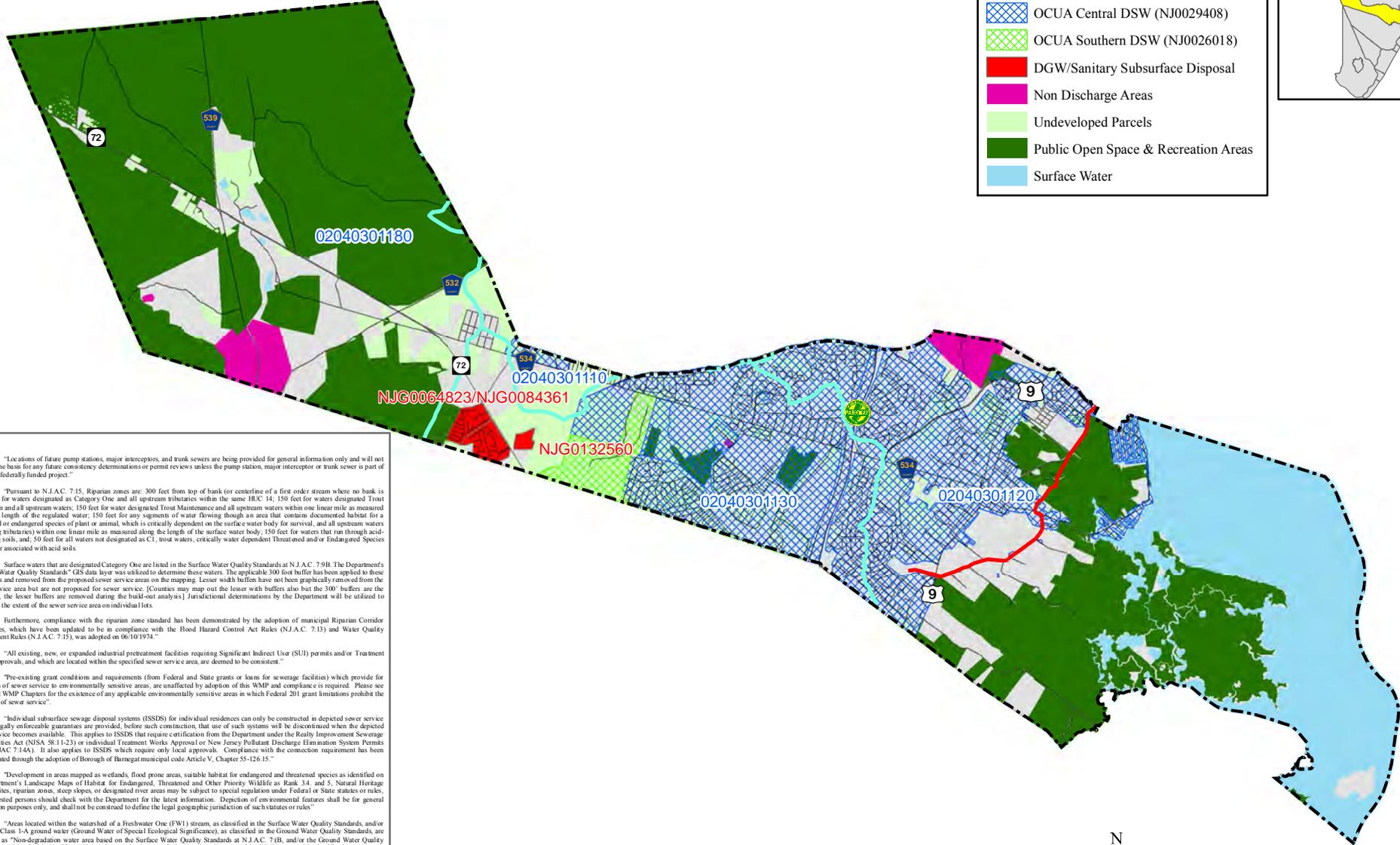
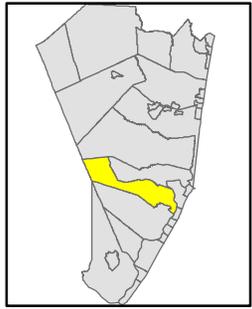
MAP 2

EXISTING SEWERED AREA

PINEWOOD ESTATES	NJG0064823
BRIGHTON AT BARNEGAT MANUFACTURED HOME COMM	NJG0084361
SCRUBBIE PINES CAMPGROUND	NJG0132560

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Central DSW (NJ0029408)
-  OCUA Southern DSW (NJ0026018)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

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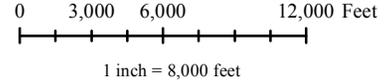
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Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection
Ocean County Utilities Authority



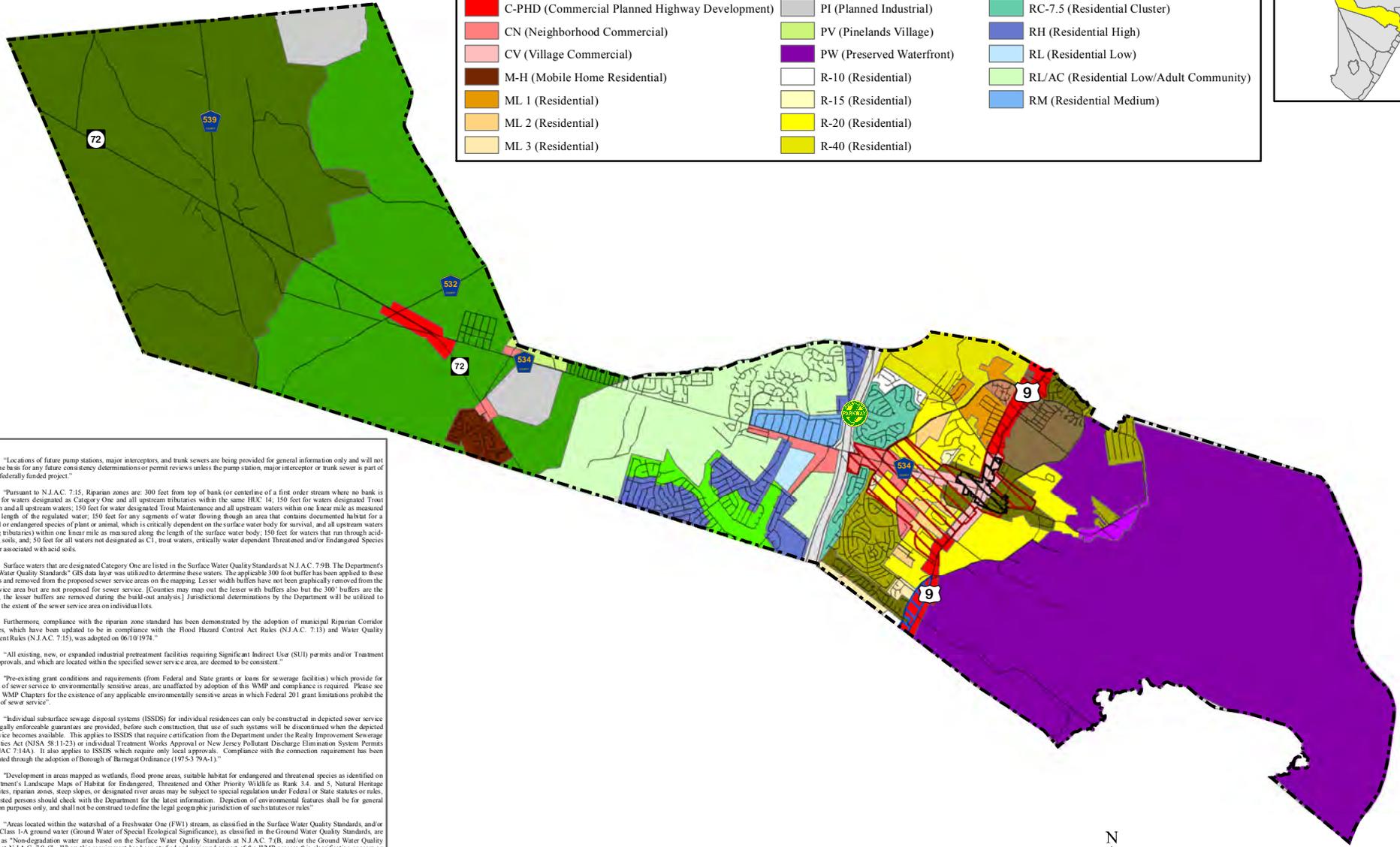
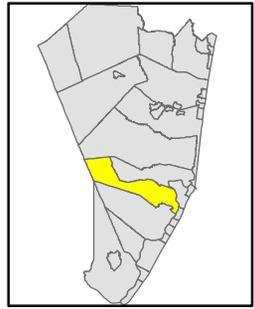
BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

 CC (Commercial Core Overlay)	 ML 4 (Multi Family Residential)	 R-6 (Residential)
 Historic District	 ML 5 (Multi Family Residential)	 R-7.5 (Residential)
 TC (Town Center Overlay)	 PA (Preservation Area)	 R-MF (Multi Family Residential)
 C-M (Marine Commercial)	 PF (Preserved Forest Pinelands)	 RC (Residential Conservation)
 C-PHD (Commercial Planned Highway Development)	 PI (Planned Industrial)	 RC-7.5 (Residential Cluster)
 CN (Neighborhood Commercial)	 PV (Pinelands Village)	 RH (Residential High)
 CV (Village Commercial)	 PW (Preserved Waterfront)	 RL (Residential Low)
 M-H (Mobile Home Residential)	 R-10 (Residential)	 RL/AC (Residential Low/Adult Community)
 ML 1 (Residential)	 R-15 (Residential)	 RM (Residential Medium)
 ML 2 (Residential)	 R-20 (Residential)	
 ML 3 (Residential)	 R-40 (Residential)	



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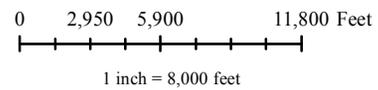
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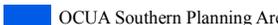


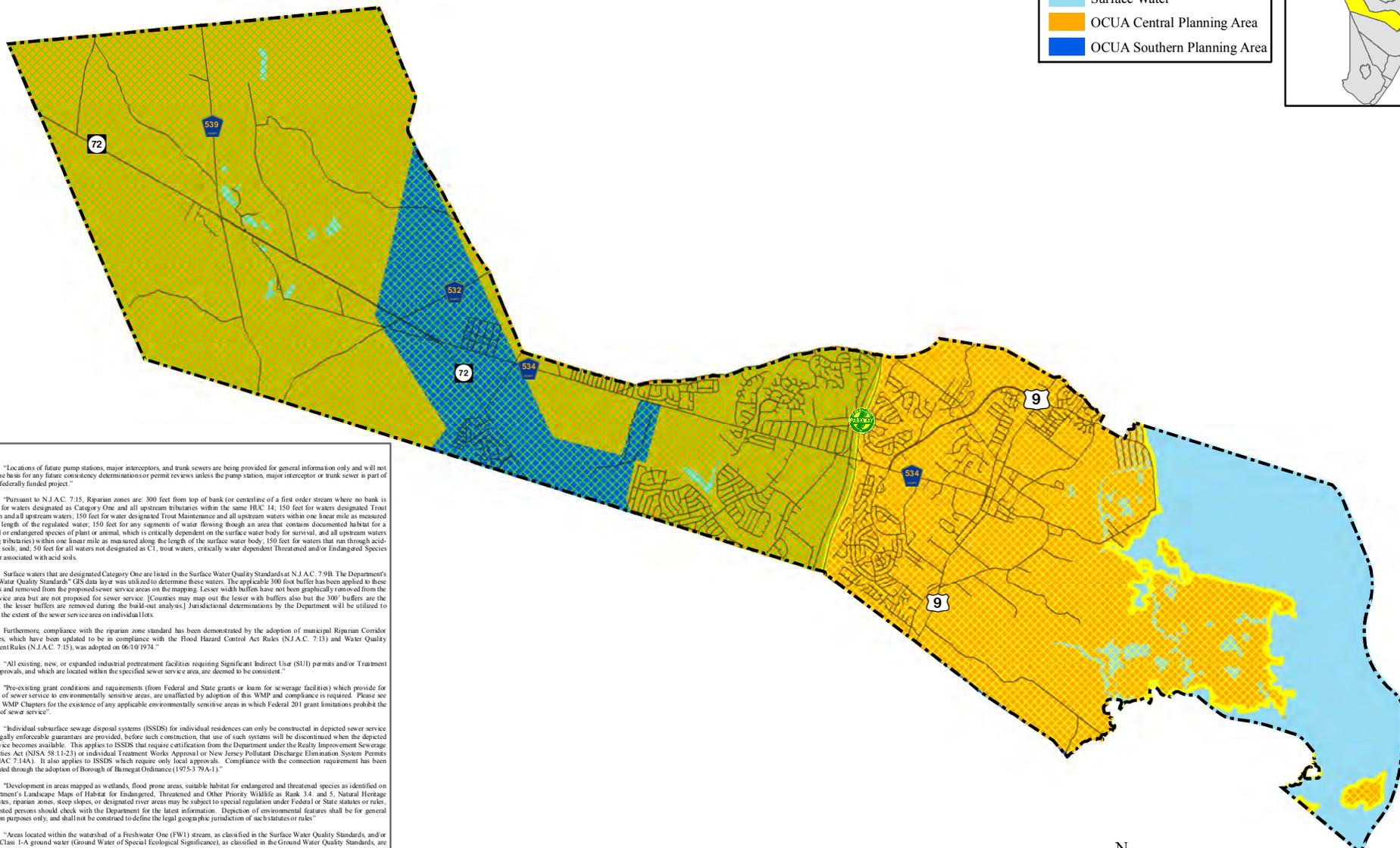
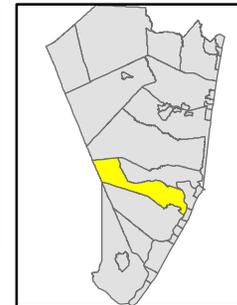
BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area
-  OCUA Southern Planning Area



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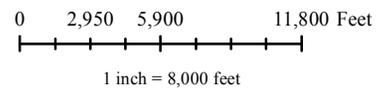
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Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection



BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

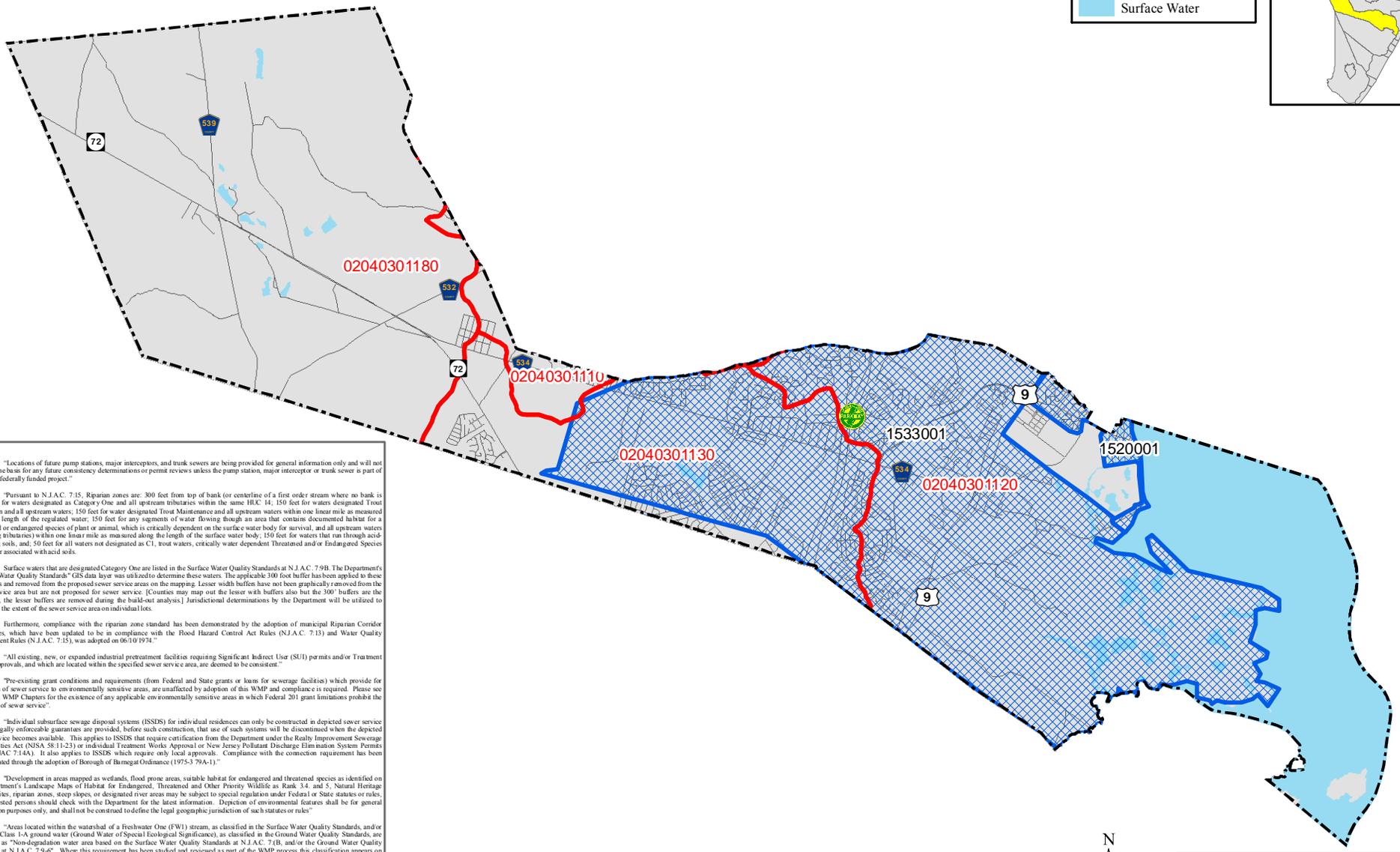
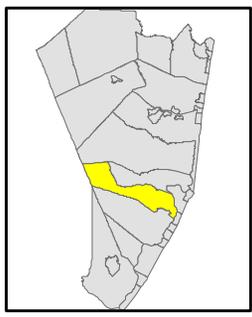
MAP 5

REGIONAL PLANNING AREA

PWSID	PURVEYOR NAME
1520001	OCEAN TWP MUA
1533001	BARNEGAT TWP WATER & SEWER UTILITY

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

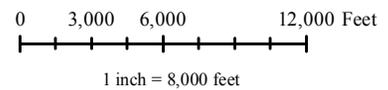
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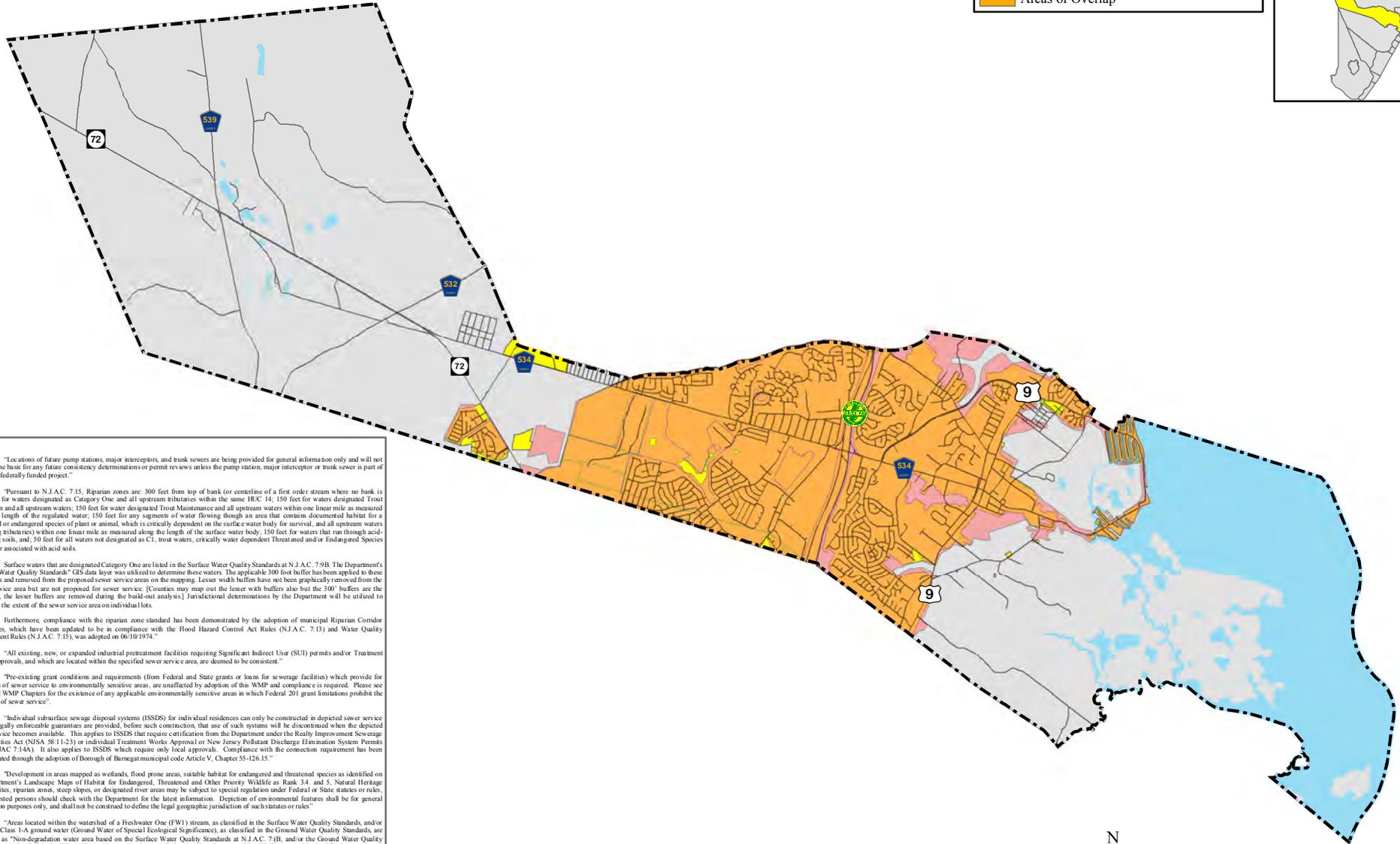
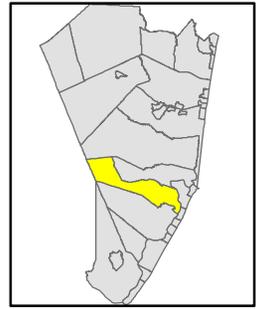
BARNEGAT TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Areas of Overlap



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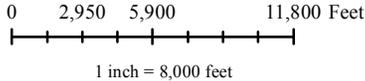
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BARNEGAT TOWNSHIP OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection

2. BARNEGAT LIGHT BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Barnegat Light, at 1.27 square miles (812.61 acres) in size, was incorporated in 1904 and is situated on the northern end of Long Beach Island. The Atlantic Ocean lies to the east, Barnegat Inlet to the north, and Barnegat Bay to the west. Long Beach Township is to the south. The Borough is the site of Barnegat Light State Park and its iconic lighthouse, “Old Barney.” The entire municipality lies within the CAFRA region.

As of the 2010 U.S. Census, Barnegat Light had a total population of 574 people. The Borough’s population is known to fluctuate greatly throughout the year; of the 1,282 housing units counted by the Census in 2010, 1,008 were vacant. Of these vacant units, 909 were seasonal vacancies. Presently, NJTPA projects that Barnegat Light’s base population will grow to 707 by the year 2035. Existing municipal wastewater conveyance infrastructure can support this growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Situated at the northern end of Long Beach Island and fronting on the Atlantic Ocean, the eastern edge of the Borough is lined by beaches. Nearly all of the area inland of these beaches and east of Long Beach Boulevard is covered by emergent wetlands and surface water. Additional beaches and wetland areas are located on the bayside of the municipality. The northern half of Barnegat Light lies within a Natural Heritage Priority Site.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	85.44	10.51%
Public Open Space/Recreational Areas	105.35	12.96%
Habitat T&E	204.92	25.22%
Natural Heritage Priority Sites	526.94	64.85%
Riparian Zones	12.15	1.49%
Preserved Agriculture	0.00	0.00%
Surface Water	300.41	36.97%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 215	11/10/1983
Master Plan		2007
Stormwater [County - MSWMP]	Chapter 167	8/16/2006 [2/1/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 153, Article III	6/13/1977
Source: http://www.ecode360.com/BA1585		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Barnegat Light is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines, which then connect to the OCUA system. An OCUA force main



enters the Borough from Long Beach Township, traveling east along West 20th Street. From the intersection of 20th Street and Long Beach Boulevard, an interceptor travels southward along Long Beach Boulevard to the municipal boundary with Long Beach Township. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 5.80 acres of developable land divided into 29 residential lots and 5 commercial lots. There is no vacant land zoned for industrial development in the Borough. Local zoning is presented in Map 4, while Map 5 displays the boundary of CAFRA. The Delta Map displays the changes to Barnegat Light’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Barnegat Light. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Barnegat Light’s drinking water is diverted from the Piney Point Aquifer via three wells. The system is operated by the Barnegat Light Water Department, and is capable of pumping 1.116 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C	Conservation	75.29	0.00
G-B	Commercial	20.51	0.62
M-C	Marine Commercial	43.72	4.75
R-A	Single Family Residential	122.71	2.87
R-B	Single/Two Family Residential	87.92	1.79

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Barnegat Light Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Barnegat Light is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough's heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 133 people by 2035. This equates to a 0.010 MGD increase in wastewater flow being directed to OCUA's SWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, "Additional Approved Commercial Flow" accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Barnegat Light. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA's SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.198	0.013	0.211	0.221	0.000	0.221

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough's residents in excess of daily and yearly demands. Monthly deficits in water supply have been recorded. While there is adequate infrastructure to supply water to towns running deficits, there is also ongoing coordination with the NJDEP to address deficits through additional conservation measures and or increased water supply allocation where appropriate.

Table 5: Public Water Purveyor Capacity								
Barnegat Light Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.116	1.001	0.115	26.500	31.025	-4.525	175.000	154.799	20.201

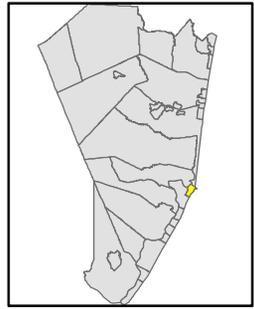
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



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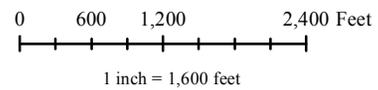
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BARNEGAT LIGHT BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

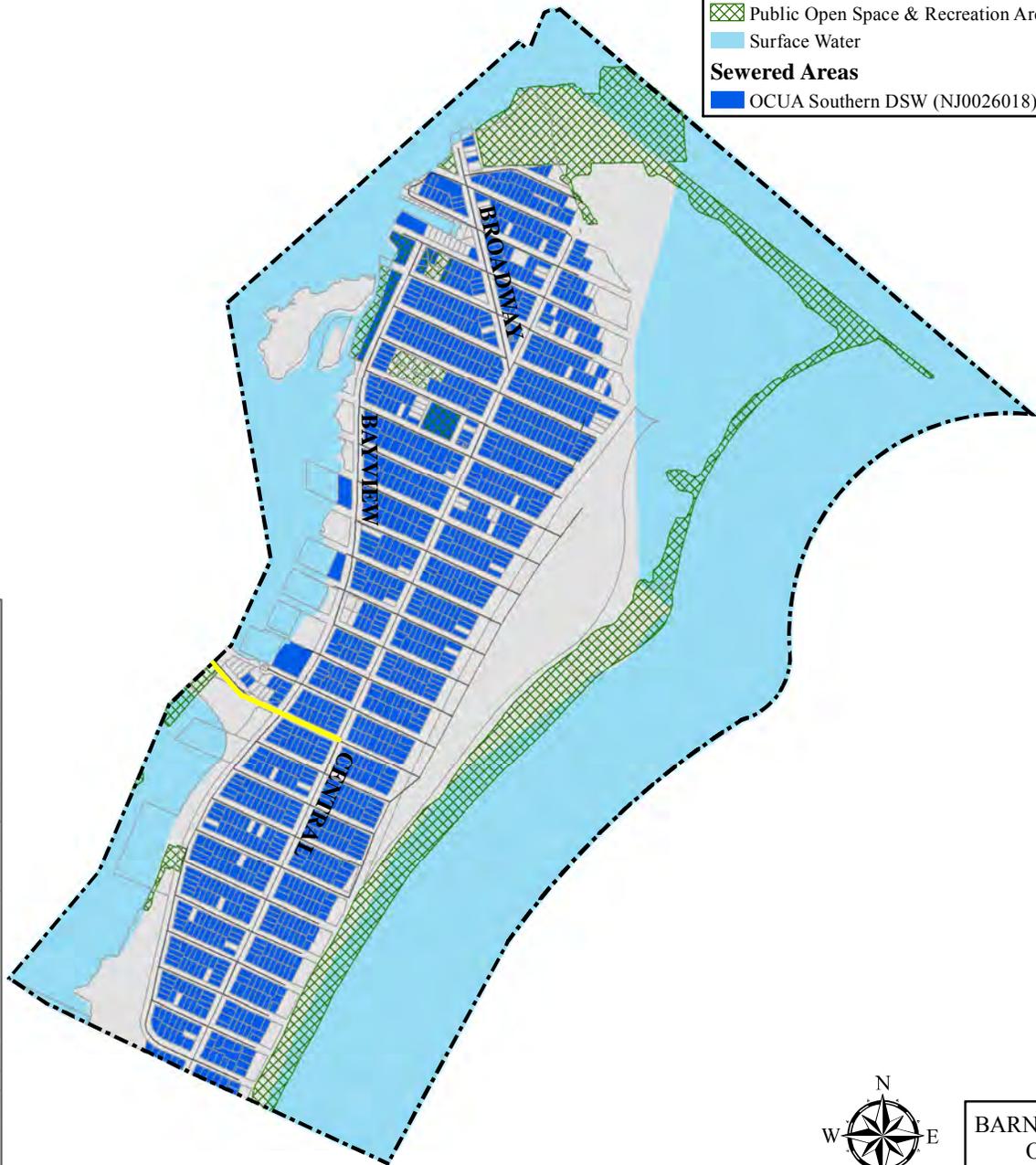
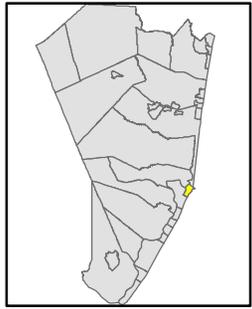
Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  ForceMain
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water

Sewered Areas

-  OCUA Southern DSW (NJ0026018)



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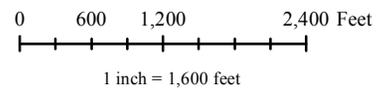
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BARNEGAT LIGHT BOROUGH
OCEAN COUNTY, NJ

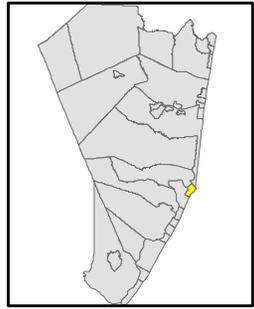
MAP 2

EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, September 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  ForceMain
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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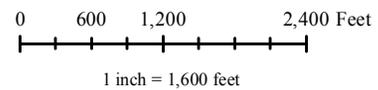
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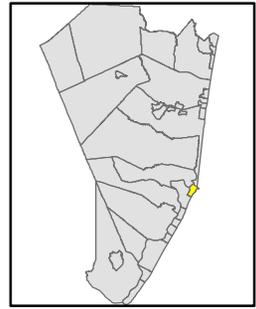
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, September 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- C (Conservation)
- G-B (General Business)
- M-C (Marine Commercial)
- R-A (Single Family Residential)
- R-B (Two Family Residential)



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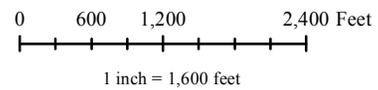
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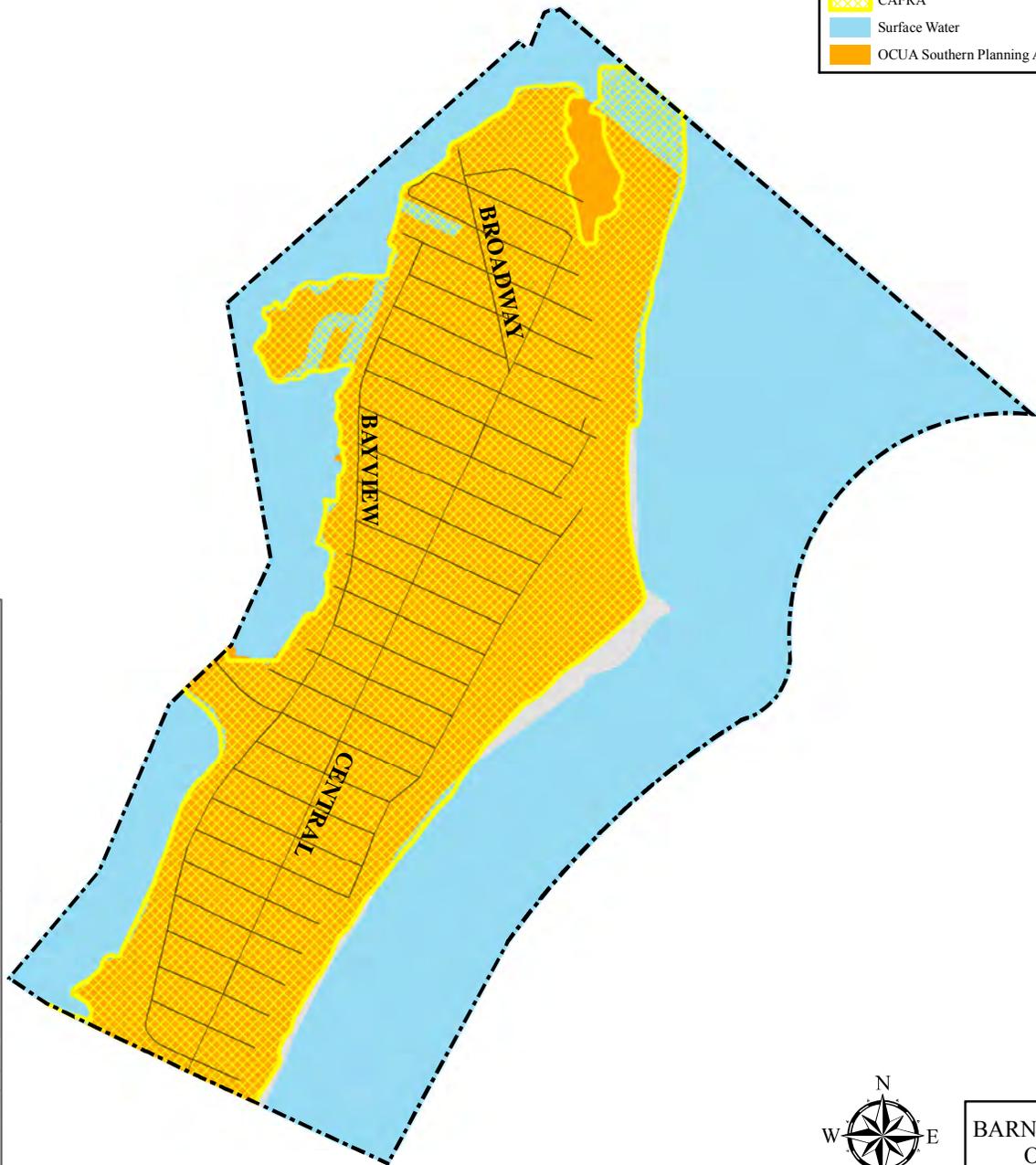
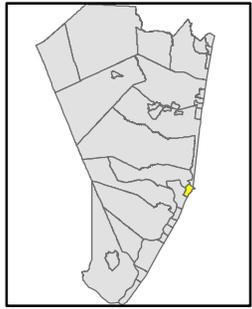
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, September 2012
 Sources: Borough of Barnegat Light, Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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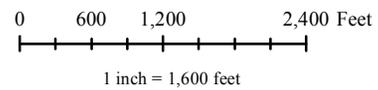
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BARNEGAT LIGHT BOROUGH
OCEAN COUNTY, NJ

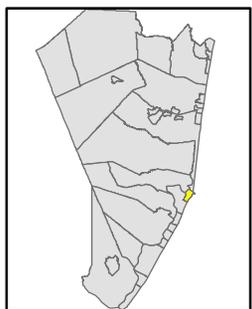
MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, September 2012
 Sources: Department of Environmental Protection

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



PWSID	PURVEYOR NAME
1501001	BARNEGAT LIGHT WATER DEPARTMENT

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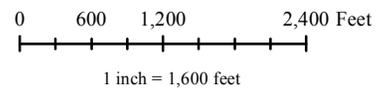
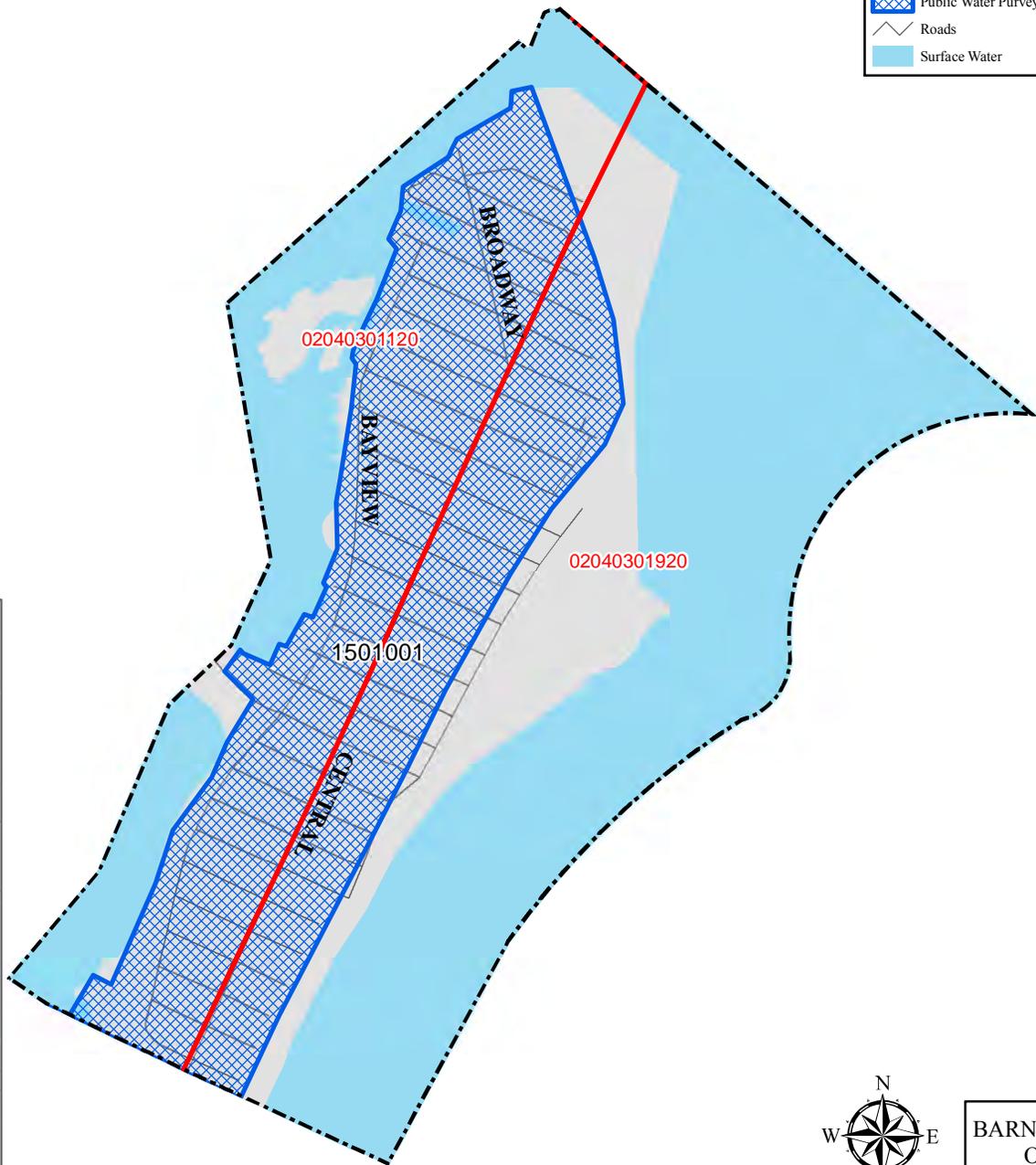
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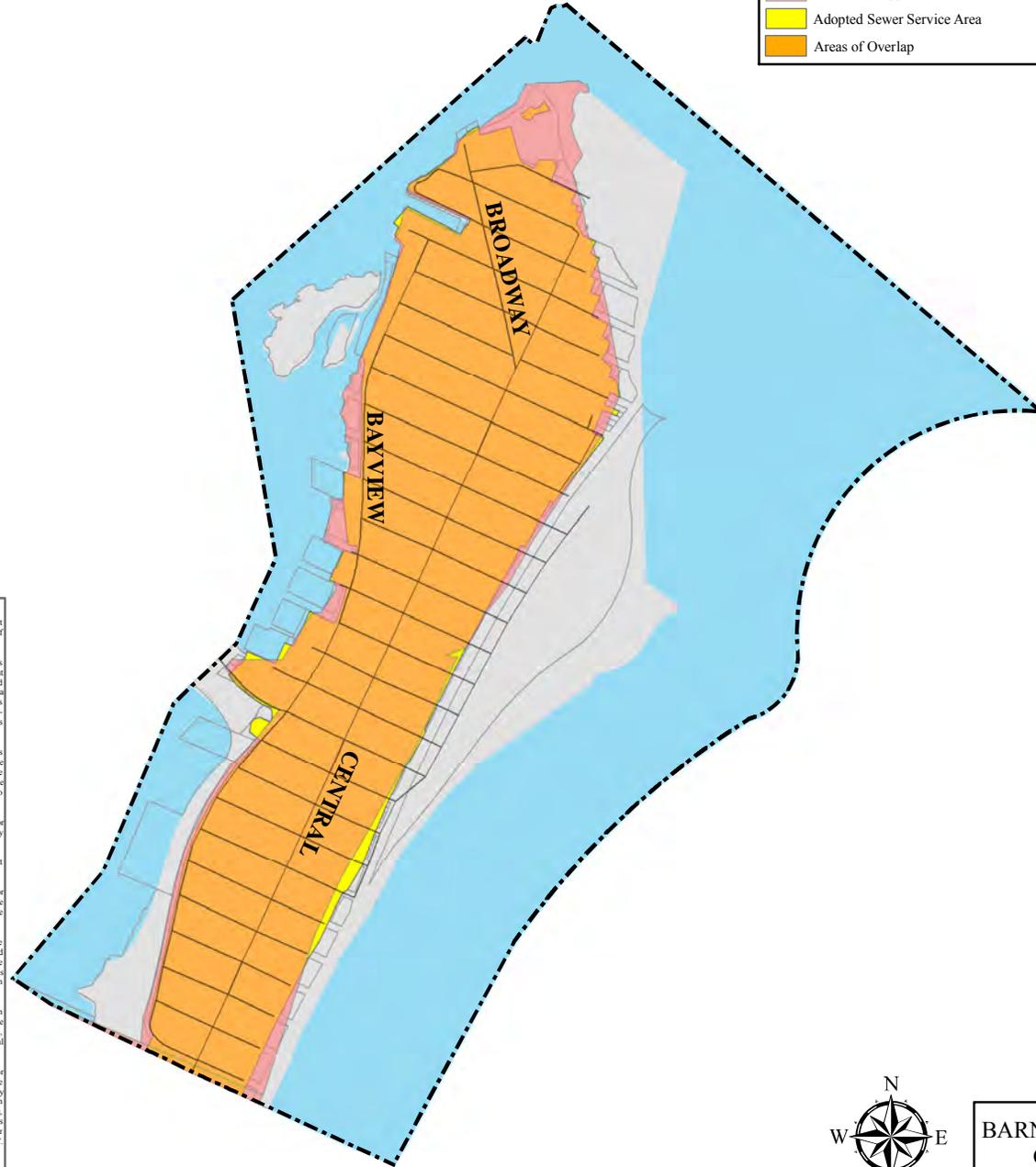
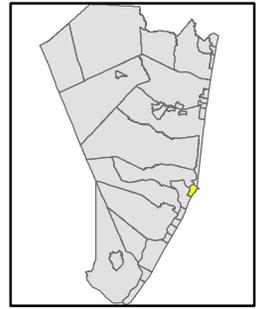
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, September 2012
Sources: Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Areas of Overlap



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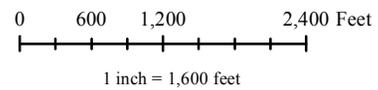
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BARNEGAT LIGHT BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

3. BAY HEAD BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Bay Head is located in the northeastern portion of Ocean County, fronting on the Atlantic Ocean to the east, and Bay Head Harbor to the west. It is bordered on land by Point Pleasant Beach to the north and Mantoloking to the south. This small shore community situated at the northern end of Barnegat Peninsula is approximately 0.60 square miles of land area in size (384 acres), and lies entirely within the CAFRA region. Incorporated in 1886, much of the Borough’s housing stock is of historical age.

According to the U.S. Census, in 2010 Bay Head had a population of 968 people. Of the 1,023 housing units counted by the Census that year, 564 were vacant. 511 of these vacant units were seasonal vacancies. While the seasonal fluctuations in Bay Head’s population are significant when considered as proportions of the base population, they are not sufficient to stress the Borough’s wastewater conveyance infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Bay Head fronts on the Atlantic Ocean, and is lined by beaches on its eastern edge. Wetlands are present in the northwestern portion of the Borough. Emergent wetlands can be found to the northwest of Twilight Lake. There are no farms or Natural Heritage Priority Sites in the Borough.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	58.53	12.27%
Public Open Space/Recreational Areas	41.09	8.61%
Habitat T&E	41.52	8.71%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	3.88	0.81%
Preserved Agriculture	0.00	0.00%
Surface Water	82.26	17.25%

Ordinance	Code	Date Adopted
Zoning	Chapter 147	9/16/2003
Master Plan		8/25/2006
Stormwater [County - MSWMP]	Chapter 207	3/21/2006 [2/27/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 195-1	12/18/1984
Source: http://www.ecode360.com/BA1546		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Bay Head is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines, which then connect to the OCUA system. An OCUA interceptor originates at the Bay Head Lift Station (NPS-7) just south of Twilight Lake. This interceptor flows west along



Bridge Avenue, turns north on Holly Avenue, and turns west again along South Park Avenue to the municipal boundary with Point Pleasant Borough. From there, wastewater is conveyed to OCUA's NWPCF in Brick Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. "Sewered Areas" denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 7.49 acres of developable land divided into 31 residential lots. There is no vacant land zoned for commercial or industrial development in the Borough. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Bay Head's sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Bay Head. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Bay Head's drinking water is diverted from the Englishtown Aquifer via two wells. The system is operated by the New Jersey American Water Company, which is based in the Ortley Beach section of Toms River Township. The New Jersey American Water Company also purchases potable groundwater from outside sources. Map 6 shows the Borough's current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B&B	Bed & Breakfast	3.31	0.00
B-1	General Commercial	8.74	0.00
B-2	Marine Commercial	12.46	0.00
C	Conservation	89.83	0.00
R-50	Single Family Residential	159.93	3.15
R-100	Single Family Residential	160.26	4.34

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Bay Head Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Bay Head is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 178 people by 2035. This equates to a 0.013 MGD increase in wastewater flow being directed to OCUA’s NWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the NWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Bay Head. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s NWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
NWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.329	0.024	0.353	0.366	0.000	0.366

Public Water Supply Availability

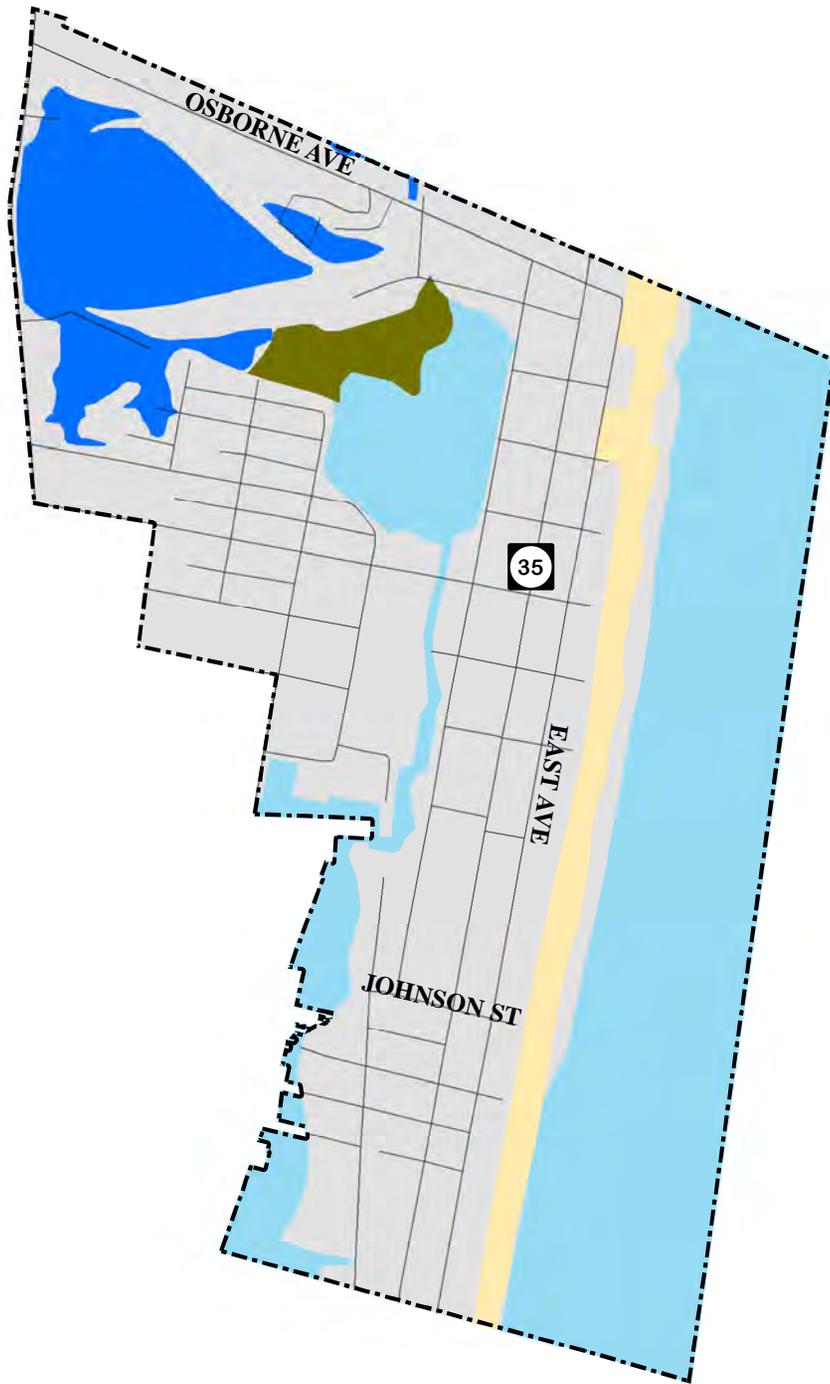
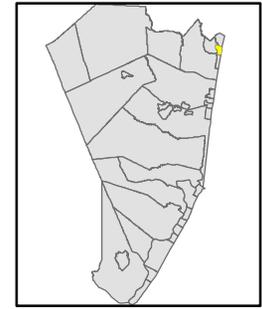
There are no public water utilities in Bay Head Borough. The New Jersey American Water Company - Ortley Beach System, based in Toms River Township, supplies the municipality with potable water (Source: NJDEP Division of Water Supply & Geoscience).

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 3)
-  Wetlands
-  Surface Water



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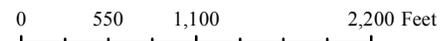
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Ready Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Bay Head municipal code Chapter 195-1."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:7(B), and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (not aside for property) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3-27), Wetlands Buffers (N.J.A.C. 7:7E-3-38), Secondary Impacts (N.J.A.C. 7:7E-6-1), Public Facility Use Policies (N.J.A.C. 7:7E-7-6), Water Quality (N.J.A.C. 7:7E-8-4), Ground Water Use (N.J.A.C. 7:7E-8-6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 1,200 feet

BAY HEAD BOROUGH
OCEAN COUNTY, NJ

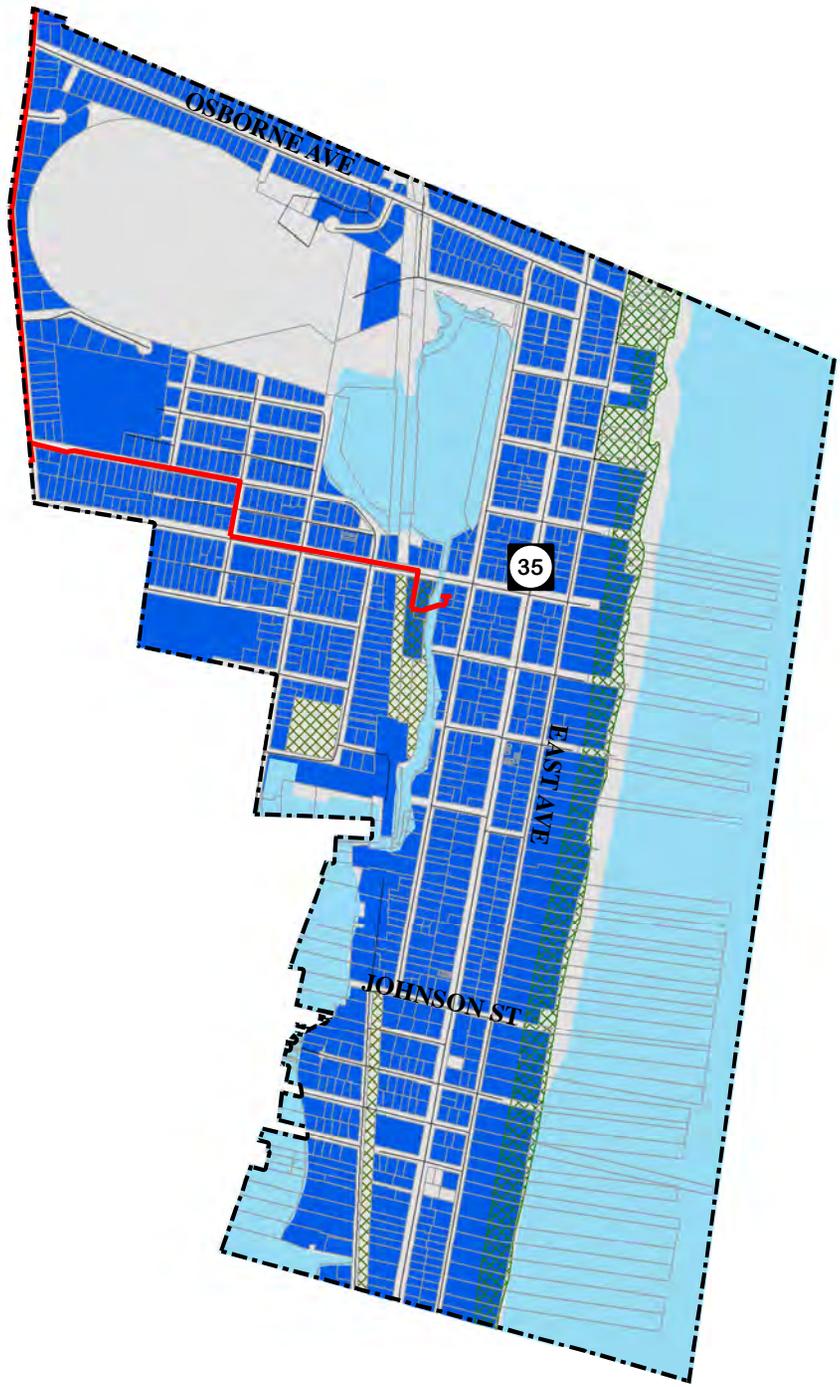
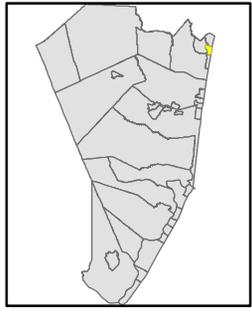
MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Northern DSW (NJ0028142)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same H.C. 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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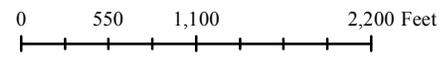
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:8A-11; the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.3), Secondary Impacts (N.J.A.C. 7:7E-6.2), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Area rules, Subchapters 5, 5A and 5B."



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BAY HEAD BOROUGH
OCEAN COUNTY, NJ

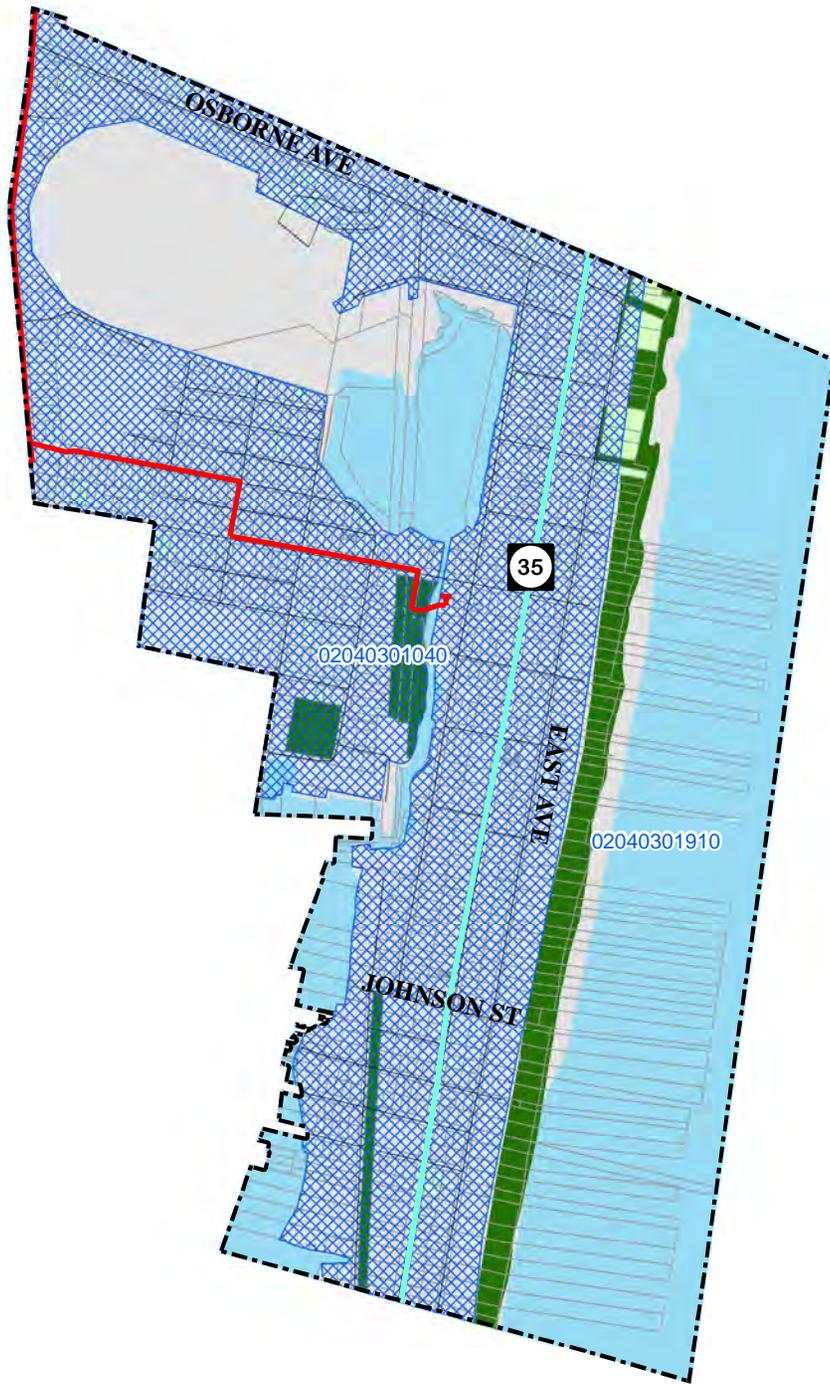
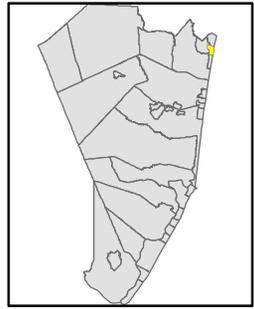
MAP 2

EXISTING SEWERED AREAS

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Northern DSW (NJ0028142)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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"Pursuant to N.J.A.C. 7:15, riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC. 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

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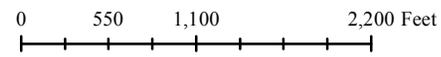
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BAY HEAD BOROUGH
OCEAN COUNTY, NJ

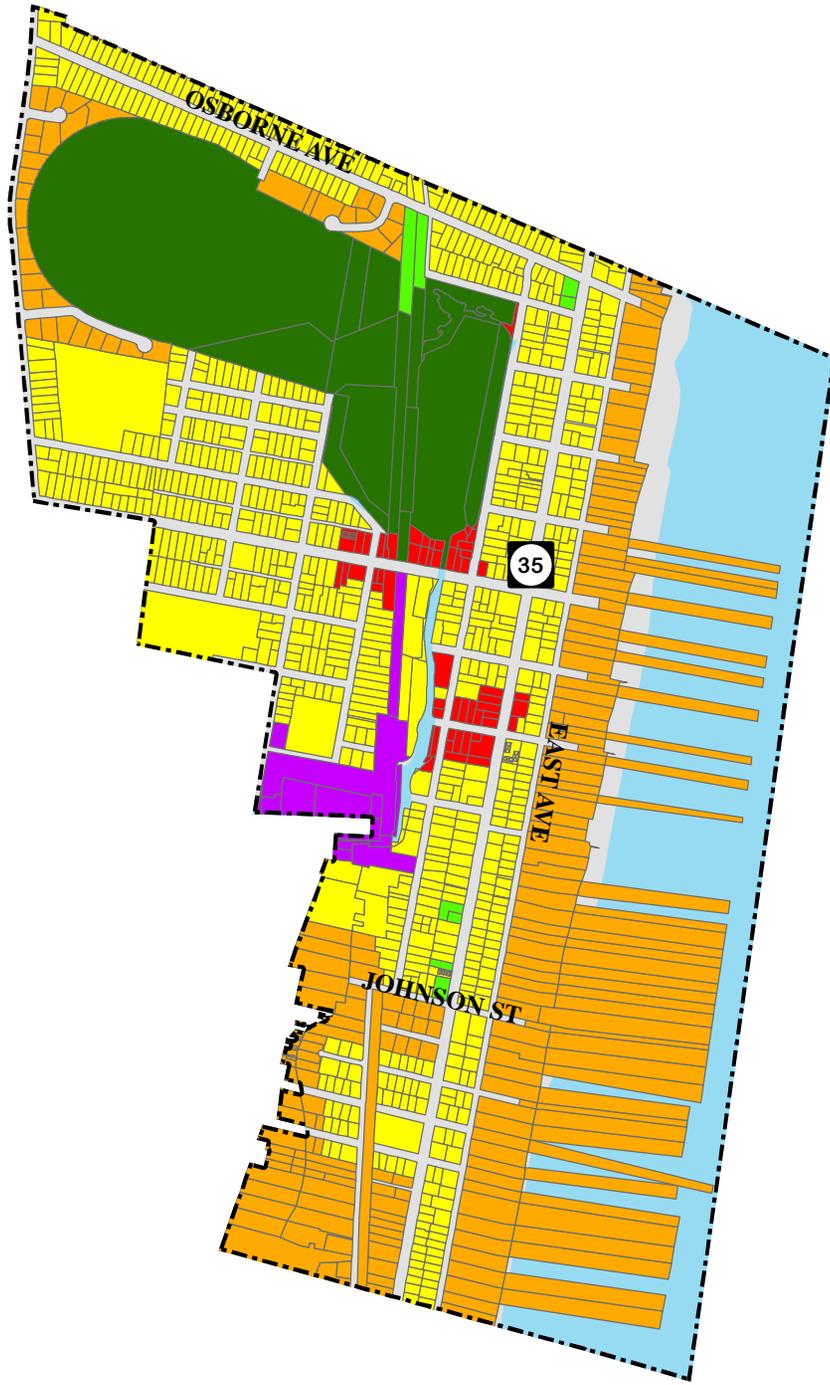
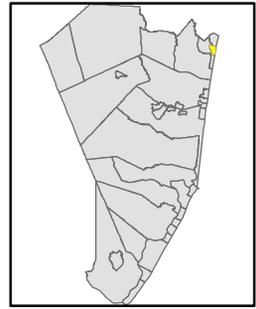
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- B&B (Bed & Breakfast)
- B-1 (General Business)
- B-2 (Marine Commercial)
- C (Conservation)
- R-50 (Residential)
- R-100 (Residential)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HEC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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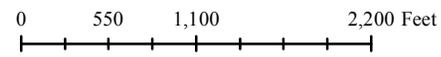
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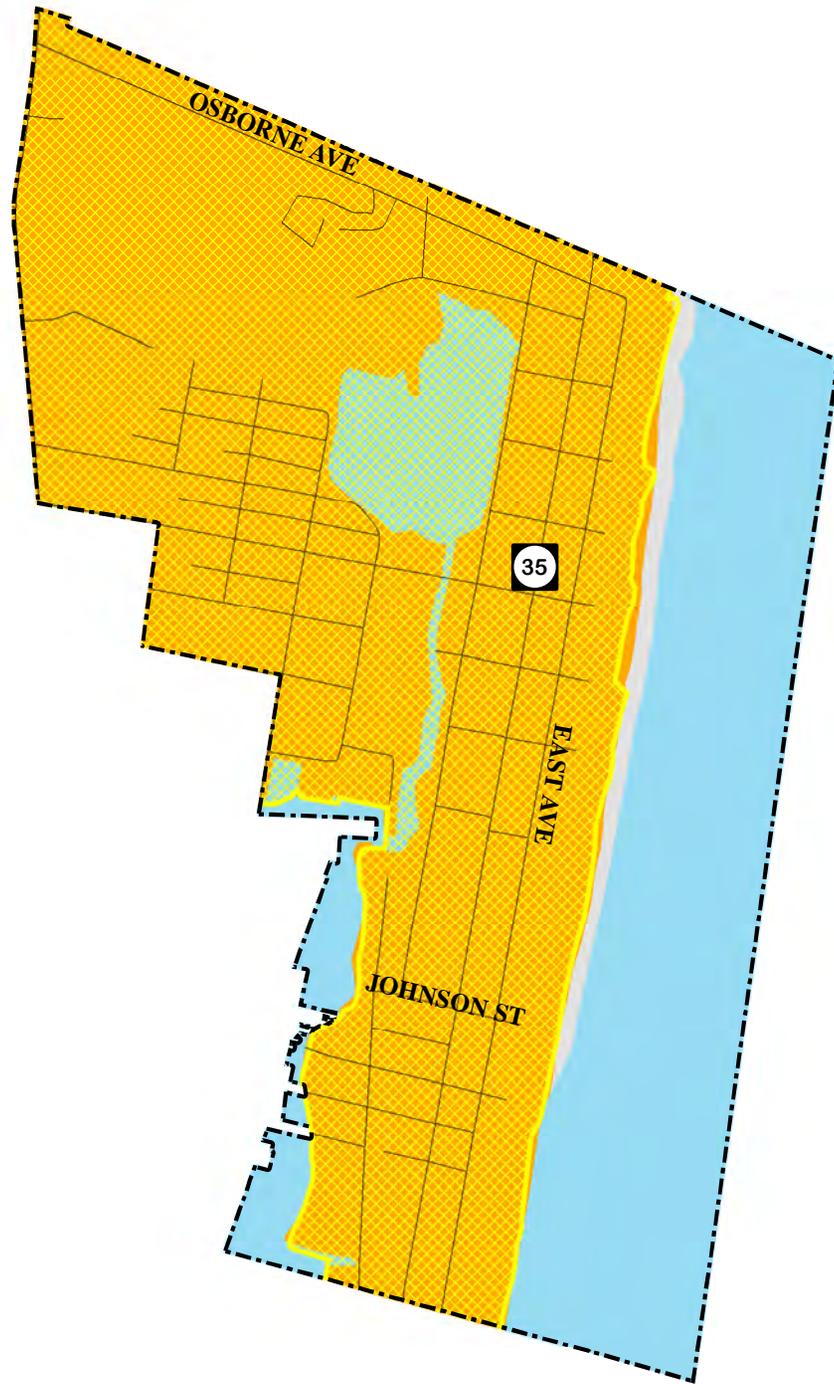
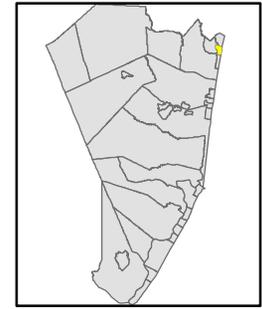
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Northern Planning Area



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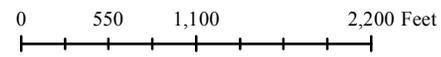
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1 inch = 1,200 feet

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

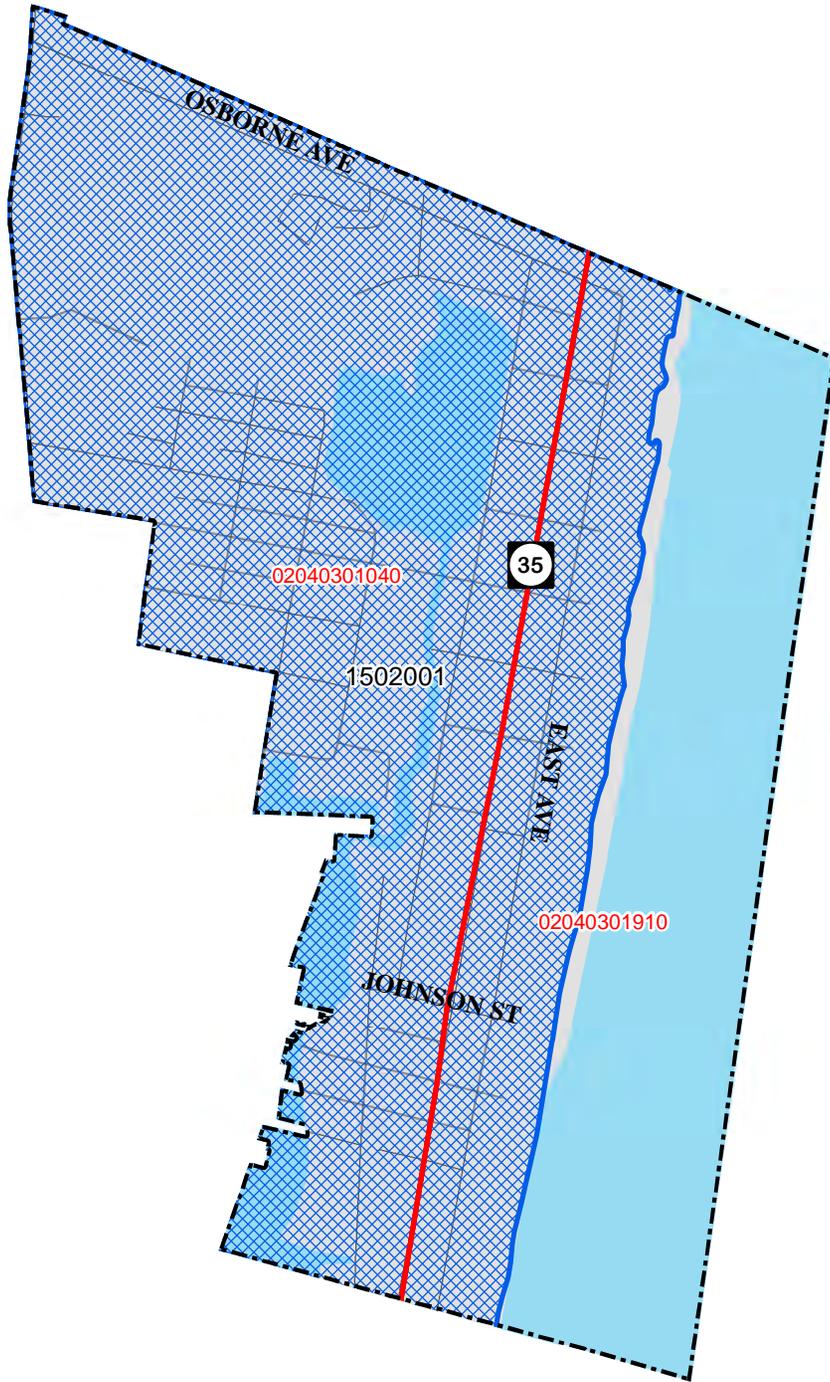
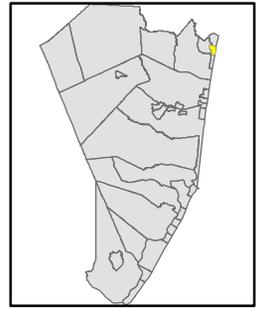
BAY HEAD BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1502001	NJ AMERICAN WATER COMPANY

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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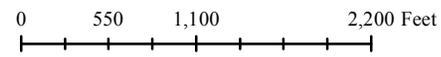
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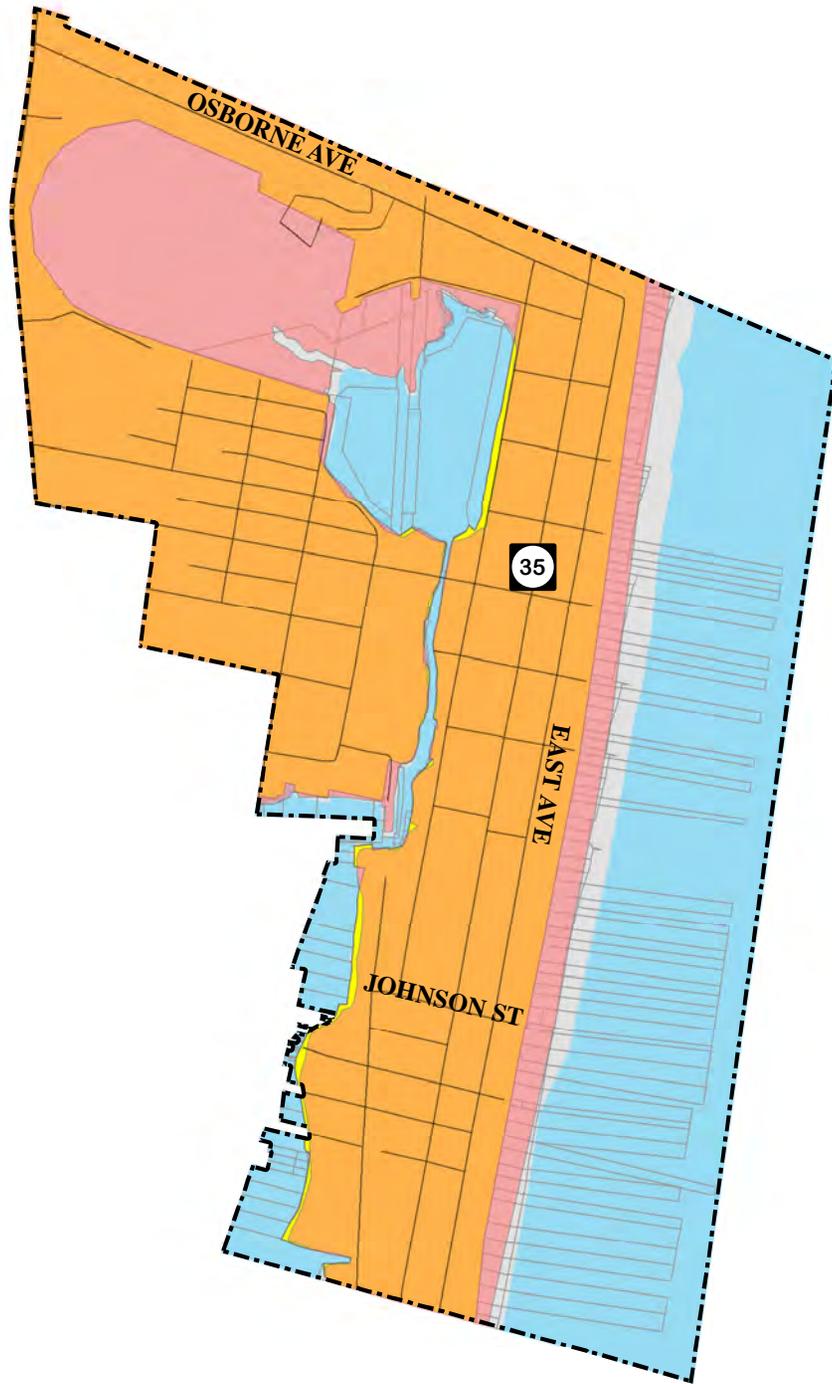
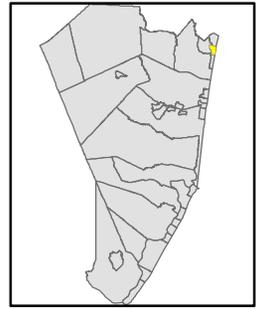
BAY HEAD BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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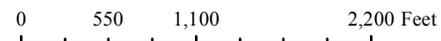
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

BAY HEAD BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

4. BEACH HAVEN BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Beach Haven was incorporated in 1890. It is located on the southern end of Long Beach Island. To the west is Little Egg Harbor; to the east is the Atlantic Ocean. On land, Beach Haven is bordered by sections of Long Beach Township to the north and south. Two protected areas are found here: Mordecai Island and the Beach Haven Wild Bird Refuge. At one square mile (640 acres), the Borough has significant commercial development and seasonal attractions. The entire Borough is within the CAFRA region.

According to the U.S. Census, in 2010 Beach Haven had a population of 1,170 people. Of the 2,667 housing units counted by the Census that year, 2,136 were vacant. 1,875 of these vacant units were seasonal vacancies. While the seasonal fluctuations in the Beach Haven’s population are significant when considered as proportions of the base population, they are not sufficiently large enough to stress the Borough’s wastewater conveyance infrastructure. This is also unlikely to change in the foreseeable future; NJTPA projects a population increase of 172 by 2035, bringing the total population to 1,342.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Situated on Long Beach Island, the eastern edge of Beach Haven is lined with beaches. Wetlands and emergent wetlands are present in the vicinity of these beaches, as well as on the small islands which dot the bay to the west. There are no farms, riparian zones, or Natural Heritage Priority Sites in the Borough.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	107.15	7.18%
Public Open Space/Recreational Areas	46.69	3.13%
Habitat T&E	117.63	7.88%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.00	0.00%
Preserved Agriculture	0.00	0.00%
Surface Water	867.90	58.16%

Ordinance	Code	Date Adopted
Zoning	Chapter 212	7/9/1979
Master Plan		2009
Stormwater [County - MSWMP]	Chapter 177	7/11/2005 [2/1/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 163	9/13/2010
Source: http://www.ecode360.com/BE0382		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Beach Haven is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to the OCUA interceptor that



runs along Long Beach Boulevard for the full length of the Borough, between its municipal boundaries with Long Beach Township to the north and south. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 5.87 acres of developable land, of which 4.72 acres are zoned as residential and 1.15 acres are zoned as commercial. There is no developable land zoned for industrial uses in Beach Haven. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Beach Haven’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Beach Haven. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Beach Haven’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via three wells. The system is operated by the Beach Haven Water Department, and is capable of pumping 1.500 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
BD	Business	40.57	1.03
MC	Marine Commercial	41.97	3.98
P-U	Public Use	35.74	0.00
RA	Single Family Residential	73.82	1.40
RB	Two Family Residential	84.93	0.76
RC	Multi Family Residential	17.33	0.00
RNA	Single Family Residential	40.92	0.56
RSA	Single Family Residential	95.94	1.19

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Beach Haven Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Beach Haven is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough's heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 172 people by 2035. This equates to a 0.013 MGD increase in wastewater flow being directed to OCUA's SWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, "Additional Approved Commercial Flow" accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Beach Haven. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA's SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.778	0.022	0.800	0.813	0.000	0.813

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough's residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

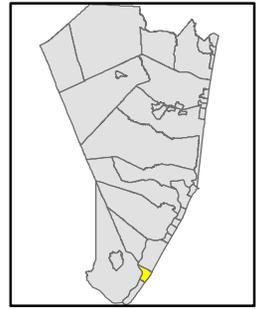
Table 5: Public Water Purveyor Capacity								
Beach Haven Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.500	1.381	0.119	50.000	42.825	7.175	270.000	192.261	77.739
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 4)
-  Wetlands
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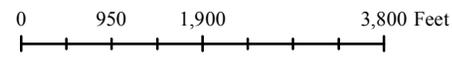
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1 inch = 2,000 feet

BEACH HAVEN BOROUGH
OCEAN COUNTY, NJ

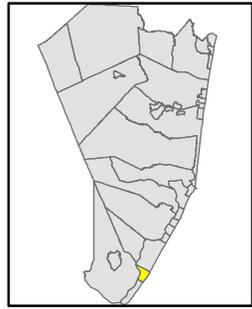
MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, November 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
 -  Force Main
 -  Roads
 -  Public Open Space & Recreation Areas
 -  Surface Water
- ## Sewered Areas
-  OCUA Southern DSW (NJ0026018)



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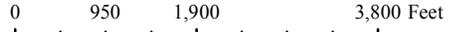
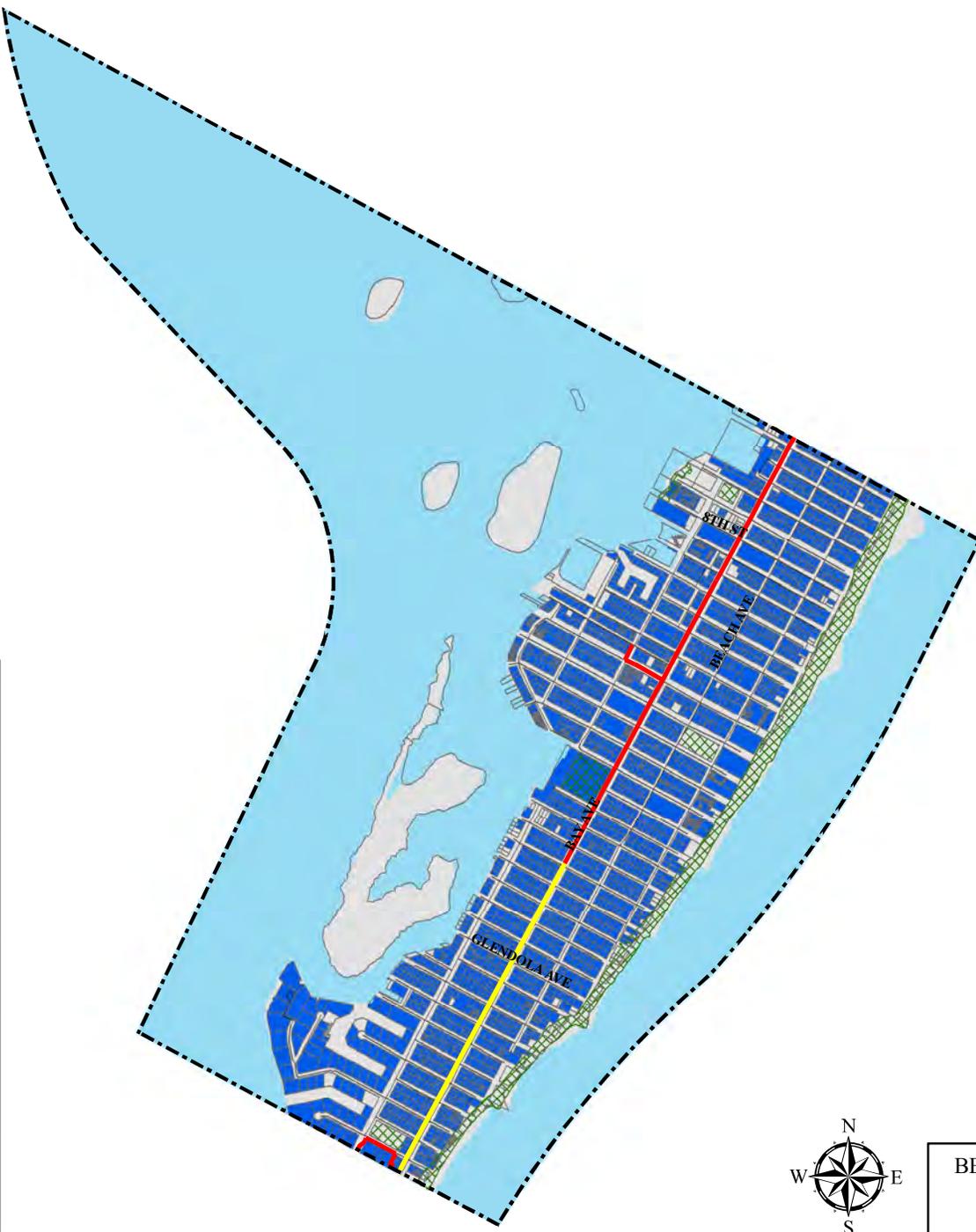
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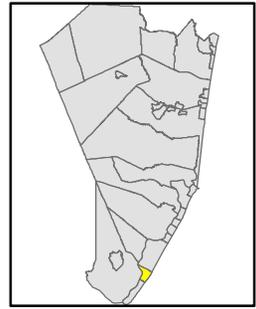
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BEACH HAVEN BOROUGH
OCEAN COUNTY, NJ

MAP 2
EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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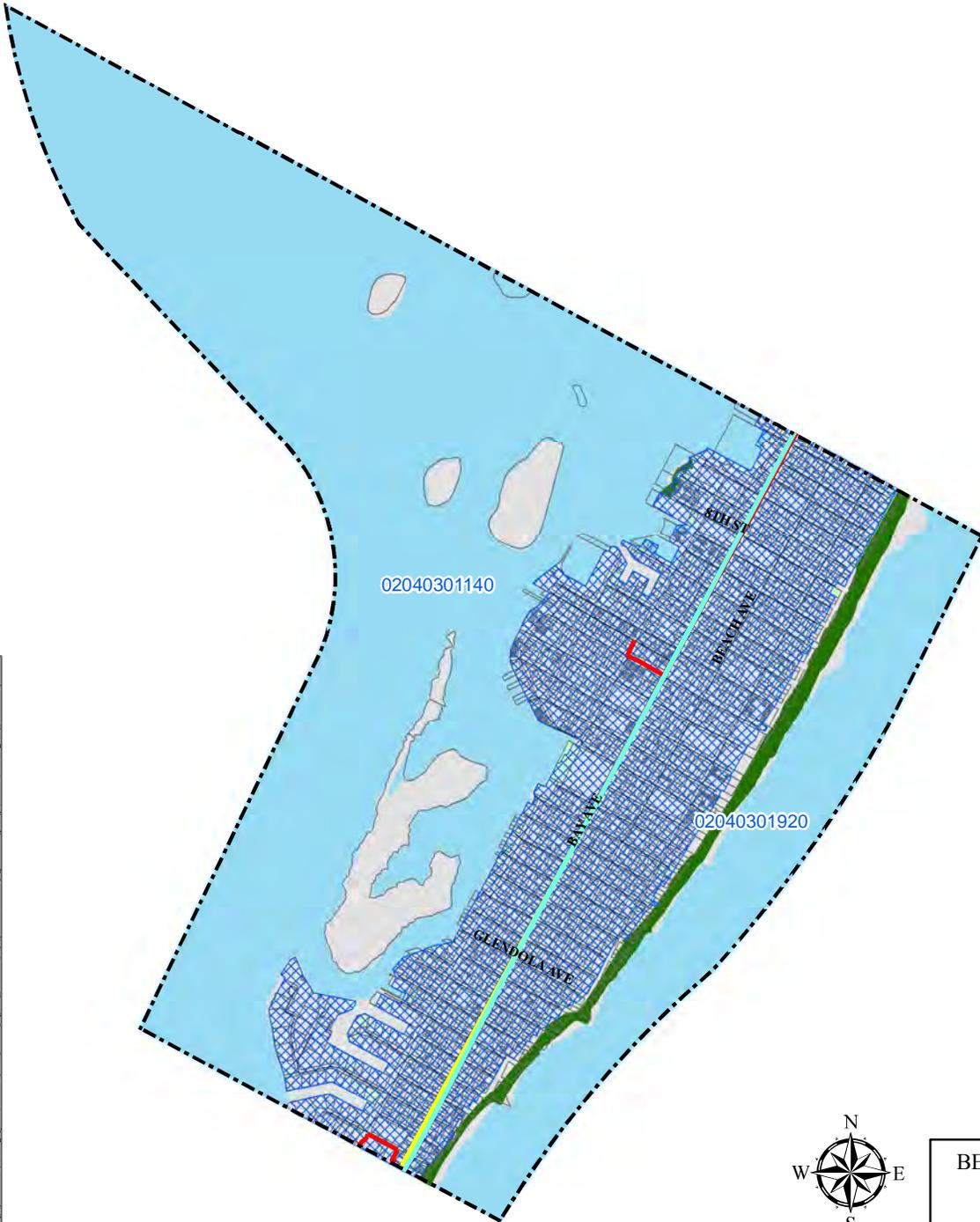
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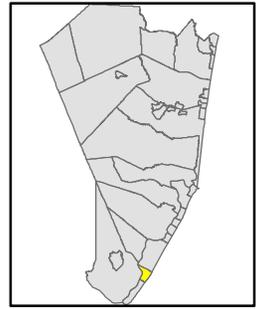
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, November 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- B-D (Business District)
- M-C (Marine Commercial)
- P-U (Public)
- R-A (Single Family Residential)
- R-B (Two Family Residential)
- R-C (Multi Family Residential)
- RNA (North Single Family Residential)
- RSA (South Single Family Residential)



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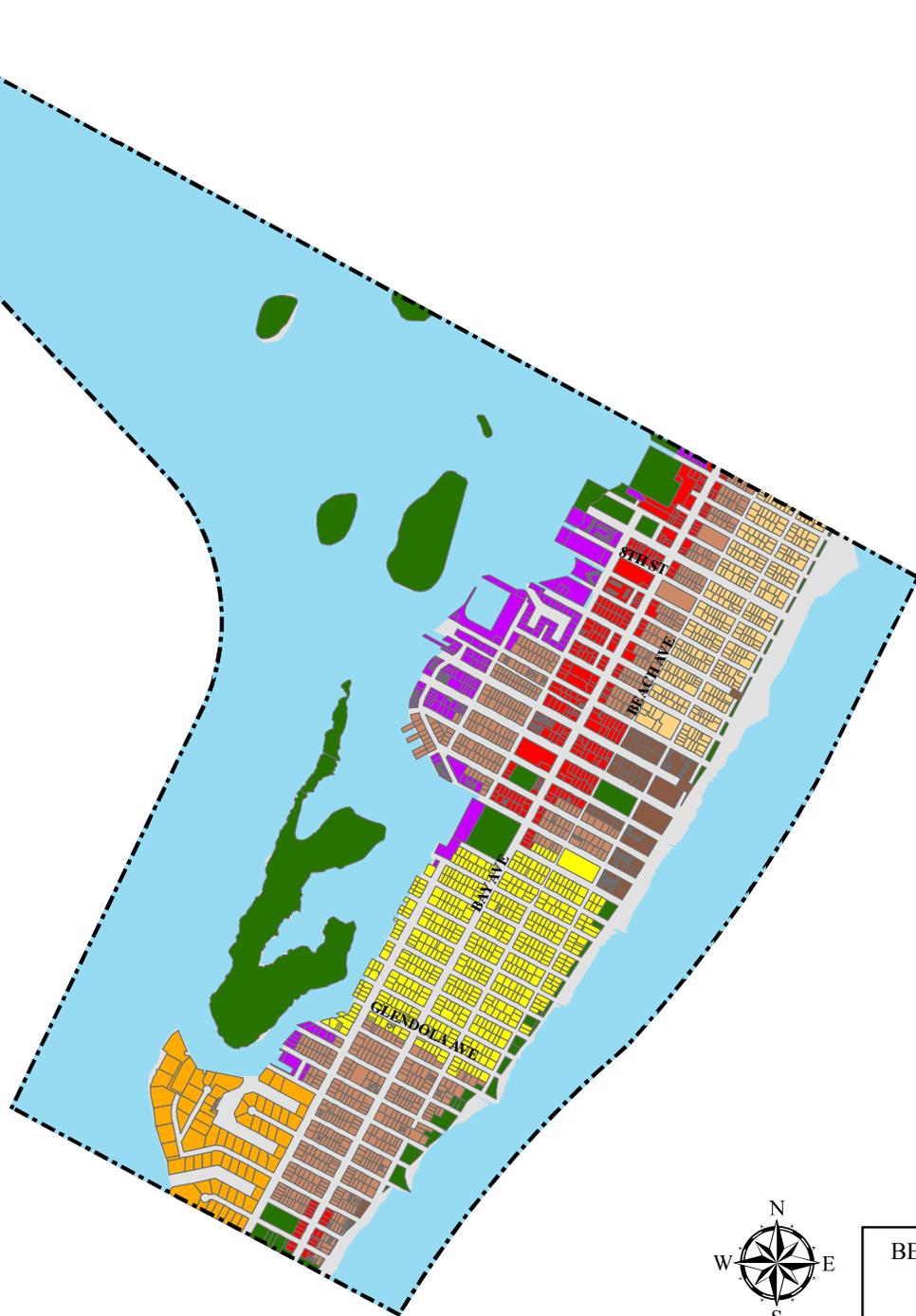
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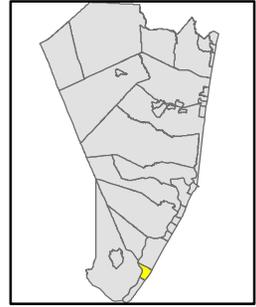
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, November 2012
 Sources: Beach Haven Borough, Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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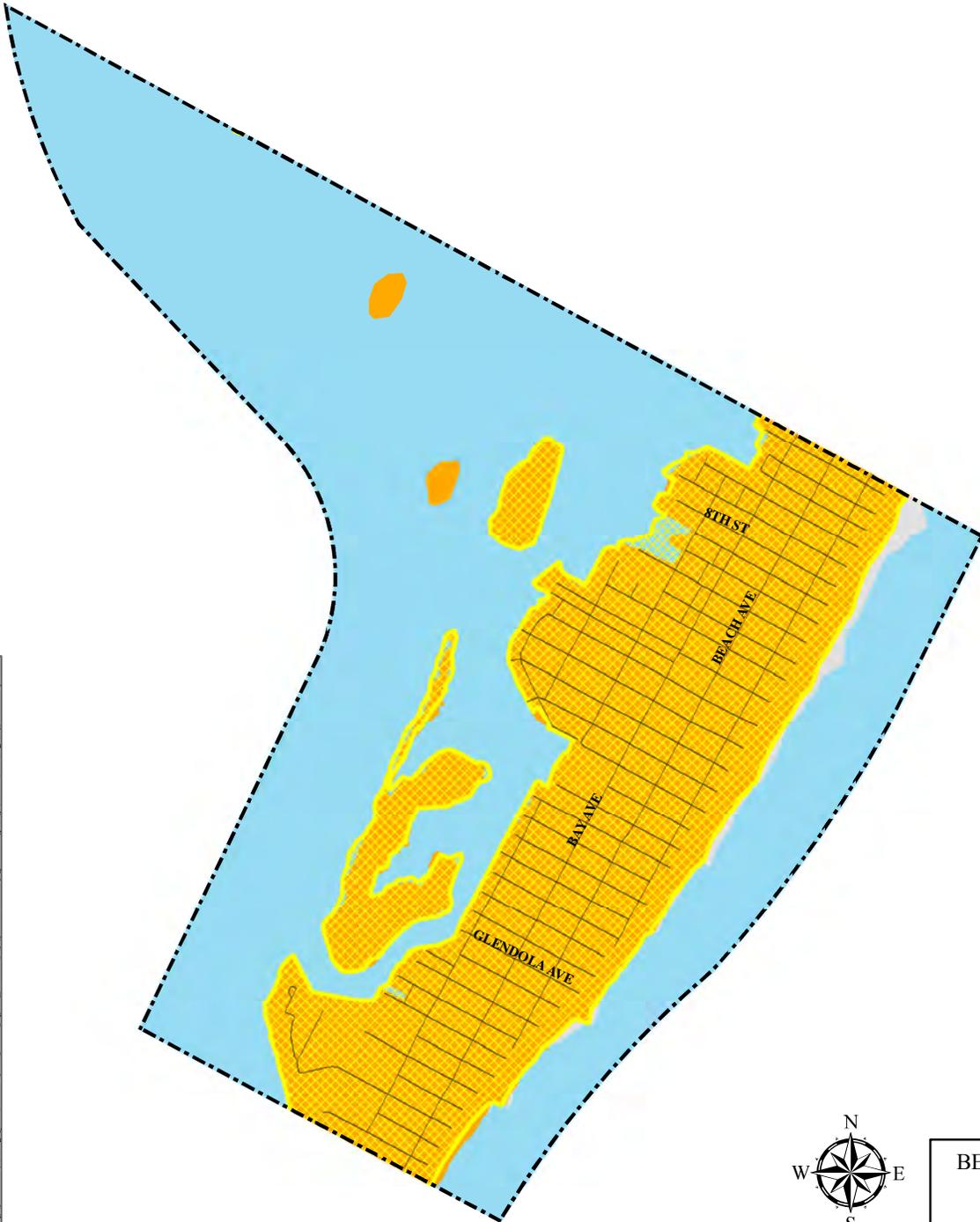
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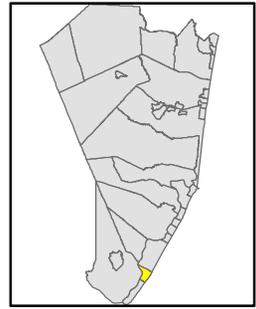
MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, November 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1503001	BEACH HAVEN WATER DEPARTMENT

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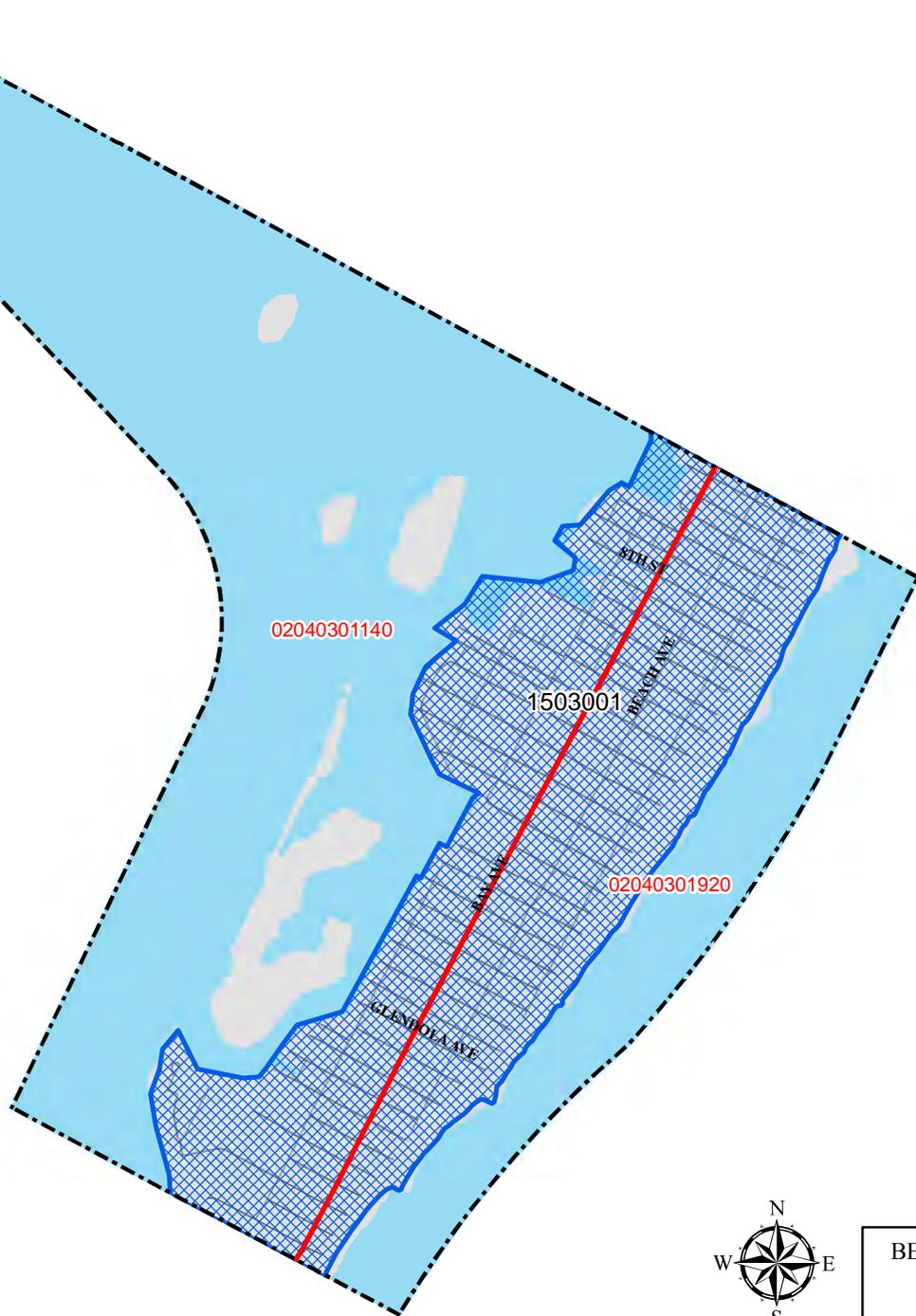
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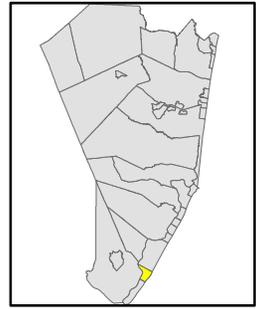
BEACH HAVEN BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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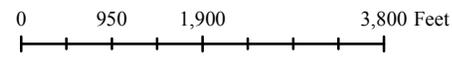
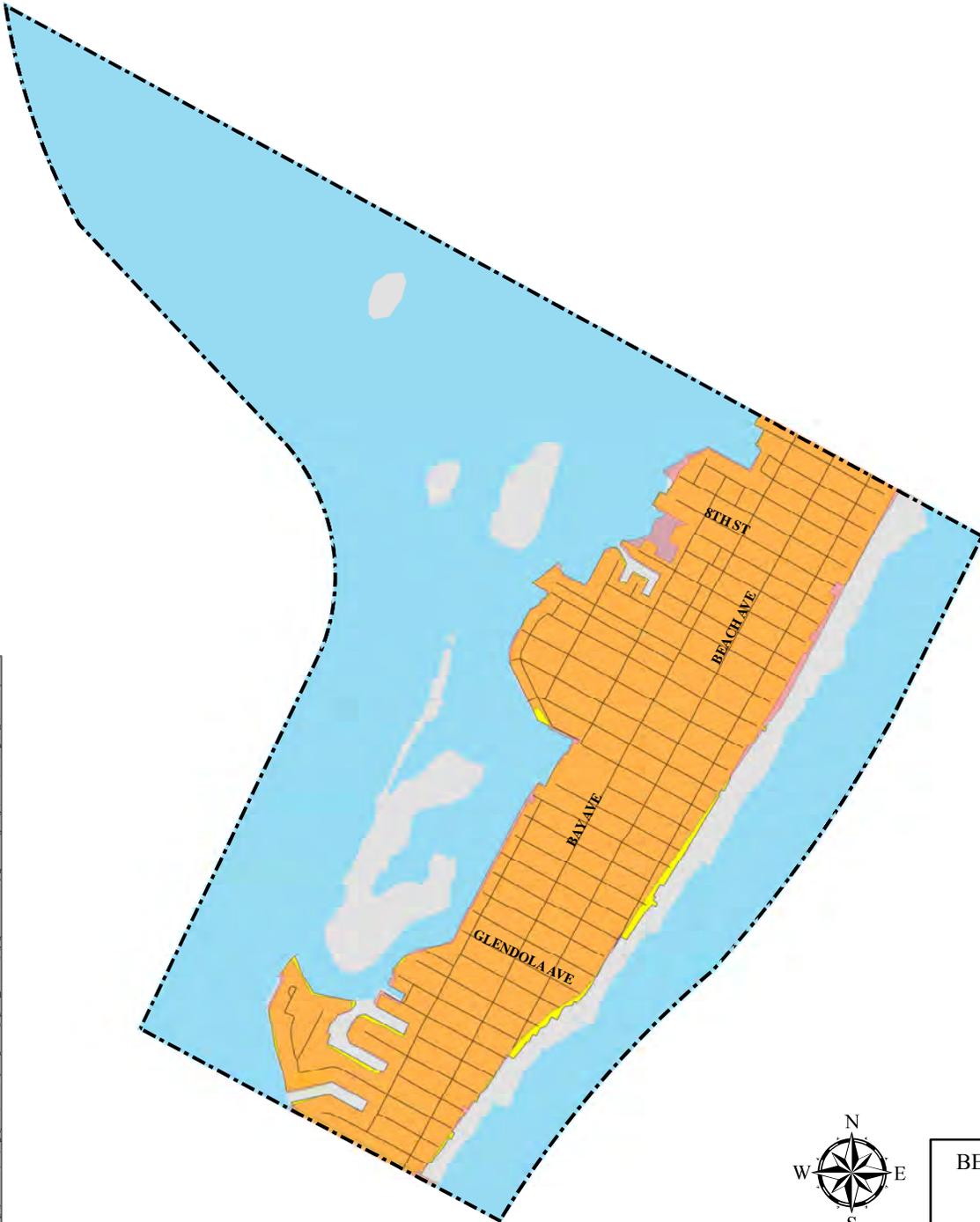
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BEACH HAVEN BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, November 2012
 Sources: New Jersey Department of Environmental Protection

5. BEACHWOOD BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Beachwood was incorporated in 1917. It is located along the southern bank of the Toms River. Beachwood is bordered by South Toms River Borough to the west, Berkeley Township to the south, and Pine Beach Borough to the east. Toms River Township is to the north. The Garden State Parkway passes through Beachwood between Exits 77 and 80. All area west of the Parkway (about 450 acres, or 25.1% of the Borough) is located in the Pinelands CMP Area. The remainder (about 1,342 acres, or 74.9% of the Borough) lies within the CAFRA region. Most of Beachwood’s development is in the latter section.

According to the 2010 U.S. Census, Beachwood had a total population of 11,045. Also counted in 2010 were a total of 3,826 housing units. Of the total housing units, 144 were vacant, and only 37 of these vacant units were seasonal vacancies. As such, the summer/winter population change is not a significant factor in Beachwood for wastewater treatment purposes. This is not likely to change in the near future, as NJTPA projects Beachwood’s population to grow to 12,440 by the year 2035.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

There is one municipal beach in the Borough, which fronts on the Toms River. Most of the land surrounding the Garden State Parkway and to its west is covered by forests and wetlands, and primarily in public ownership. There are no Natural Heritage Priority Sites or preserved farms in the Borough.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	209.84	11.82%
Public Open Space/Recreational Areas	522.93	29.46%
Habitat T&E	566.55	31.92%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	13.48	0.76%
Preserved Agriculture	0.00	0.00%
Surface Water	6.62	0.37%

Ordinance	Code	Date Adopted
Zoning	Chapter XVII, Article IV, 17-23	1978
Master Plan		2000
Stormwater [County - MSWMP]	Chapter XVII, Article VII	2007 [11/30/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A
Source: http://clerkshq.com/default.ashx?clientsite=Beachwood-nj		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Beachwood is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to the OCUA force main that



flows southeast along Central Way and Railroad Avenue, from the municipal boundary with South Toms River Borough in the north to the municipal boundary with Berkeley Township to the east. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 38.80 acres of developable land, of which 30.61 acres are zoned as residential and 8.19 acres are zoned as commercial. There is no developable land zoned for industrial uses in Beachwood. All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Beachwood’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Beachwood. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Beachwood’s drinking water is derived from three wells, two which draw from the Kirkwood-Cohansey Aquifer, and one which draws from the Piney Point Aquifer. The system is operated by the Beachwood Borough Water Department, and is capable of pumping 1.728 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
AR	Active Recreation	17.32	0.00
B-1	General Business	32.02	1.00
B-2	Planned Commercial	22.37	6.50
B-3	Neighborhood Business	5.06	0.69
R-B	Single Family Residential	804.05	29.92
R/C	Recreation/Conservation	505.61	0.00
R-D	Single Family Residential	5.63	0.00
RM	Residential/Municipal Government	32.46	0.69

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Beachwood Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 1,395 people by 2035. This equates to a 0.105 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Beachwood. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.690	0.073	0.763	0.868	0.000	0.868

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to its residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Beachwood Borough								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.728	1.542	0.186	52.000	47.808	4.192	363.000	358.661	4.339

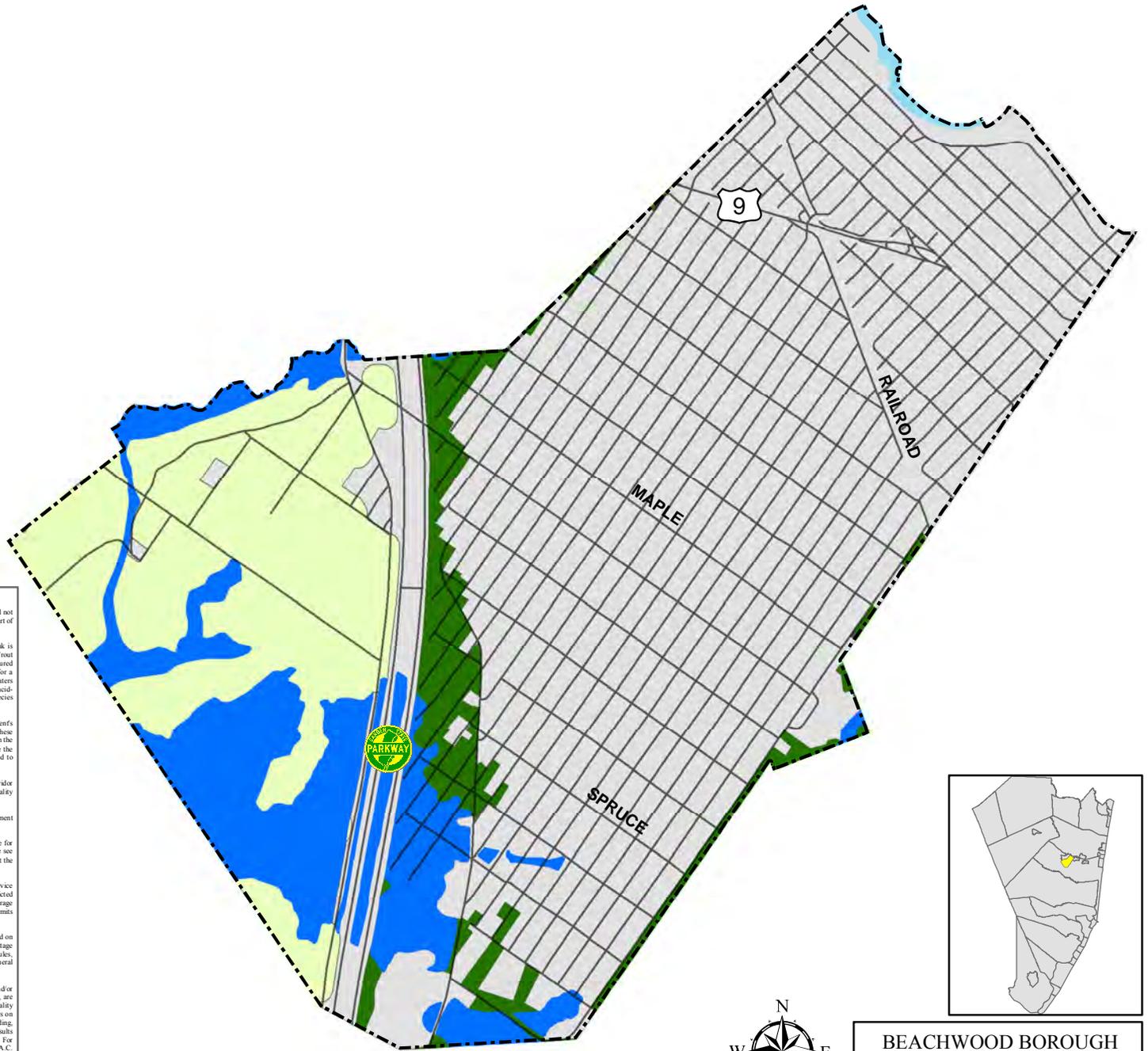
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

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Legend

-  Roads
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water



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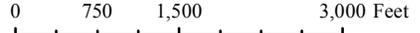
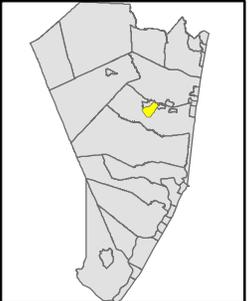
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1 inch = 1,750 feet

BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

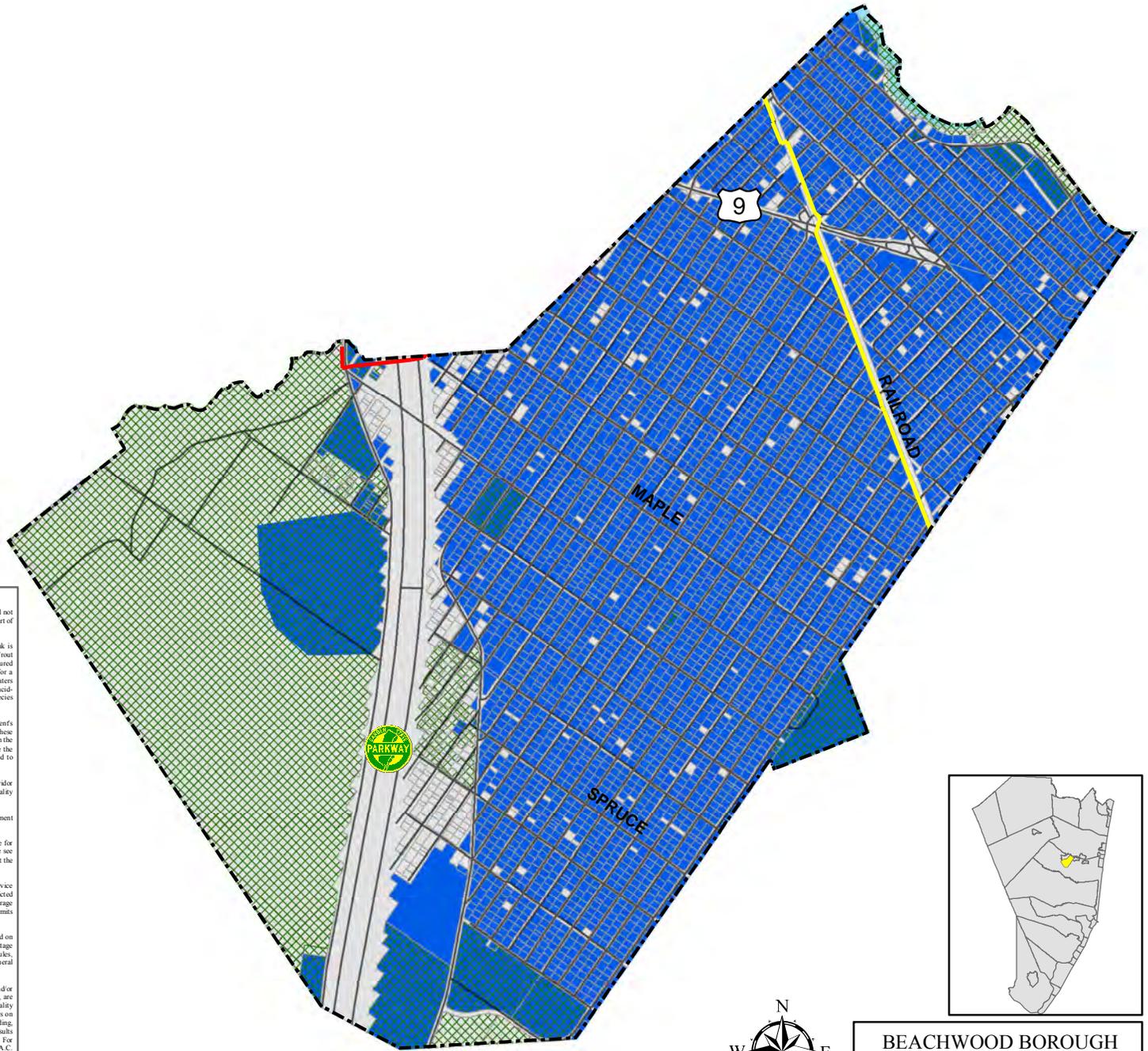
MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Force Main
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HLC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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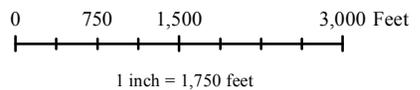
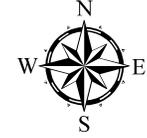
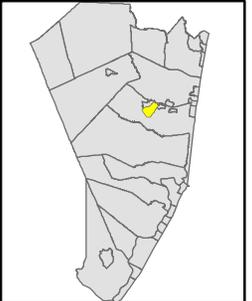
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BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

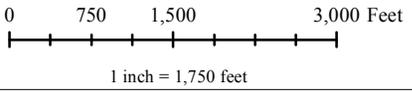
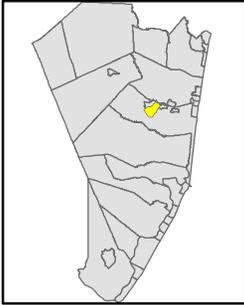
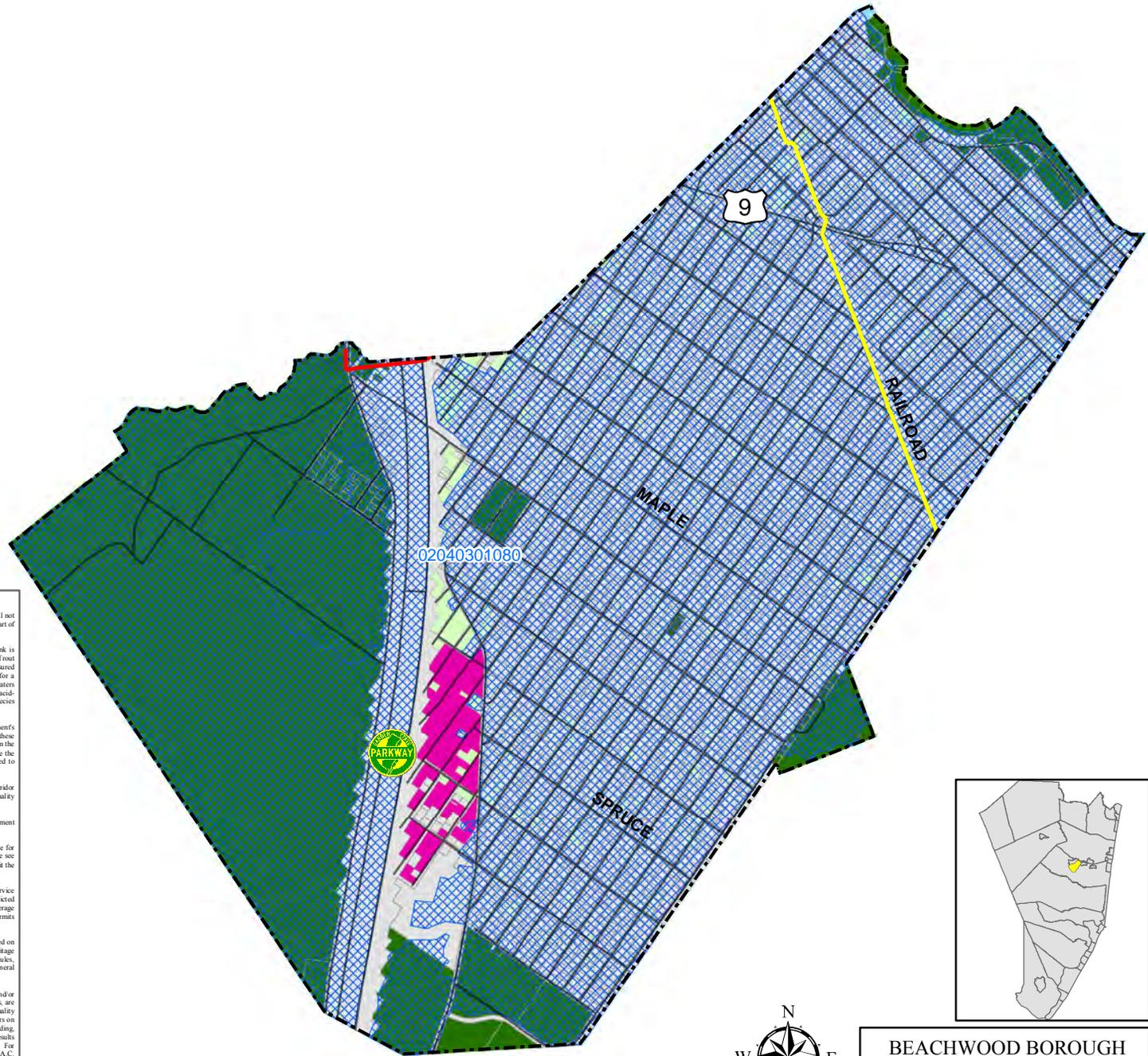
MAP 2

EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

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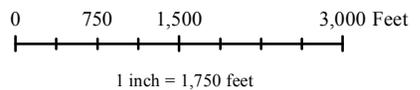
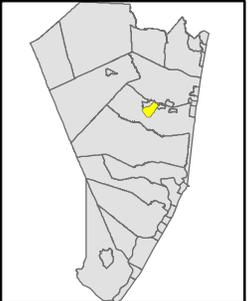
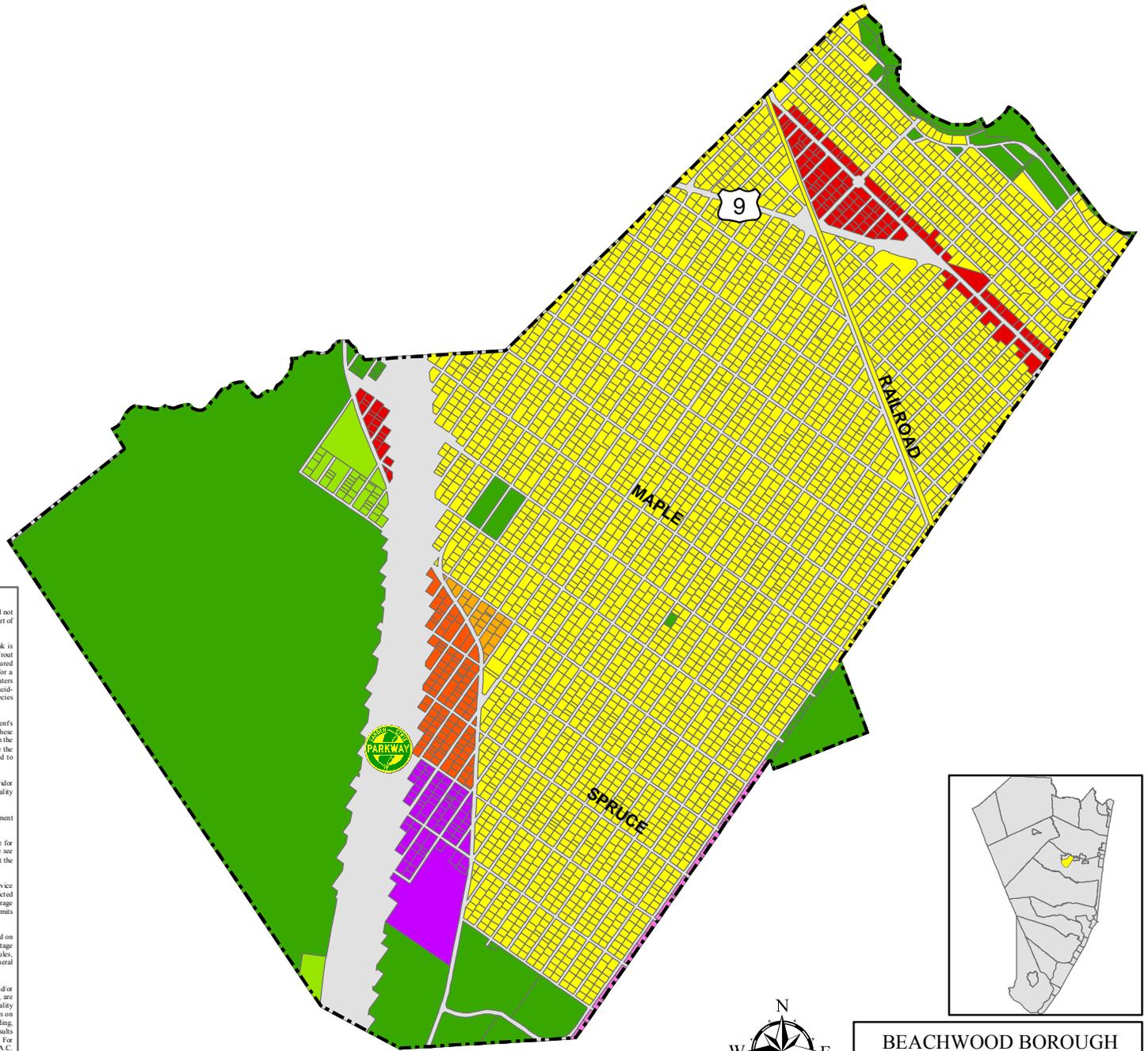
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Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- AR (Active Recreation)
- B-1 (General Business)
- B-2 (Planned Commercial)
- B-3 (Neighborhood Business)
- R-B (Single Family Residential)
- R/C (Recreation/Conservation)
- R-D (Single Family Residential)
- RM (Residential/Municipal Government)



BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

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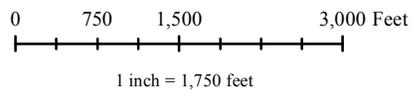
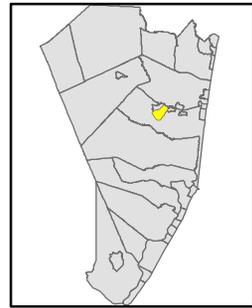
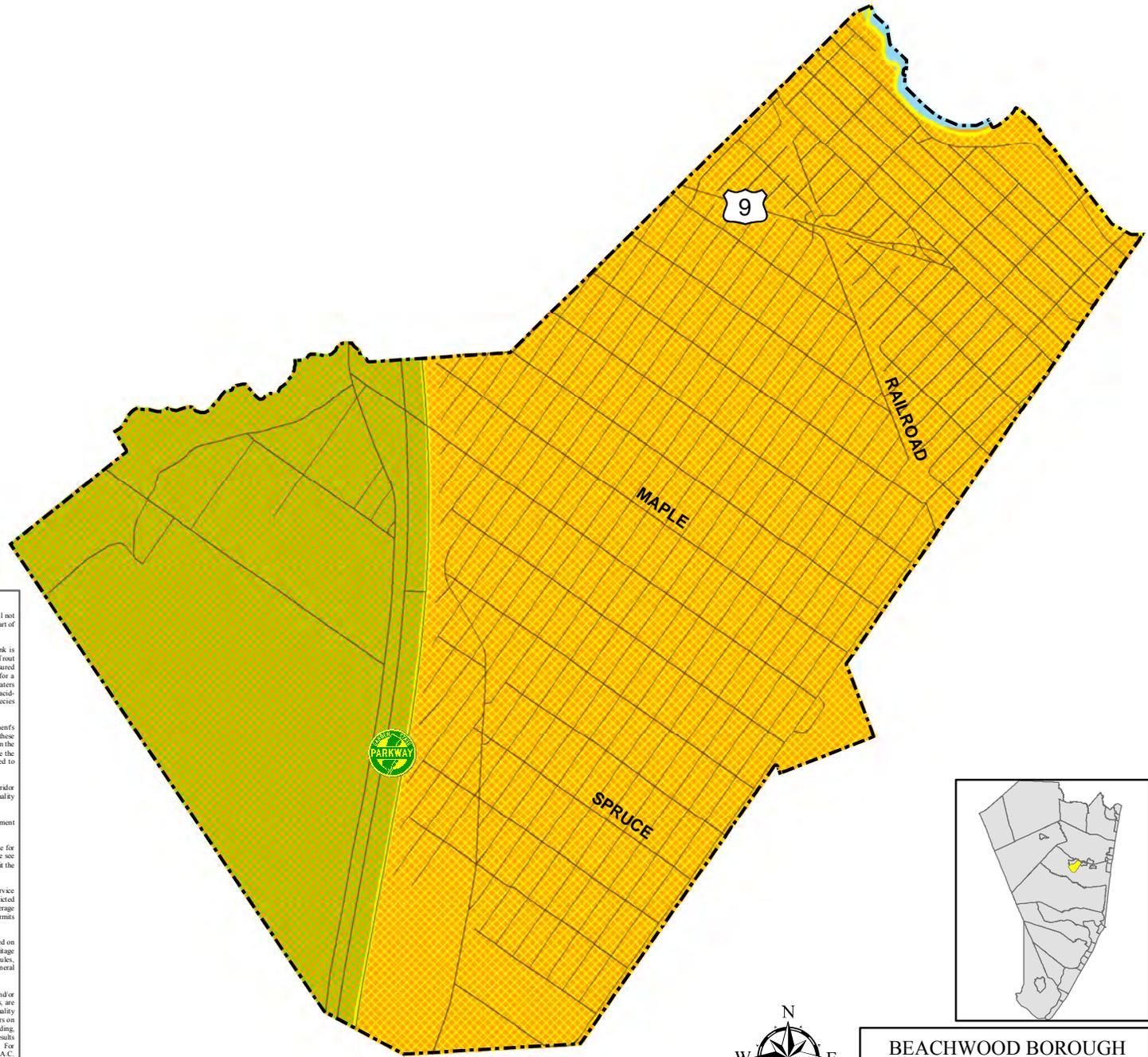
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Prepared by: Ocean County Department of Planning, December 2012
 Sources: Borough of Beachwood; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

MAP 5
REGIONAL PLANNING AREA

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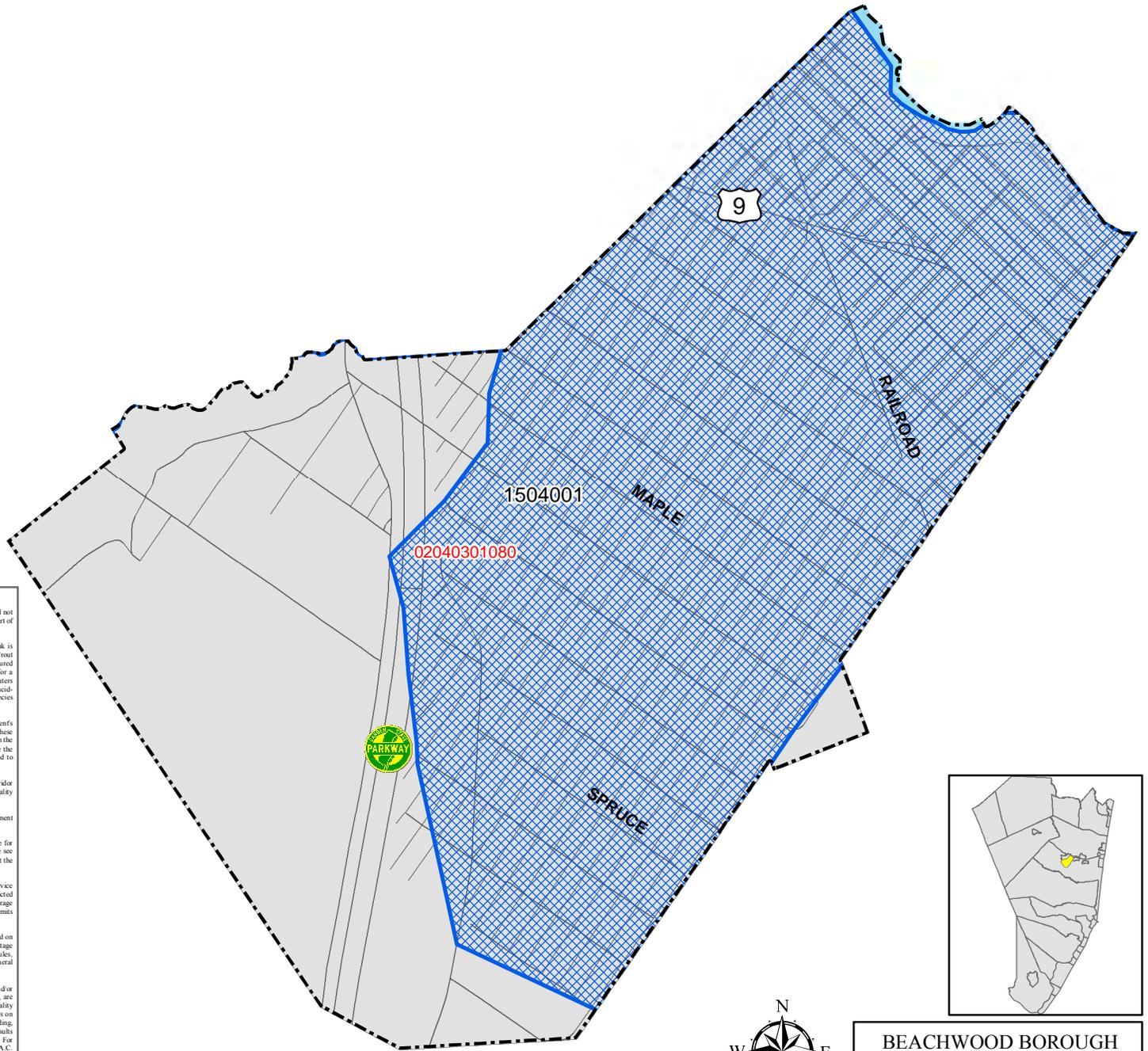
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Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1504001	BEACHWOOD BOROUGH

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"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9D. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courtesies may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

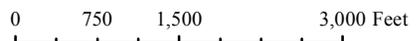
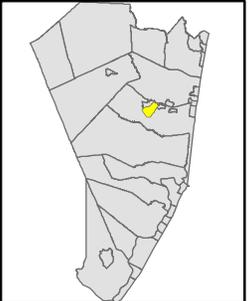
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 13:23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for protection) and are subject to restrictions including, but not limited to the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.8), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 1,750 feet

BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

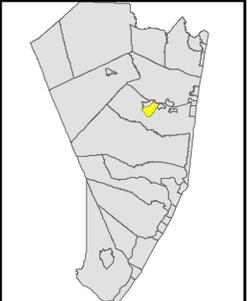
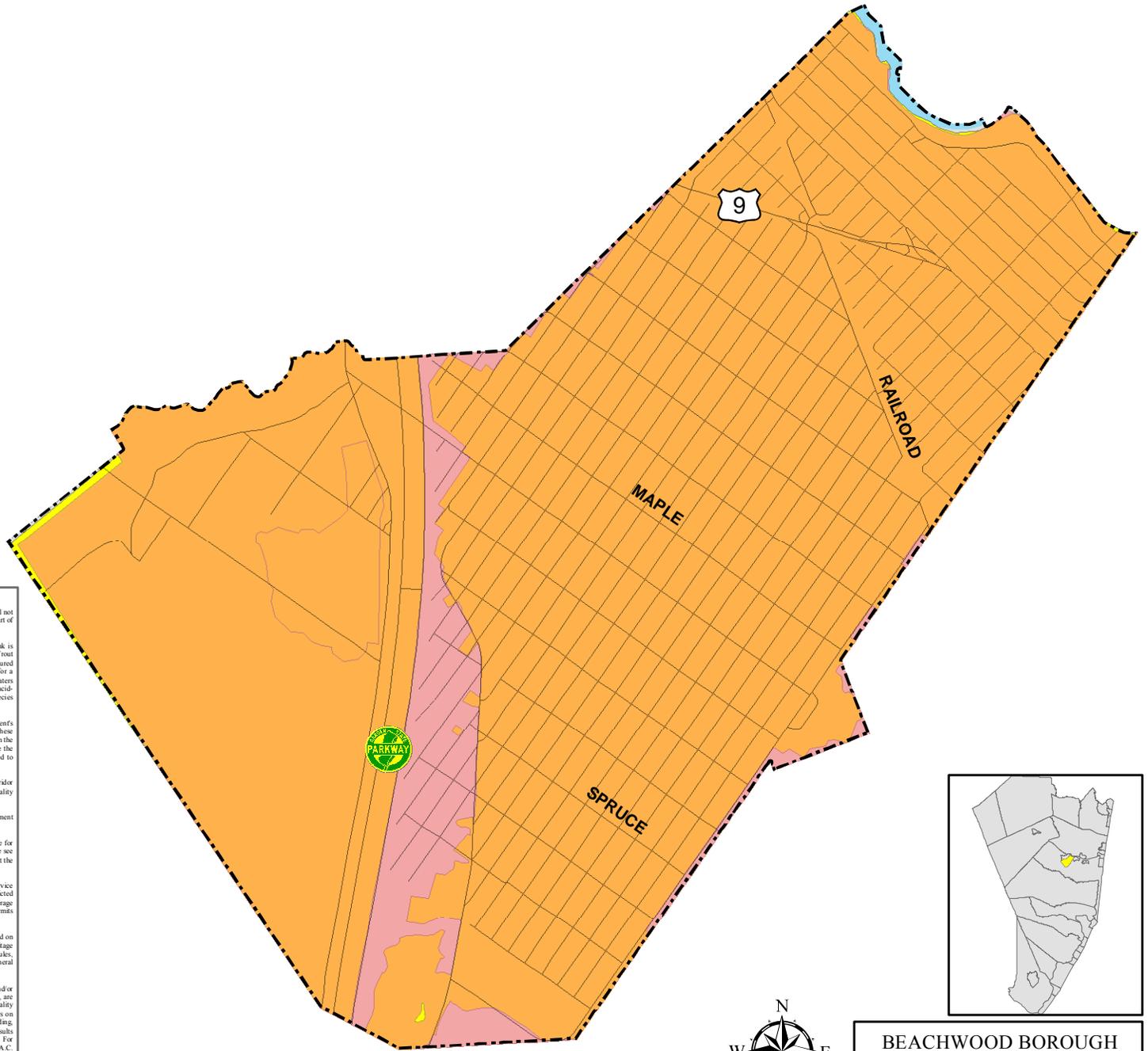
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

*Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

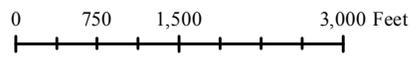
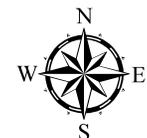
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"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:4B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (see aside for protection) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

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1 inch = 1,750 feet

BEACHWOOD BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

6. BERKELEY TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Berkeley was first incorporated in 1875 and has a total land area of 41.90 square miles (26,816 acres). Relatively large and irregularly shaped, Berkeley shares boundaries with twelve other Ocean County municipalities. From its boundary with Manchester Township in the west, Berkeley Township stretches eastward across the Barnegat Bay to Barnegat Peninsula, which fronts on the Atlantic Ocean south of Seaside Park Borough and along the length of Island Beach State Park. On the mainland, Berkeley bounds Lacey Township to the south, and Toms River Township, South Toms River Township, Beachwood Borough, Pine Beach Borough, and Ocean Gate Borough to the north.

The boundary of the Pinelands Comprehensive Management Plan Area crosses through Berkeley Township at two points. A north-south course follows the path of the Garden State Parkway between Lacey Township and Beachwood Borough. Also, an east-west course runs along a utilities right-of-way between South Toms River Township and Manchester Township. The western region of the Township which lies within the Pinelands consists of 10,455.24 acres, or roughly 30.17% of Berkeley's total area. The remainder of Berkeley is within the CAFRA zone.

Berkeley Township contains several large age-restricted communities, including the Holiday City and Silver Ridge Park developments. Berkeley is also the location of Ocean County Airport, which is administered by the Ocean County Department of Planning. Every July, the Airport grounds accommodate the Ocean County Fair. East of the Garden State Parkway are a number of protected areas, including Berkeley Island Park and Good Luck Point.

As of the 2010 U.S. Census, Berkeley had a total population of 41,255 people. Of the 23,818 housing units counted by the Census that year, 3,469 were vacant. 2,147 of these vacant units were seasonal vacancies. The NJTPA projects Berkeley's population will grow to a total of 48,755 people by the year 2035,—a 15.38% increase.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Berkeley Township's mainland is largely forested, with emergent and non-emergent wetlands along its eastern frontage on the Barnegat Bay. Additional wetlands can be found inland of the coast, especially along Jakes Branch in the center of the municipality, and along Cedar Creek, which forms much of Berkeley's southern boundary with Lacey Township. A natural heritage priority site is located in the Township's northwest corner, as well as throughout Island Beach State Park on Barnegat Peninsula. All of Berkeley Township's section of Barnegat Peninsula is lined with beaches facing the Atlantic Ocean and emergent and non-emergent wetlands facing Barnegat Bay. There are no preserved farms in the municipality.

Table 1 provides a breakdown of the Township's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	7,211.93	20.81%
Public Open Space/Recreational Areas	11,042.90	31.86%
Habitat T&E	15,982.79	46.12%
Natural Heritage Priority Sites	2,430.56	7.01%
Riparian Zones	1,449.54	4.18%
Preserved Agriculture	0.00	0.00%
Surface Water	7,441.45	21.47%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 35, Article XI	7/24/2001
Master Plan		3/2010
Stormwater [County - MSWMP]	Chapter 35, Article X, Section 72	1999 [9/8/2006]
Riparian Zone	N/A	N/A
Septic System Maintenance	Chapter 32, Section 4	1974
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 32, Section 5	1974
Source: http://clerkshq.com/default.ashx?clientsite=Berkeley-nj		

Transfer of Development Rights Program

On December 6, 2012, Berkeley Township adopted the “TDR Development Transfer Plan Element” of its Master Plan. Chapter 35, Article XX (“Voluntary TDR Program”) was then added to Berkeley’s municipal code through the adoption of Ordinance 2013-11-OA on February 25, 2013. This Transfer of Development Rights (TDR) Program was inaugurated with the intention of encouraging greater density of development along the Route 9 corridor, while simultaneously discouraging additional development in the Pinewald section of the Township. The program established five Sending Areas—located east of the Parkway and west of Route 9—and four Receiving Areas (two Town Centers, a mixed-use development node, and a light industrial node).

It is inferred that Berkeley’s TDR program will facilitate future land development which does not conform to current zoning regulations in both the sending and receiving areas. Namely, the program is likely to lead to a lesser density of development than is currently zoned in the septic areas of HUC115 02040301080 and 02040301090. The implications of this program’s anticipated long term results could have significant bearing on the build out and wastewater flow projections of this WMP. However, because of the difficulties inherent to planning for the results of a program that is both voluntary and relatively new, all models which considered Berkeley’s municipal zoning to project build out and wastewater flow used existing zoning regulations.

III. Existing Infrastructure and Areas Served By Wastewater Facilities

Most of the existing development in Berkeley is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines. As the location of one of OCUA’s three Water Pollution Control Facilities, the Township is the site of the convergence of multiple OCUA lines, some which enter from neighboring municipalities and some which originate within Berkeley Township itself. Each of these branches eventually connects to one of two lines, running north-to-south and south-to-north along a disused railroad right-of-way west of the Route 9 corridor, each in the direction of the Central Water Pollution Control Facility. The former enters Berkeley Township from Beachwood Borough, while the latter enters from the municipal boundary with Lacey Township.

One of the many branches of OCUA’s network originates as two separate interceptors in Berkeley’s Holiday City age-restricted community in the northwestern section of the Township. Starting from the northern and southern ends of this development, the lines converge along Barbados Drive South and then proceed east along the Toms River Industrial Railroad, passing through the Berkeley-Wrangle Brook Lift Station (CPS-18) before entering South Toms River Borough, ultimately linking up with the main branch flowing to the CWPCF from the north.

A second interceptor crosses into Berkeley Township at the municipal border with Manchester Township from the Pine Ridge at Crestwood age-restricted community, just north of Pinewald-Keswick Road (Route 530). It follows an easterly course before converging with the aforementioned branch near the Garden State Parkway, just north of South Toms River Borough.

A third branch originates in the Holly Park neighborhood in southeastern Berkeley. From the Berkeley-Clamming Creek Pump Station (CPS-12), wastewater flows west through a force main along Butler Boulevard, Central Parkway, and Serpentine Drive before ultimately connecting with the main branch flowing to the CWPCF from the south.

A fourth branch of the OCUA system originates in the Bayville section of Berkeley Township, south of Ocean Gate Borough. Starting at the Berkeley-Veeder Lane Lift Station (CPS-13) near the intersection of Moorage Avenue and Veeder Lane, this interceptor runs north through Good Luck Point, and then into Ocean



Gate Borough. The line reemerges From Ocean Gate Borough travelling west along Chelsea Avenue, and converges with a line from Pine Beach Borough at the Berkeley-Chelsea Avenue Pump Station (CPS-14). From there, the wastewater flows southwest through force mains, following the course of Mill Creek until reaching the main branch flowing to the CWPCF from the north.

Wastewater deriving from these disparate sources ultimately arrives at the Central Water Pollution Control Facility, which is located on Segal Avenue in the eastern central portion of Berkeley Township. Following treatment, all effluent passes through a gravity outfall line which heads east along Segal Avenue and Sloop Creek Road, and under Barnegat Bay. The line continues east, crossing Island Beach State Park near 24th Avenue, and reaches its end approximately one mile out to sea in the Atlantic Ocean.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 3161.29 acres of developable land, of which 2182.84 acres are zoned as residential, 138.35 acres are zoned as commercial, and 131.73 acres are zoned as industrial. The remaining 708.37 acres are zoned for other uses.

No significant additions to Berkeley’s sewer service area have been proposed. Conversely, a number of large tracts of land have been removed from the sewer service area. Among the largest areas which have been removed are the forested and wetland areas on the outskirts of Berkeley’s residential developments. Additionally, an area which includes the Ocean County Airport (formally the Robert J. Miller Airpark), the Ocean County Fair grounds, and a number of County government facilities, has been removed from the sewer service area, and will continue to rely on septic systems.

All development within the Pinelands Comprehensive Management Plan Area is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Berkeley’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Nearly all of the developed and developable land in the Township is included in the designated sewer service area. Much of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or both. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Berkeley is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Berkeley’s drinking water is derived from twelve wells, seven which draw from the Kirkwood-Cohansey Aquifer, and five which draw from the Piney Point Aquifer. The majority of the system is operated by the Berkeley Township MUA, and is capable of pumping 1.512 MGD. A portion of northern Berkeley is served by United Water Toms River, while Island Beach State Park is served by the Shore Water Company. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are two developments located in the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these systems are provided in Tables 3 and 4:



Table 3: NJPDES - Double Trouble State Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0133183	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		State of New Jersey	
7. Operator of Facility:		Double Trouble State Park staff	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Berkeley Township, Ocean County	
b. Street Address:		P.O. Box 175	
c. Block(s) and Lot(s):		Block 22.01, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 13 min. 20.05 sec. west	
b. Latitude:		39 deg. 53 min. 50.98 sec. north	
11. Present Permitted Flow:		0.007 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		414*	414
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Berkeley Township	Residential		
	Commercial	0.004 MGD**	0.004 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.004 MGD	0.004 MGD
*Approximately 151,000 visitors each year, as per Double Trouble State Park			
**Estimate based on 414 visitors per day, at 10 gallons per person			

Table 4: NJPDES - Island Beach State Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0133175	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		State of New Jersey	
7. Operator of Facility:		Ray Bukowski, Area Supervisor	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Berkeley Township, Ocean County	
b. Street Address:		P.O. Box 37	
c. Block(s) and Lot(s):		Block 1750, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 5 min. 15.18 sec. west	
b. Latitude:		39 deg. 51 min. 6.68 sec. north	
11. Present Permitted Flow:		0.049 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 4,000*	Approximately 4,000
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Berkeley Township	Residential		
	Commercial	0.040 MGD**	0.0018 MGD***
	Industrial		
	Inflow/Infiltration		
Total		0.040 MGD	0.0018 MGD
*No data is kept by Island Beach State Park			
**Estimate based on 4,000 visitors per day, at 10 gallons per person			
***The NJDEP Division of Parks and Forestry has proposed to extend sanitary sewer connections to portions of Island Beach State Park. The NJDEP Division of Parks and Forestry has estimated future discharges to groundwater of approximately 1,800 gallons per day.			



V. Future Wastewater and Water Demand

Municipal Zoning

Table 5: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
AP	Agricultural Production	748.17	91.43
BC	Beach Conservation	2227.93	7.87
CR	Conservation/Residential	1823.50	247.07
FA-C	Forest Area Conservation	4638.41	175.73
FA-HC	Forest Area Highway Commercial	34.54	16.59
FA-LI	Forest Area Light Industrial	79.54	50.69
FAR-30	Forest Area Residential	795.99	213.53
FAR-30C	Forest Area Residential Cluster	994.32	496.46
FAR-5	Forest Area Residential	351.77	2.86
GI	General Industrial	644.20	0.07
HB	Highway Business	400.48	70.59
LI	Limited Industrial	298.75	80.97
M/CF	Municipal/County Facilities	768.55	331.02
MPRPD	Residential Overlay	103.12	22.82
NB	Neighborhood Business	5.27	0.00
PA	Preservation Area	1297.34	40.40
PPC	Public Preservation/Conservation	1822.55	17.63
R-100	Residential	967.51	47.50
R-125	Residential	905.75	169.00
R-150	Residential	1038.97	284.90
R-200	Residential	819.16	148.27
R-31.5	Residential	44.62	0.00
R-400	Residential	831.93	189.28
R-400 PRRC	Residential	3845.76	318.74
R-4F	One to Four Family Residential	13.52	0.00
R-50	Residential	204.99	2.59
R-60	Residential	195.68	0.11
R-64	Residential	343.63	3.73
R-90	Residential	331.81	22.98
R-LR	Low-Rise Residential	24.81	0.24
R-MF	Multi Family Residential	154.63	12.61
R-TH	Townhouse Residential	10.96	0.00
RC	Resort Commercial	18.29	0.00
RDA	Rural Development Area	416.23	0.16
RDR	Rural Development Recreation	60.78	44.29
RGR	Regional Growth Residential	78.53	0.00
RGR-A	Regional Growth Residential	95.11	0.00
RHB	Rural Highway Business	58.64	16.67
TC	Town Center	439.39	34.50

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water



supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 6: Wastewater Flow Directed to OCUA Facilities	
CWPCF	
Source	(MGD)
Existing Flow	2.718
Projected Residential	0.609
Projected Commercial	0.416
Total Future Planning Flow	3.767

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Berkeley Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 7 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 7: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	807.69	613.58	2,028.55	8,455,558.69

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Berkeley Township’s municipal ordinance applicable to septic connection was adopted in 1974 (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{FAR})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 8: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301050	0.00	0.00	0.00	0.00	0.00	0.00
02040301080	1,427.35	850.25	4.86	52.98	1,432.21	903.23
02040301090	137.25	282.82	0.00	0.00	137.25	282.82
02040301100	4.83	14.46	0.43	7.11	5.26	21.57
02040301910	5.55	49.57	0.00	0.00	5.55	49.57
02040301920	0.00	0.00	0.00	0.00	0.00	0.00
Totals	1,574.98	1,197.10	5.29	60.09	1,580.27	1,257.19

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The sending areas of Berkeley Township’s Transfer of Development Rights (TDR) program were also added to the acreage available for nitrate dilution, as these areas are expected to remain largely rural, and to contribute significantly to the nitrate dilution capacity of the Township’s HUC11s. The results of the nitrate dilution analysis are shown in the following table:

Table 9: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301050	6.5	0.00	0.00	0.00
02040301080	4.9	7,288.26	1,487.40	903.23
02040301090	4.5	1,443.41	320.76	282.82
02040301100	6.6	118.55	17.96	21.57
02040301910	17.9	339.04	18.94	49.57
02040301920	48.9	0.00	0.00	0.00

The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Berkeley’s portions of HUC11s 02040301100 and 02040301910. However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality’s zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in both of these HUC11s; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11s, inclusive of Berkeley Township, are less than each HUC11’s total capacity for development while maintaining optimal nitrate dilution. Information on these HUC11s’ septic build out



projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

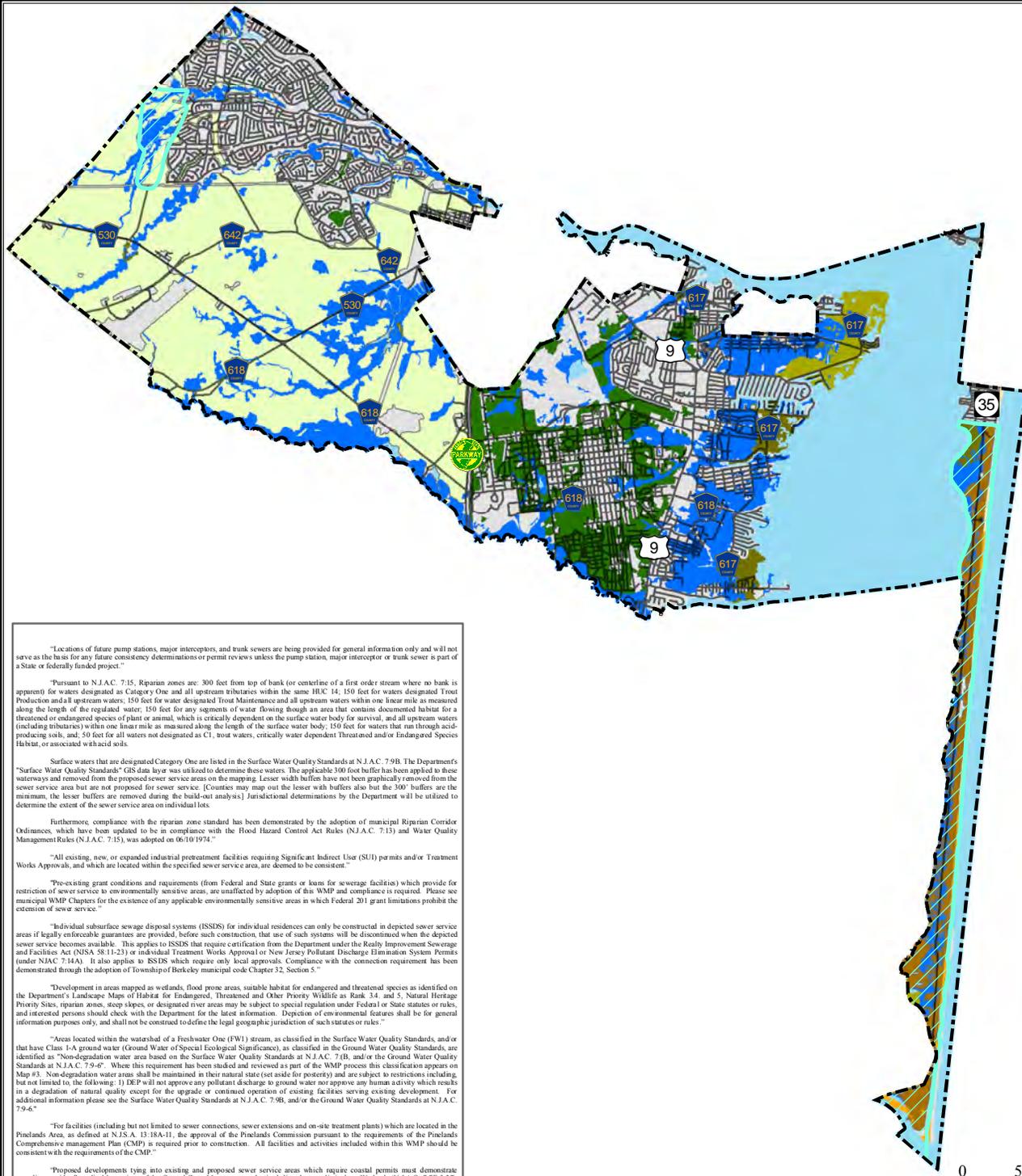
Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 10: Public Water Purveyor Capacity								
Aqua NJ Eastern Division								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.620	1.476	0.144	48.000	42.505	5.495	355.000	340.260	14.740
Berkeley Township MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.872	1.661	0.211	65.000	43.246	21.754	722.000	324.031	397.969
Shore Water Company								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.634	0.359	0.275	13.500	11.135	2.365	95.000	56.407	38.593
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Emergent Wetlands (Rank 5)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to those waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of the WMP and compliance is required. Please see municipal WMP Chapter for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

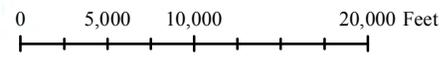
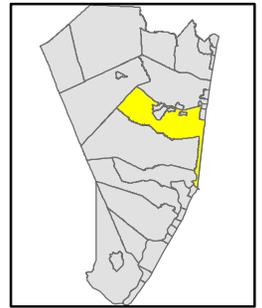
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4 and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9C. Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9C-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within the WMP should be consistent with the requirements of the CMP."

"Proposed developments (tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



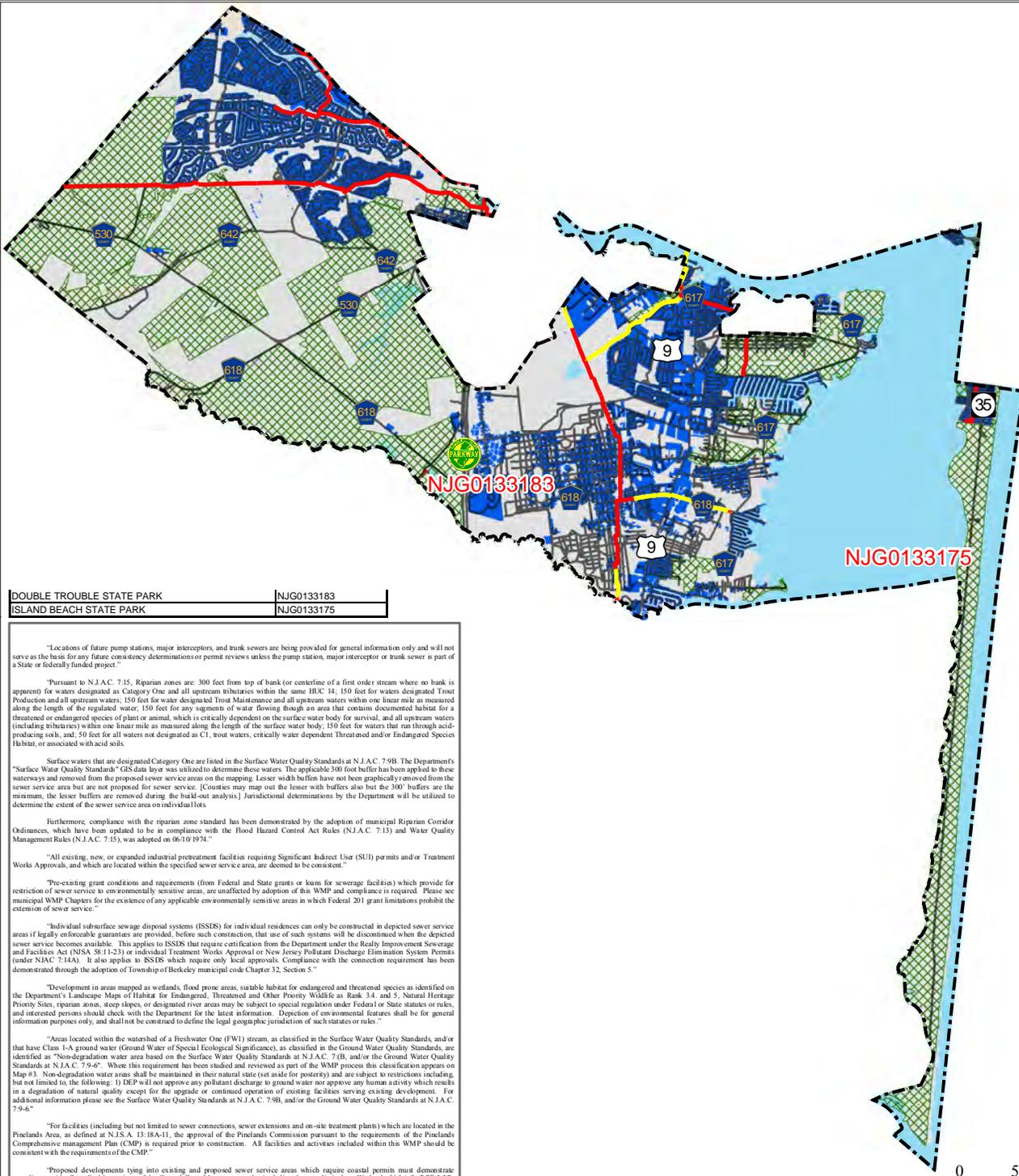
1 inch = 11,000 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES



Legend

- Interceptor
- Force Main
- Roads
- DGW/Sanitary Subsurface Disposal
- Public Open Space & Recreation Areas
- Surface Water

Sewered Areas

- OCUA Central DSW (NJ0029408)

DOUBLE TROUBLE STATE PARK	NJG0133183
ISLAND BEACH STATE PARK	NJG0133175

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of the WMP and compliance is required. Please see municipal WMP Chapter for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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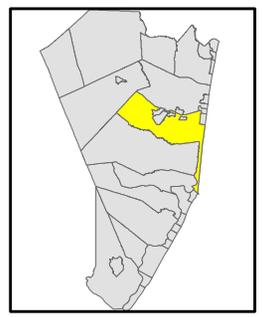
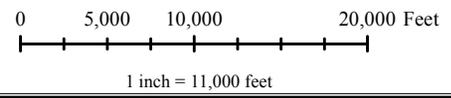
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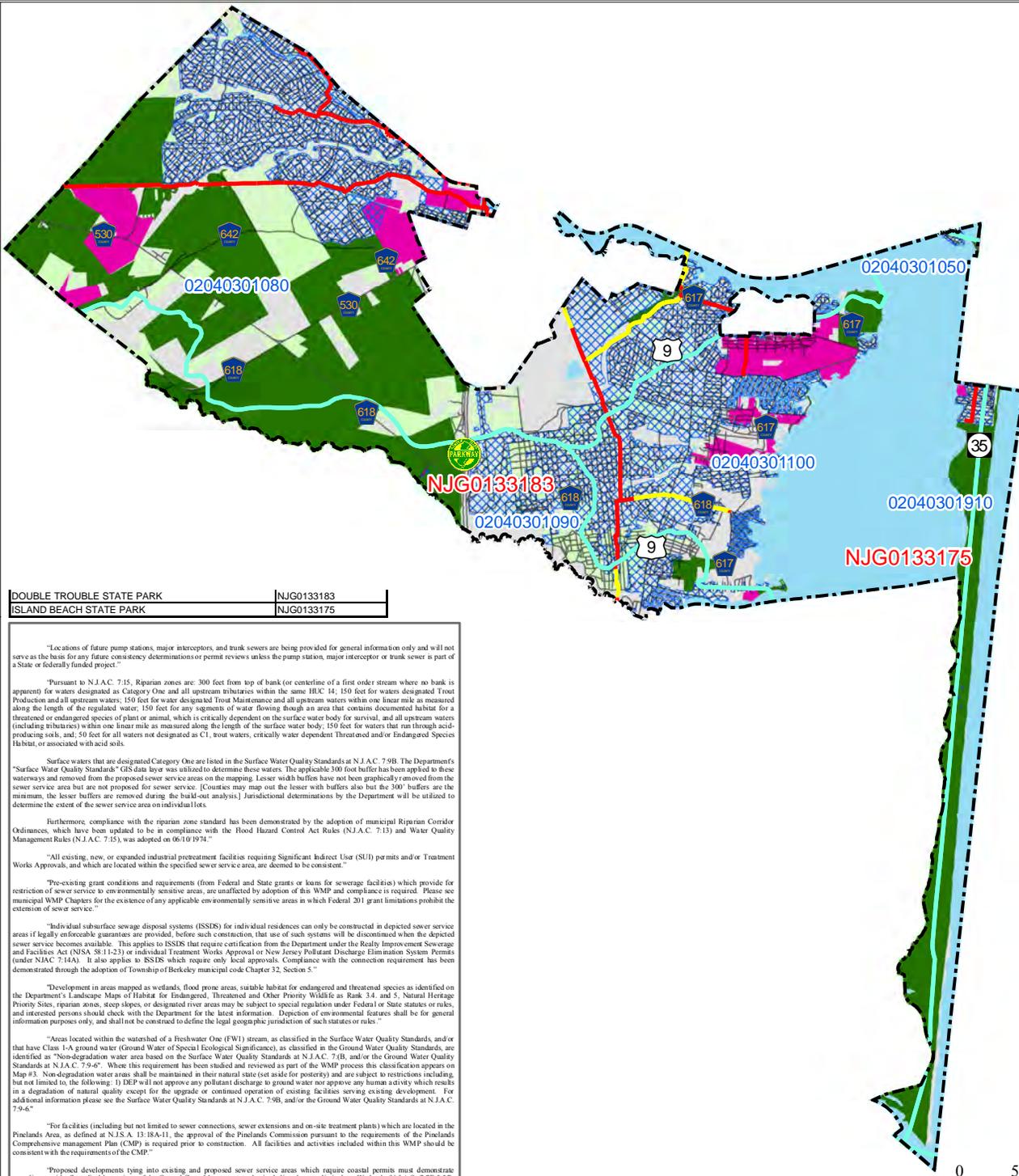
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA



Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

DOUBLE TROUBLE STATE PARK	NJG0133183
ISLAND BEACH STATE PARK	NJG0133175

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"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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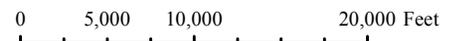
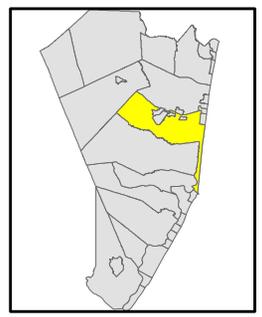
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"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9C. When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9C-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within the WMP should be consistent with the requirements of the CMP."

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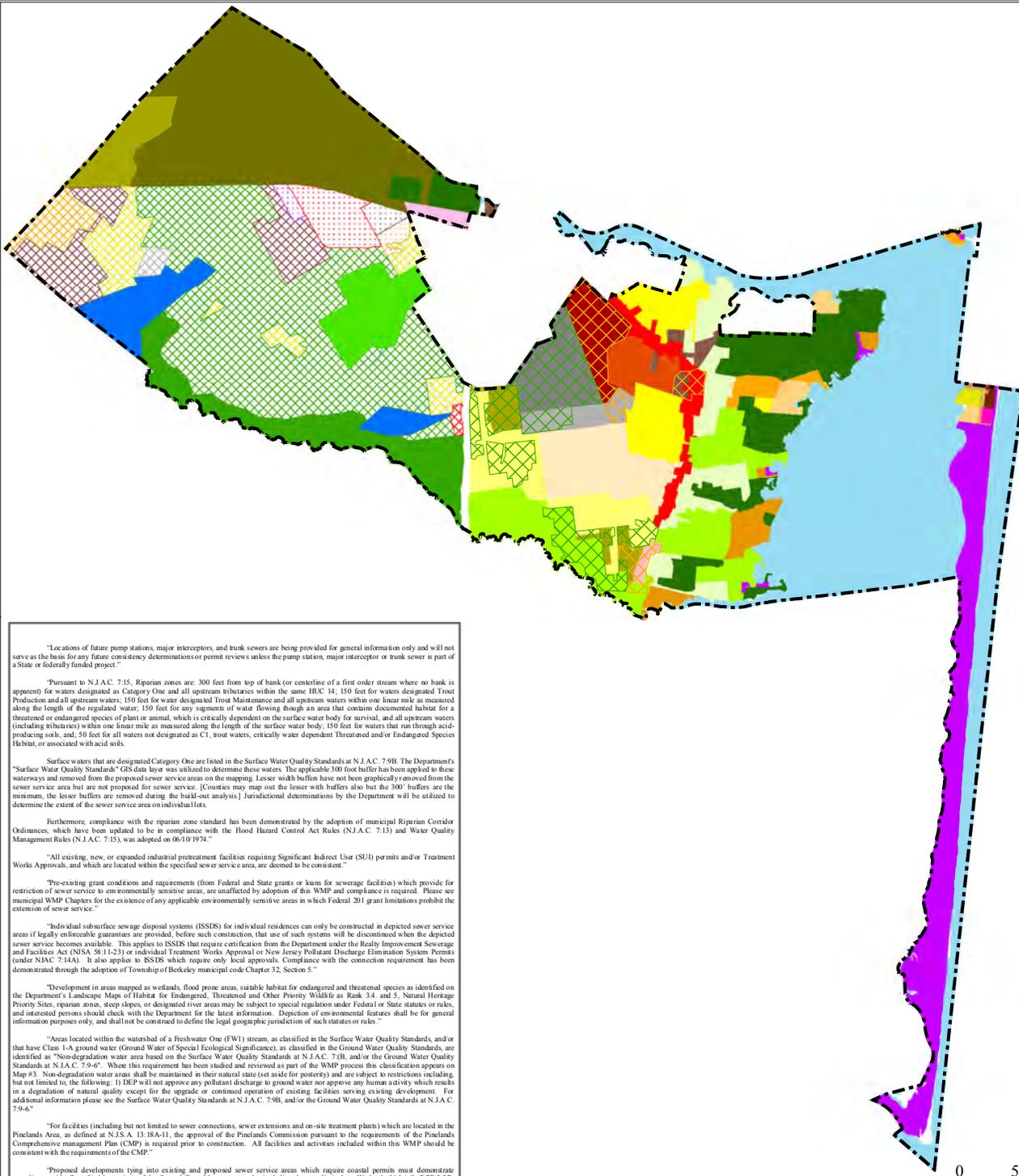
1 inch = 11,000 feet

BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



Legend

- | | |
|---|---------------------------------------|
| AP (Agricultural Production) | R-200 (Residential) |
| BC (Beach Conservation) | R-31.5 (Residential) |
| CR (Conservation/Residential) | R-400 (Residential) |
| FA-C (Forest Area Conservation) | R-400 PRRC (Residential) |
| FA-HC (Forest Area Highway Commercial) | R-4F (One to Four Family Residential) |
| FA-LI (Forest Area Light Industrial) | R-50 (Residential) |
| FAR-30 (Forest Area Residential) | R-60 (Residential) |
| FAR-30C (Forest Area Residential Cluster) | R-64 (Residential) |
| FAR-5 (Forest Area Residential) | R-90 (Residential) |
| GI (General Industrial) | R-LR (Low-Rise Residential) |
| HB (Highway Business) | R-MF (Multi Family Residential) |
| LI (Limited Industrial) | R-TH (Townhouse Residential) |
| M/CF (Municipal/County Facilities) | RC (Resort Commercial) |
| MPRPD (Residential Overlay) | RDA (Rural Development Area) |
| NB (Neighborhood Business) | RDR (Rural Development Recreation) |
| PA (Preservation Area) | RGR (Regional Growth Residential) |
| PPC (Public Preservation/Conservation) | RGR-A (Regional Growth Residential) |
| R-100 (Residential) | RHB (Rural Highway Business) |
| R-125 (Residential) | TC (Town Center) |
| R-150 (Residential) | Transfer of Development Rights |
| | Sending |
| | Receiving |

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapter for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

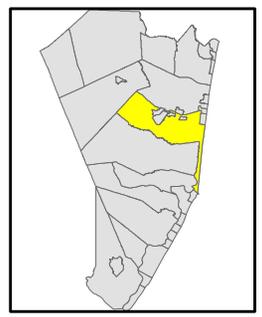
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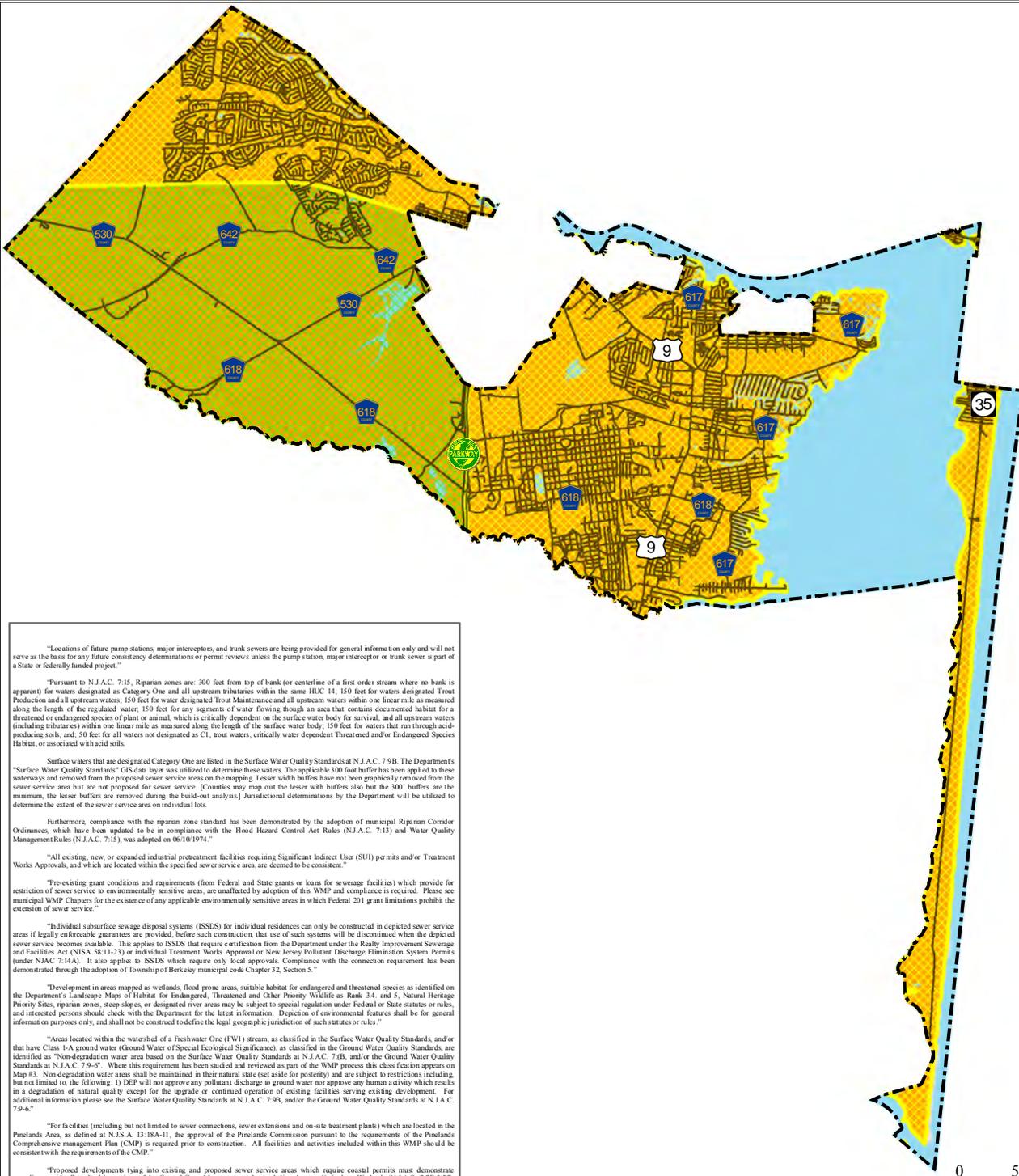
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BERKELEY TOWNSHIP
OCEAN COUNTY, NJ
MAP 4
MUNICIPAL ZONING



Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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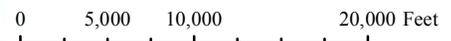
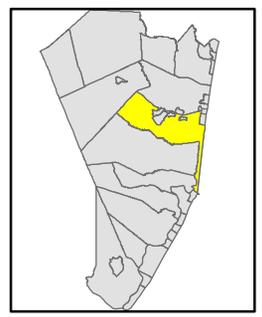
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1 inch = 11,000 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

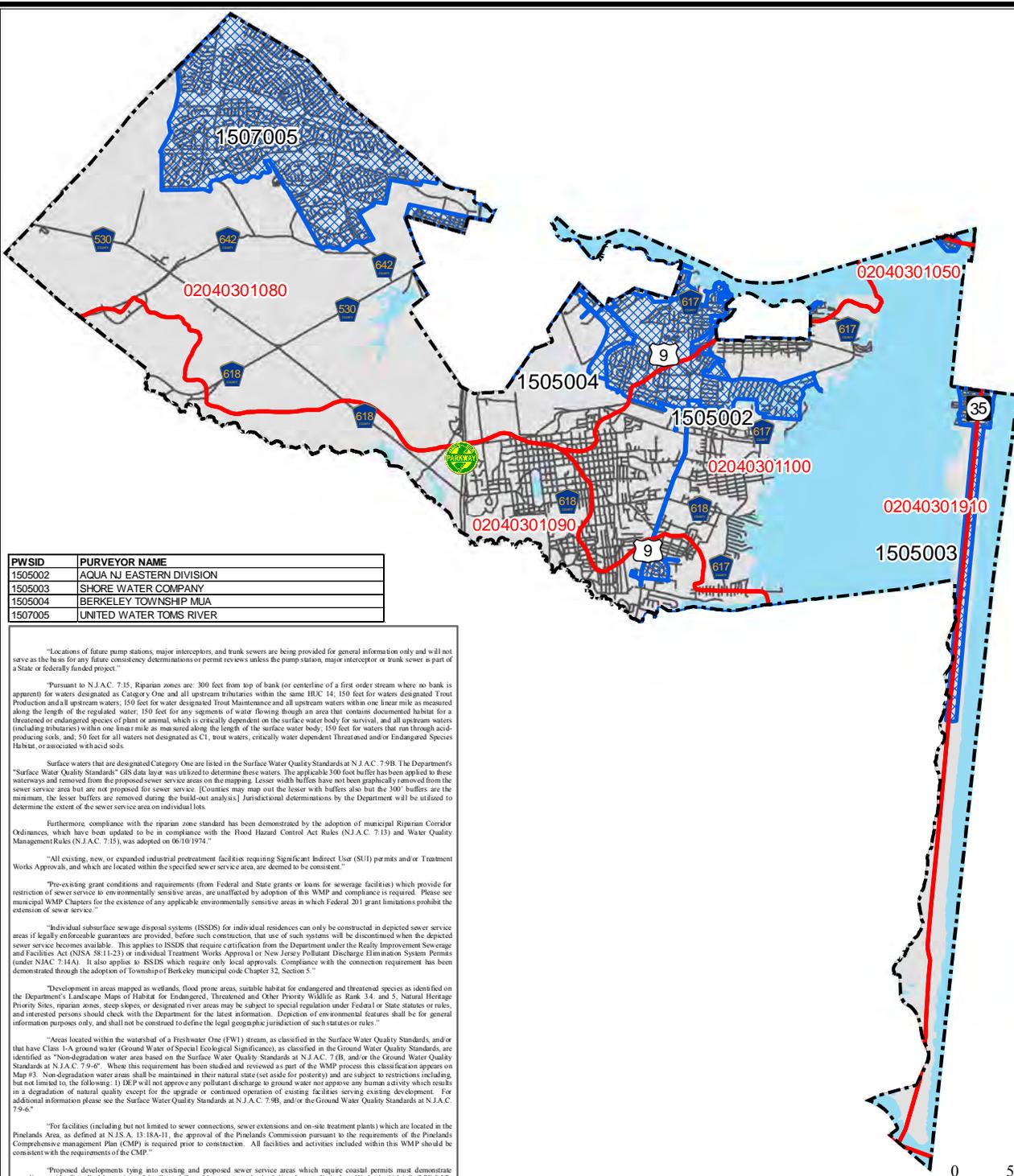
BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



PWSID	PURVEYOR NAME
1505002	AQUA NJ EASTERN DIVISION
1505003	SHORE WATER COMPANY
1505004	BERKELEY TOWNSHIP MUA
1507005	UNITED WATER TOMS RIVER

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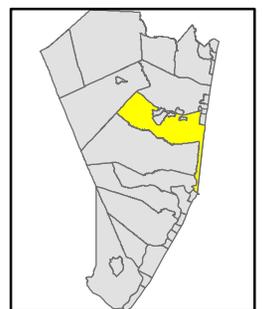
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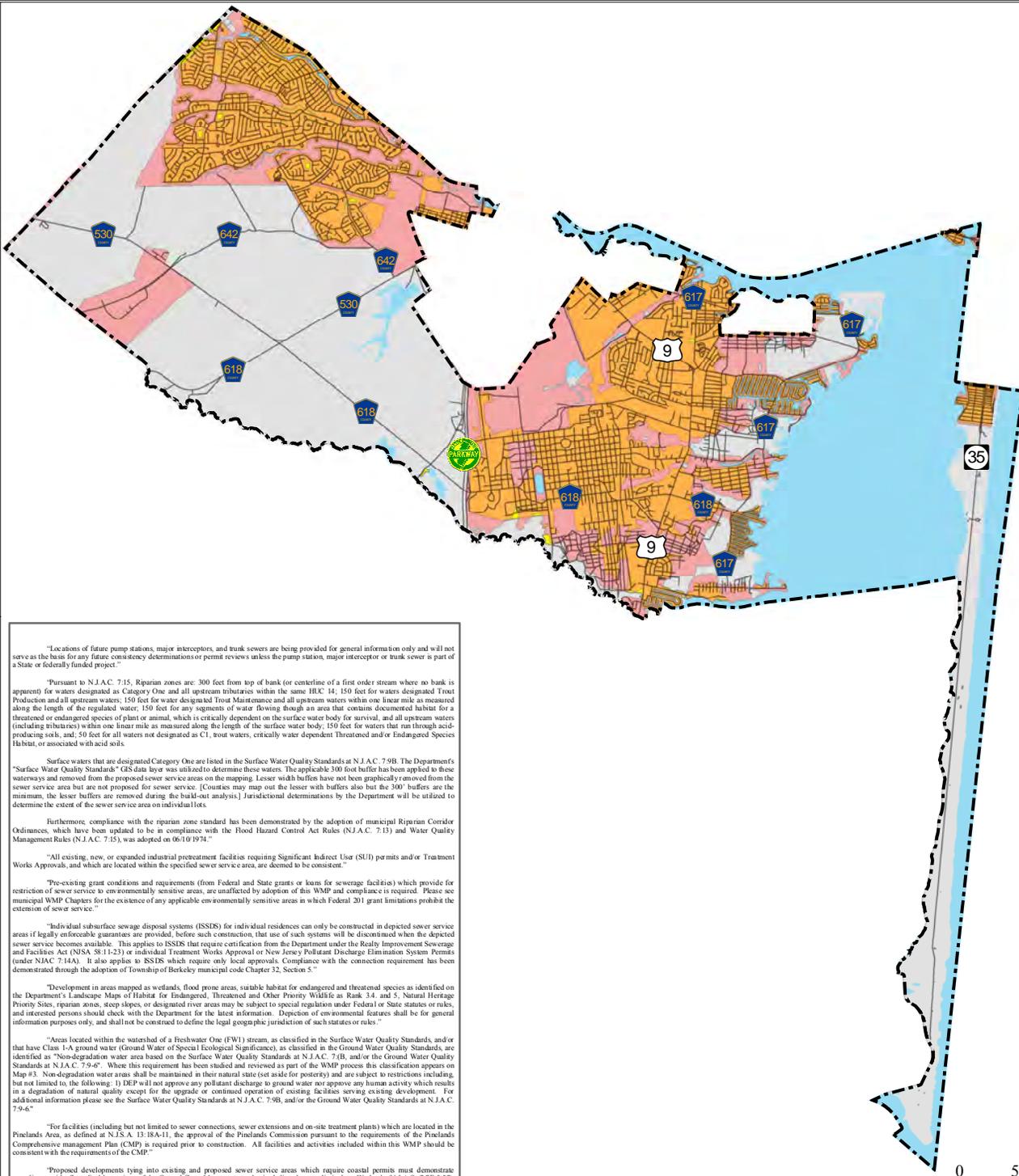
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BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap

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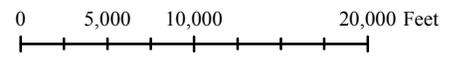
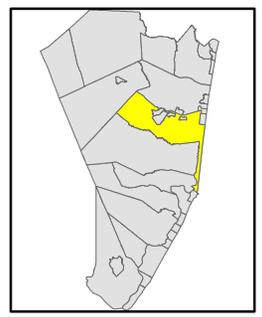
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within the WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.28), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 11,000 feet

BERKELEY TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



7. BRICK TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Brick was incorporated in 1850, the same year as the County of Ocean, and is located in the northeastern section of the County. Brick is bordered by Monmouth County to the north, Lakewood Township to the west, Toms River Township to the south, and Point Pleasant Borough, Bay Head Borough, and Mantoloking Borough to the east. The Township is bifurcated by the upper Metedeconk River, and the southeast portions of the Township front on Barnegat Bay. To the south of Mantoloking Borough, a segment of Barnegat Peninsula also fronts on the Atlantic Ocean. The coastal areas of Brick Township feature a number of protected areas, including the Edwin B. Forsythe National Wildlife Refuge and Swan Point State Natural Area. At 26.40 square miles in size, the entire Township lies within the CAFRA region.

As of the 2010 U.S. Census, Brick Township had a total population of 75,072. Of the 33,677 housing units counted by the Census that year, 3,835 were vacant. 2,479 of these vacant units were seasonal vacancies. The NJTPA projects Brick’s population to grow to 87,859 by 2035—an increase of 12,787 residents.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

The eastern end of Brick Township’s southern peninsula is almost entirely covered by wetlands. Additional low lying wetlands—both emergent and otherwise—are dispersed along stream corridors throughout the Township. Relatively little of Brick is covered by forests, and mostly in the western inland areas. Bald eagle foraging grounds are found at several locations along the Manasquan River, Kettle Creek, and Beaver Dam Creek. A documented wood turtle habitat is present in the northernmost corner of the municipality, within the Manasquan Wildlife Management Area. The portion of Brick which lies on Barnegat Peninsula is lined with beaches. The Mantoloking Beach Natural Heritage Priority Site is also found on this oceanfront section of the Township, in the vicinity of the border with Mantoloking Borough. Another Natural Heritage Priority Site had been recently identified in this section Brick Township, and was associated with a nesting habitat for rare bird species. However, the area was severely compromised by Hurricane Sandy. There are no preserved farms in the municipality.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	3,719.12	17.93%
Public Open Space/Recreational Areas	1,929.02	9.30%
Habitat T&E	3,217.54	15.51%
Natural Heritage Priority Sites	19.08	0.09%
Riparian Zones	556.64	2.68%
Preserved Agriculture	0.00	0.00%
Surface Water	4,109.56	19.81%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 245, Part 2	1/4/1974
Master Plan		6/6/2007
Stormwater [County - MSWMP]	Chapter 396	11/29/2005 [4/30/2007]
Riparian Zone	Chapter 245, Part 5, 245-415*	7/10/2007
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 352, Article I	12/15/1970
*complies with NJAC 7:15		
Source: http://ecode360.com/BR0201		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Brick is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines. As the location of one of OCUA’s three Water Pollution Control Facilities, the Township is the site of the convergence of five OCUA wastewater conveyance lines, two of which approach the NWPCF from the west, and three of which approach the NWPCF from the north. A sixth line is present in the Barnegat Peninsula section of Brick, which flows to the CWPCF.

Of the two interceptors flowing from the west, the southernmost line enters the township where Kettle Creek crosses Brick’s municipal boundary with Lakewood Township. This interceptor runs southeast along the northeastern bank of Kettle Creek until it crosses Cherry Quay Road. The line then turns northeast along Tiller Lane, turns southeast just south of Northrop Road, turns northeast again at Schindler Drive, and heads southeast once more along Aschby Drive before arriving at the Brick-Shore Acres Lift Station (NPS-4). From there, the interceptor flows northeast through the Edwin B. Forsythe National Wildlife Refuge and to the NWPCF.

The second of the interceptors approaching the NWPCF from the west crosses into Brick at the municipal boundary with Lakewood Township near the Exit 90 interchange of the Garden State Parkway. From there, the line follows the south bank of the Metedeconk River before arriving at the Brick-Chambers Bridge Pump Station (NPS-3) near the intersection of Hooper Avenue (Route 631) and Mantoloking Road (Route 528). From here, a force main then flows east along Mantoloking Road between Hooper Avenue and Laurel Avenue. From the intersection of Laurel Avenue and Mantoloking Road, an interceptor then continues east along Mantoloking Road on its way to the NWPCF.

Of the three branches approaching the NWPCF from the north, the westernmost line originates in the Laurelton Gardens neighborhood in the western portion of Brick Township, just southeast of Whitman Street. This interceptor follows the course of the South Branch of Beaver Dam Creek until its convergence with another interceptor approaching from the north. The latter interceptor, which originates in the northern section of Brick near the intersection of Route 70 and Herbertsville Road (Route 549), flows southward along Jordan Road beginning near its intersection with Route 88. From the convergence of these lines near the intersection of Jordan and Midstream Roads, an interceptor continues south along Jordan Road before arriving at the Brick-Princeton Avenue Pump Station (NPS-1). Wastewater leaves this station through a force main, heading east along Princeton Avenue.

The easternmost line approaching the NWPCF from the north enters into Brick Township from Point Pleasant Borough at Beaver Dam Road (Route 630). This force main then turns west along Princeton Avenue. Near 3rd Street, this line and the aforementioned northerly lines converge, turn southward, and cross under the Metedeconk River. This large force main then emerges on the south bank of the Metedeconk, and continues southward along Driftwood Drive toward the NWPCF.

Wastewater flowing through from each of the OCUA lines here described ultimately arrives at the Northern Water Pollution Control Facility, which is located on Mantoloking Road in the southeastern portion of Brick Township. Following treatment, all effluent passes through a gravity outfall line which heads east along Herbert Street, passes under the mouth of the Metedeconk River, crosses Mantoloking Borough at Princeton Avenue, and reaches its end approximately one mile out to sea in the Atlantic Ocean.

The only section of Brick that does not lie in the Northern Planning Area is the segment of Barnegat Peninsula which is located in the southeastern portion of the Township. Originating near the municipal boundary with Mantoloking Borough, an OCUA interceptor runs south along Route 35. Along the way, the



wastewater passes through the Brick-Bay Way Lift Station (CPS-17) before crossing into Toms River Township on the way to the CWPCF in Berkeley Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 373.18 acres of developable land, of which 215.81 acres are zoned as residential and 157.38 acres are zoned as commercial. There is no developable land zoned for industrial uses in Brick. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Brick’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Township is included in the designated sewer service area. There are no septic systems in Brick. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Brick’s drinking water is derived from the Manasquan River and from fourteen wells: eight which draw from the Kirkwood-Cohansey Aquifer, five which draw from the Potomac-Raritan-Magothy Aquifer, and one which draws from a composite confining unit. The majority of the municipal system is operated by the Brick Township MUA, and is capable of pumping 13.763 MGD. The only area not served by the Brick Township MUA is the coastal area south of Mantoloking Borough, which is served by the New Jersey American Water Company, based in the Ortley Beach section of Toms River Township. In addition to its own system of wells, the New Jersey American Water Company purchases some of its groundwater from outside sources. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.



V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B-1	Neighborhood Business	84.16	5.20
B-2	General Business	660.66	40.35
B-3	Highway Development	759.18	95.66
B-4	Regional Commercial	38.61	3.87
H-S	Hospital Support	132.01	12.31
M-1	Light Industrial	154.60	0.00
O-P	Office Professional	5.20	0.00
O-P-T	Office Professional Transitional	77.57	0.00
R-10	Single Family Residential	1341.82	31.69
R-15	Single Family Residential	516.63	30.14
R-20	Single Family Residential	815.34	34.80
R-5	Single Family Residential	645.57	13.77
R-7.5	Single Family Residential	3690.10	73.39
R-M	Multi Family Residential	663.31	0.00
R-ML5	Residential Mixed Single Family	17.96	0.00
R-R-1	Rural Residential	2675.52	8.99
R-R-2	Rural Residential-Adult Community	1701.30	23.03
R-R-3	Rural Residential-Adult Community Multi Family	137.71	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Brick Township was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Township.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Township will increase by 12,787 people by 2035, which equates to an increase of 0.959 MGD. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. Additionally, the cumulative square footage of select municipalities’ large scale commercial site plans and subdivisions approved by the Ocean County Planning Board between the years of 2008 and 2011 was multiplied by 0.125 gallons per day, so as to account for significant non-residential development not captured by the NJDEP’s population-based projection formula (see “Additional Approved



Commercial Flow” in Table 4). In Brick Township, this amounts to 0.092 MGD above the projected flow directed to the NWPCF.

Summing projected flow and additional approved commercial flow equates to a 1.051 MGD increase in wastewater flow being directed to OCUA’s NWPCF. No additional flows to OCUA’s CWPCF are anticipated. The flow projections are presented in Table 4. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Tables for OCUA’s NWPCF and CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
NWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
5.125	0.516	5.641	6.600	0.092	6.692
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.139	0.020	0.159	0.159	0.000	0.159

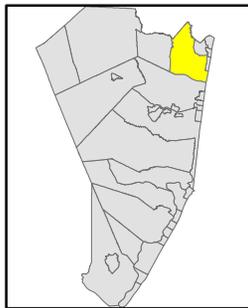
Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Brick Township MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
14.000	13.668	0.332	650.000	492.034	157.966	5,640.000	3,872.773	1,767.227
Source: NJDEP Division of Water Supply & Geoscience								

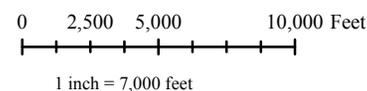
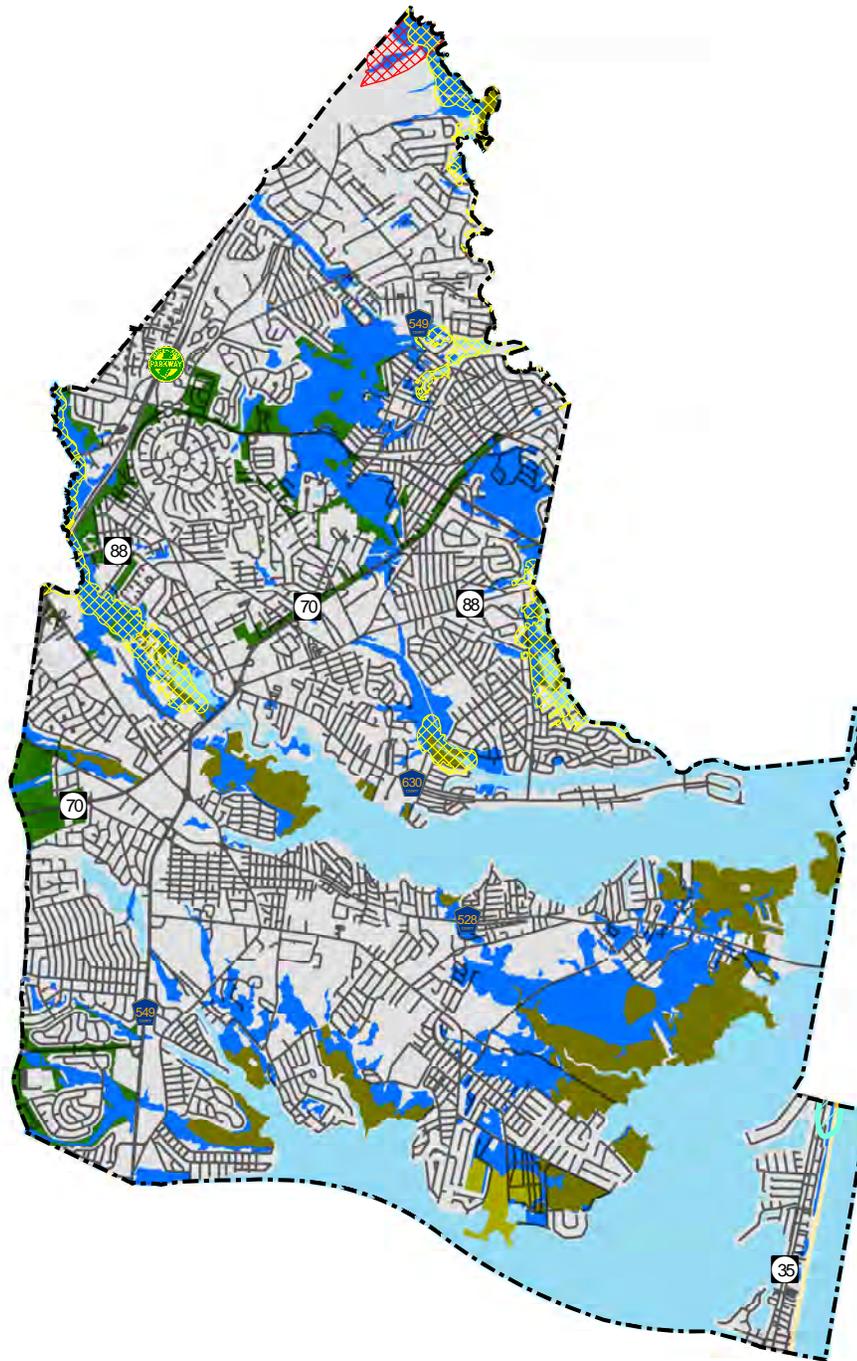
VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

- Natural Heritage Priority Sites
- Bald Eagle Foraging
- Wood Turtle Habitat
- Roads
- Beach (Rank 4)
- Beach (Rank 5)
- Emergent Wetlands (Rank 3)
- Emergent Wetlands (Rank 4)
- Wetlands
- Forest (Rank 3)
- Surface Water



BRICK TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated by the adoption of Township of Brick municipal code Chapter 352, Article 1."

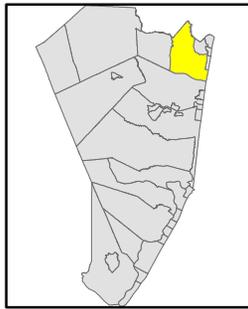
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A-6." Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A-6."

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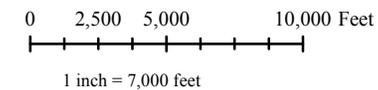
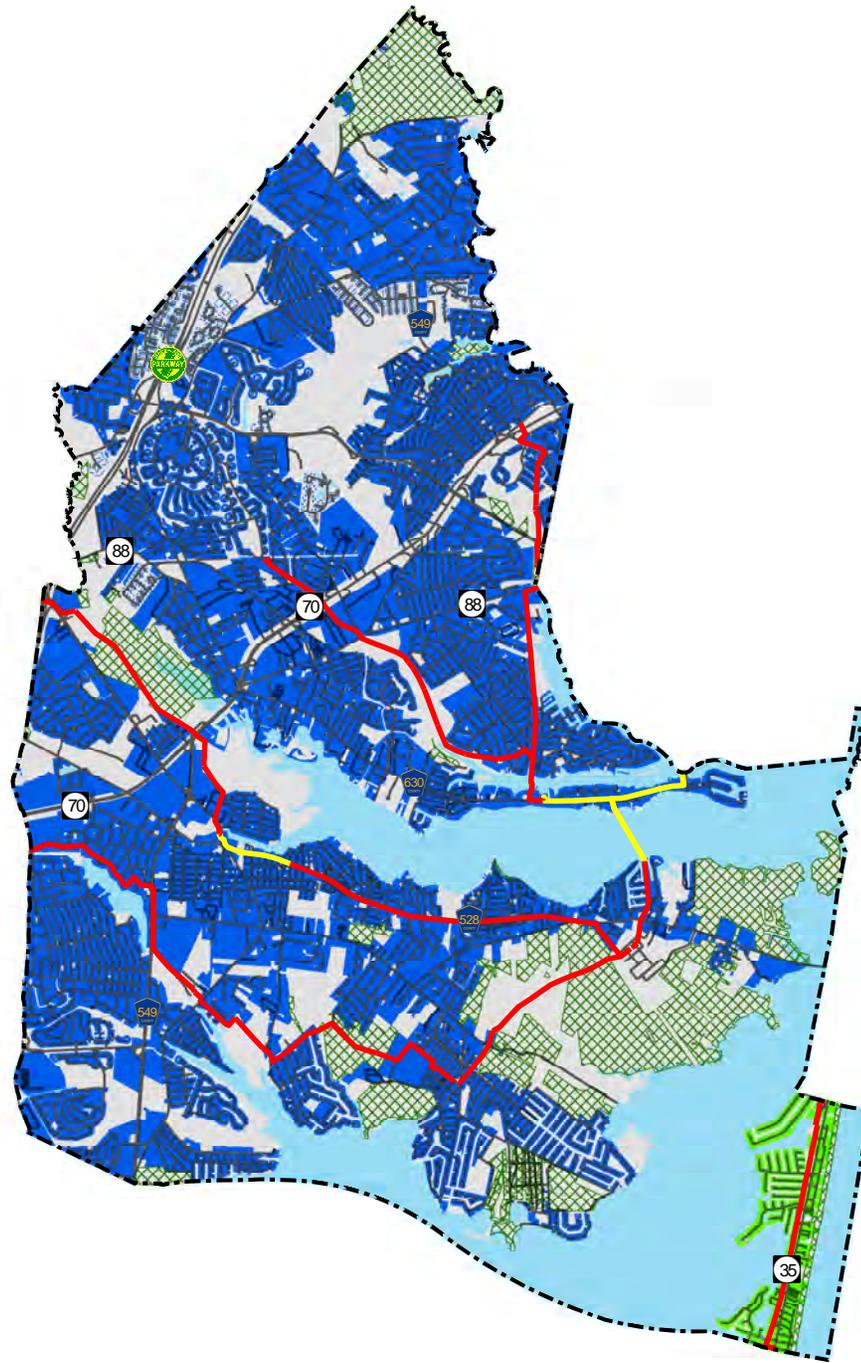
"Proposed developments lying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.7), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

- Interceptor
 - ForceMain
 - Roads
 - Public Open Space & Recreation Areas
 - Surface Water
- Sewered Areas**
- OCUA Northern DSW (NJ0028142)
 - OCUA Central DSW (NJ0029408)



BRICK TOWNSHIP
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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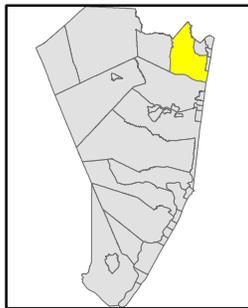
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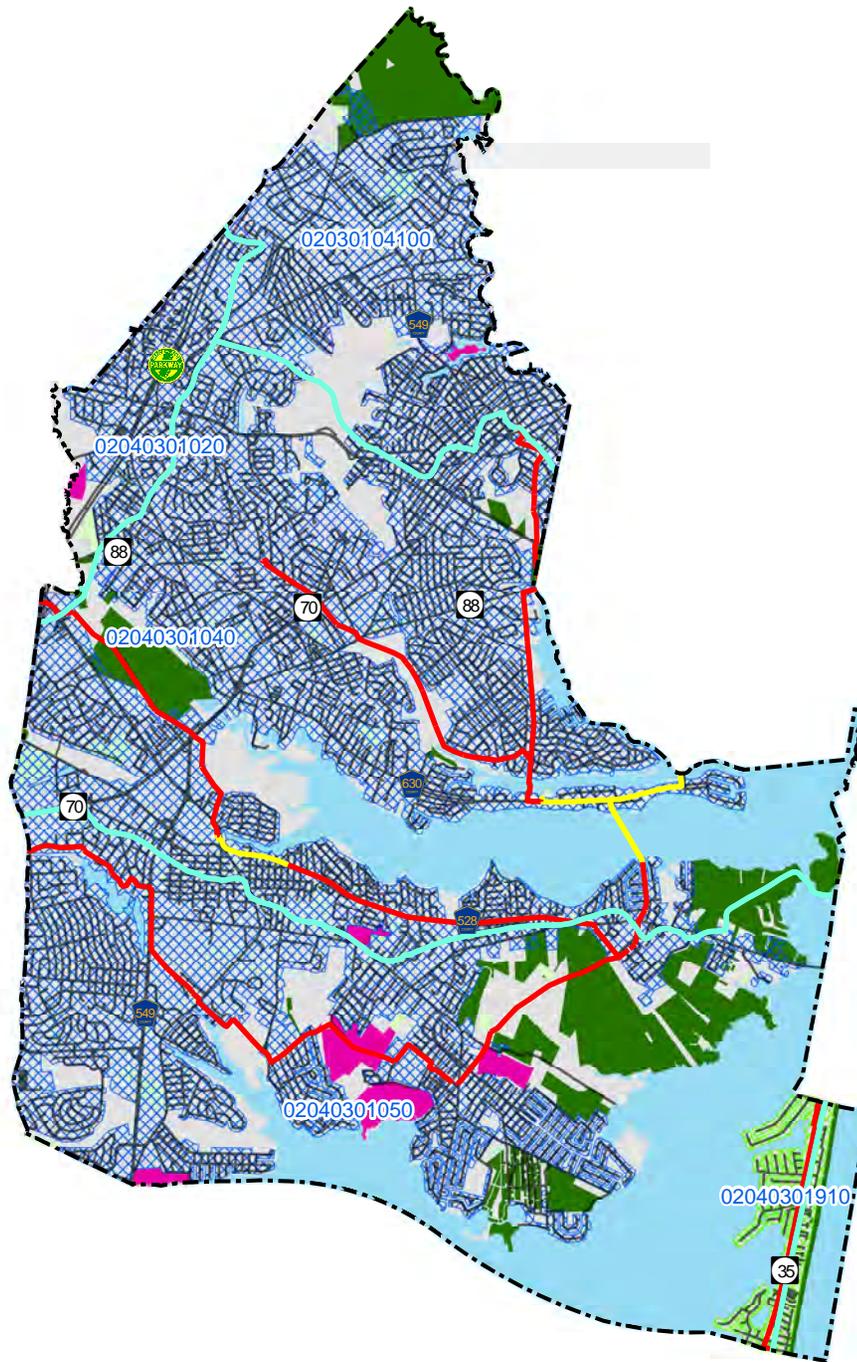
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

- HUC 11
- Interceptor
- ForceMain
- Roads
- OCUA Northern DSW (NJ0028142)
- OCUA Central DSW (NJ0029408)
- Non Discharge Areas
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water



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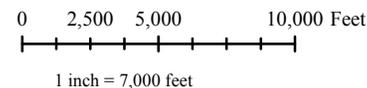
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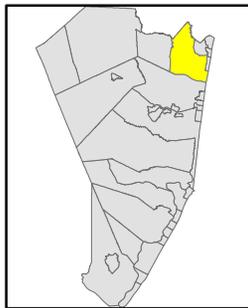
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



BRICK TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA



Legend

- B-1 (Neighborhood Business)
- B-2 (General Business)
- B-3 (Highway Development)
- B-4 (Regional Commercial)
- H-S (Hospital Support)
- M-1 (Light Industrial)
- O-P (Office Professional)
- O-P-T (Office Professional Transitional)
- R-10 (Single Family Residential)
- R-15 (Single Family Residential)
- R-20 (Single Family Residential)
- R-5 (Single Family Residential)
- R-7.5 (Single Family Residential)
- R-M (Multi Family Residential)
- R-ML5 (Residential Mixed Single Family)
- R-R-1 (Rural Residential)
- R-R-2 (Rural Residential-Adult Community)
- R-R-3 (Rural Residential-Adult Community Multi Family)

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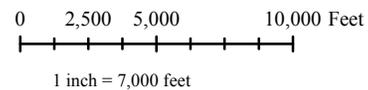
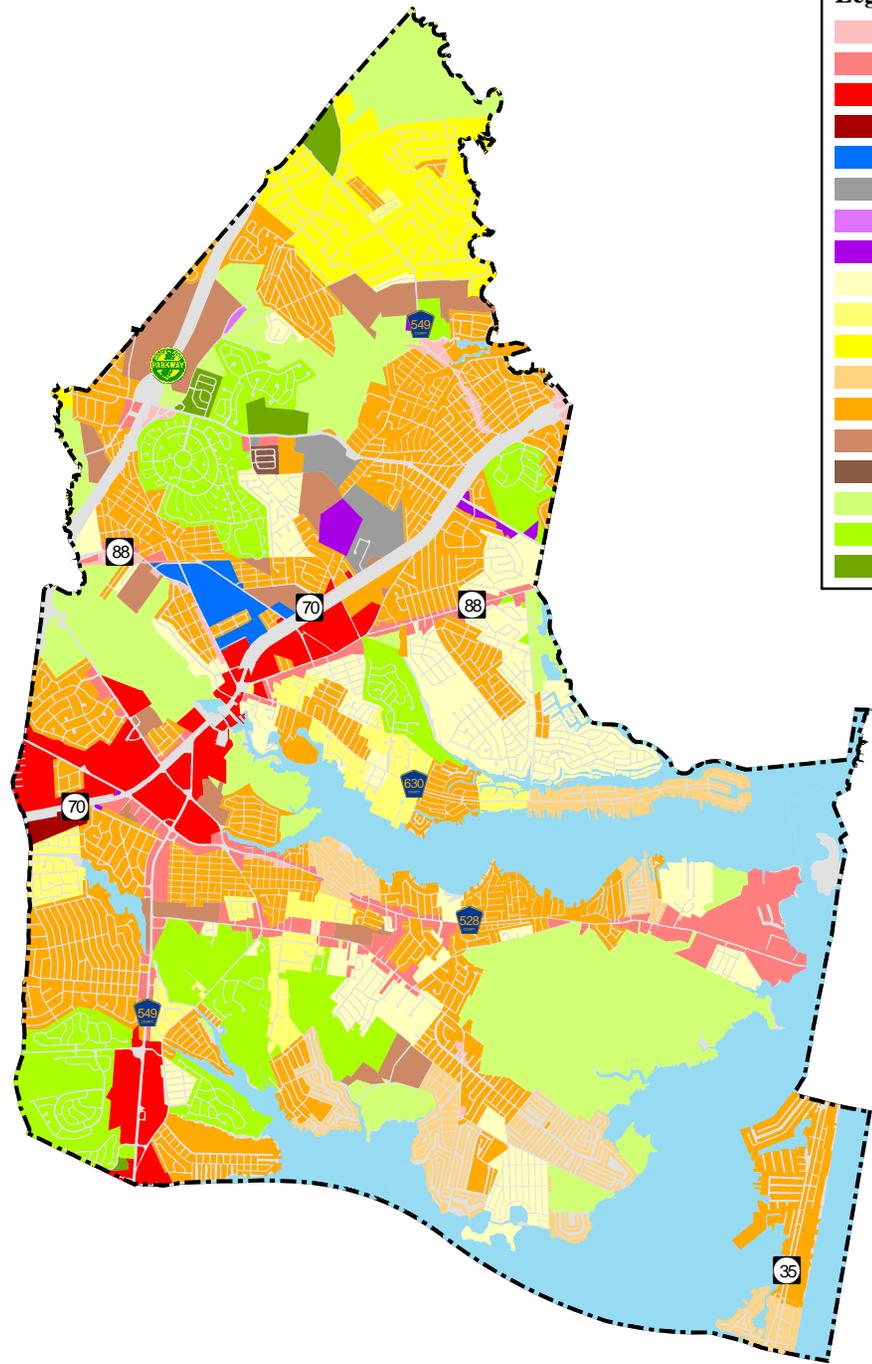
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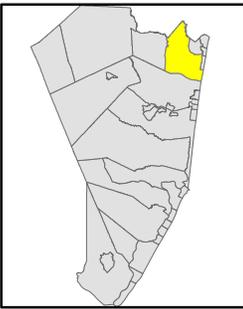
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BRICK TOWNSHIP
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING



Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Northern Planning Area
-  OCUA Central Planning Area

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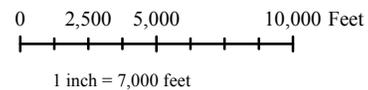
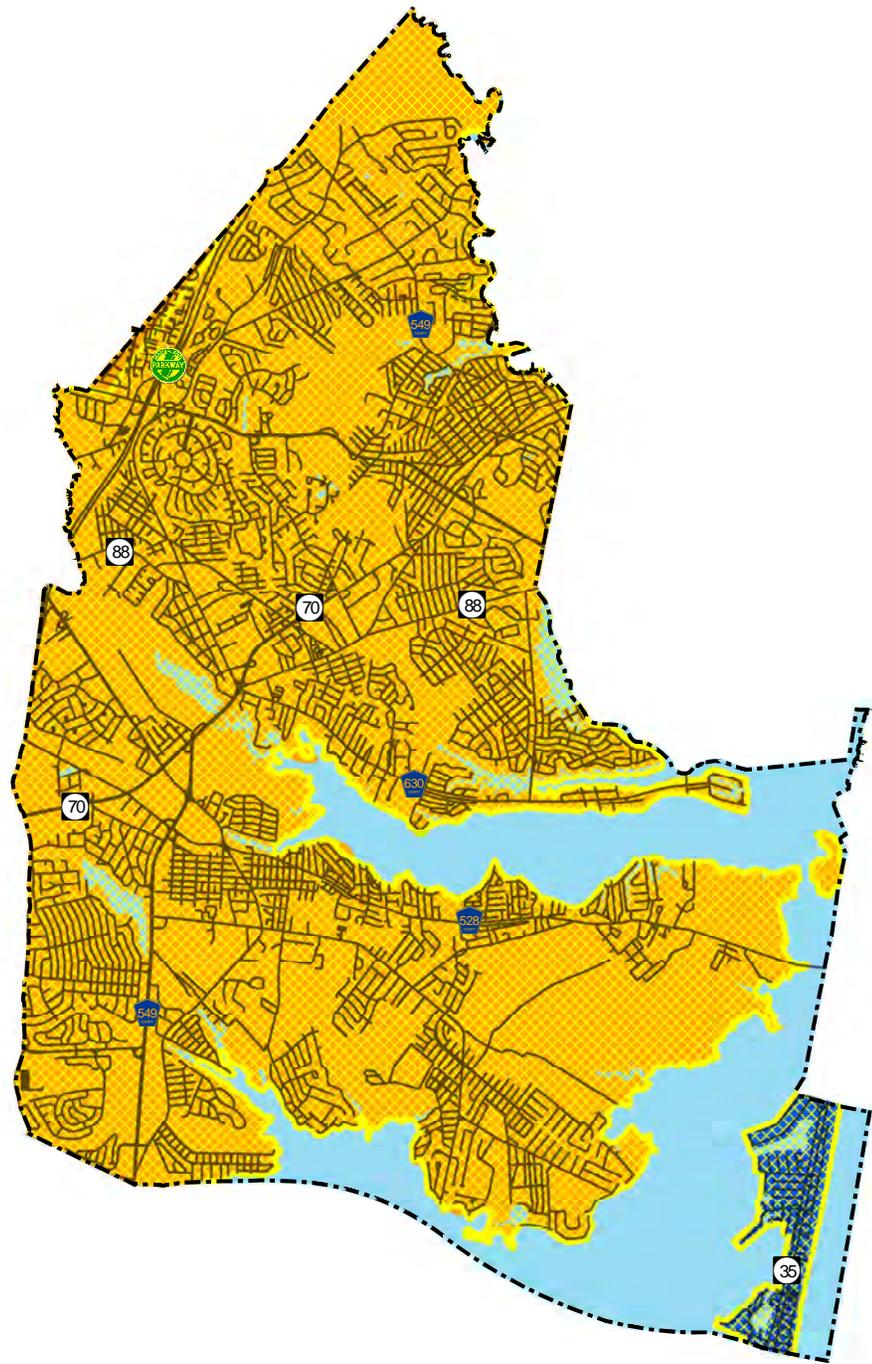
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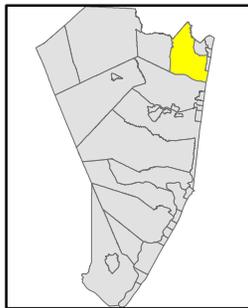


Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

BRICK TOWNSHIP
 OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA



Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1506001	BRICK TOWNSHIP MUA
1507007	NJ AMERICAN WATER COMPANY - ORTLEY BEACH SYSTEM

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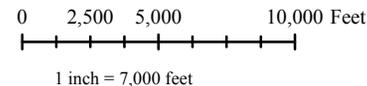
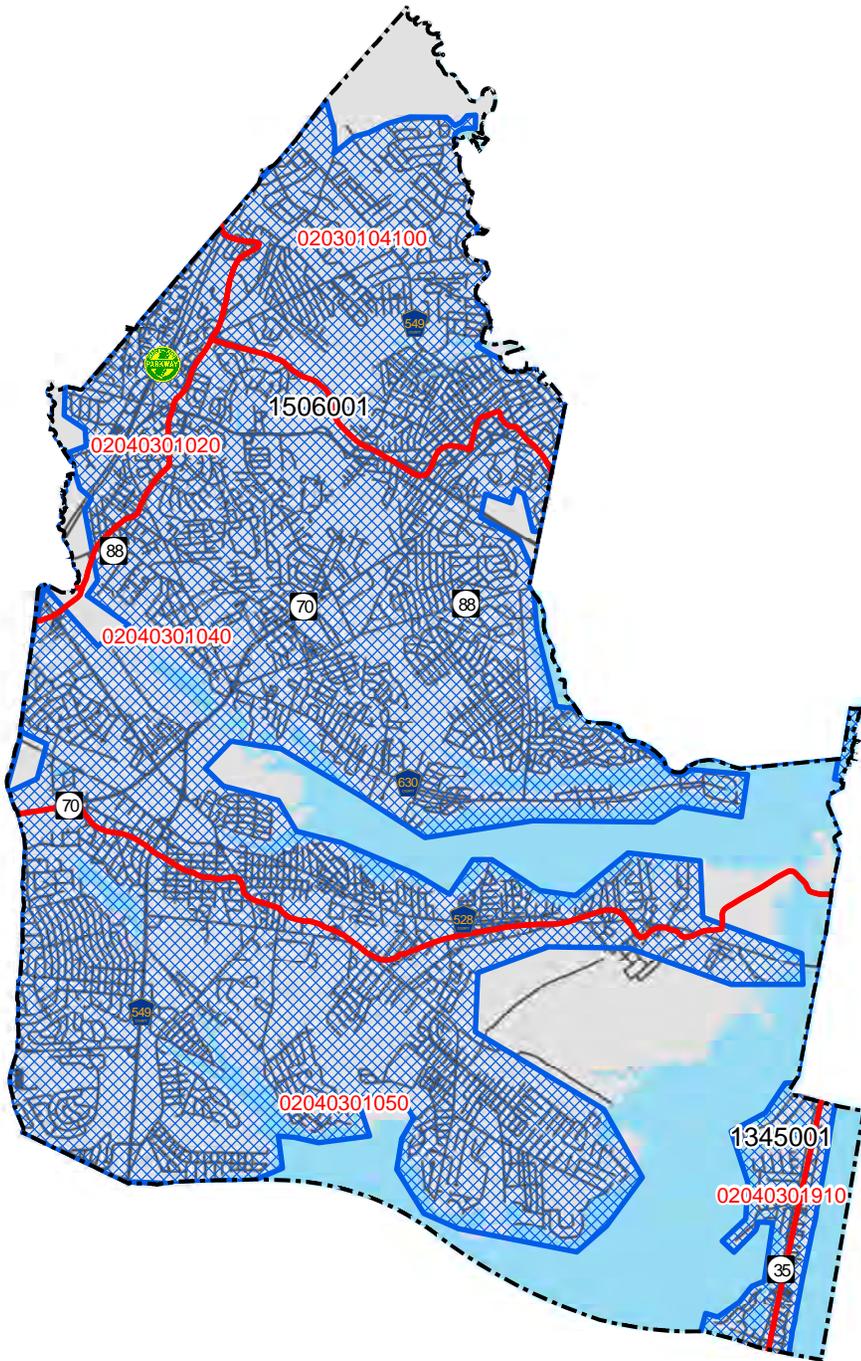
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"Proposed developments lying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.7), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

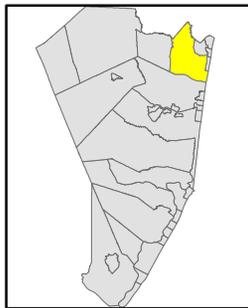


Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

BRICK TOWNSHIP
OCEAN COUNTY, NJ

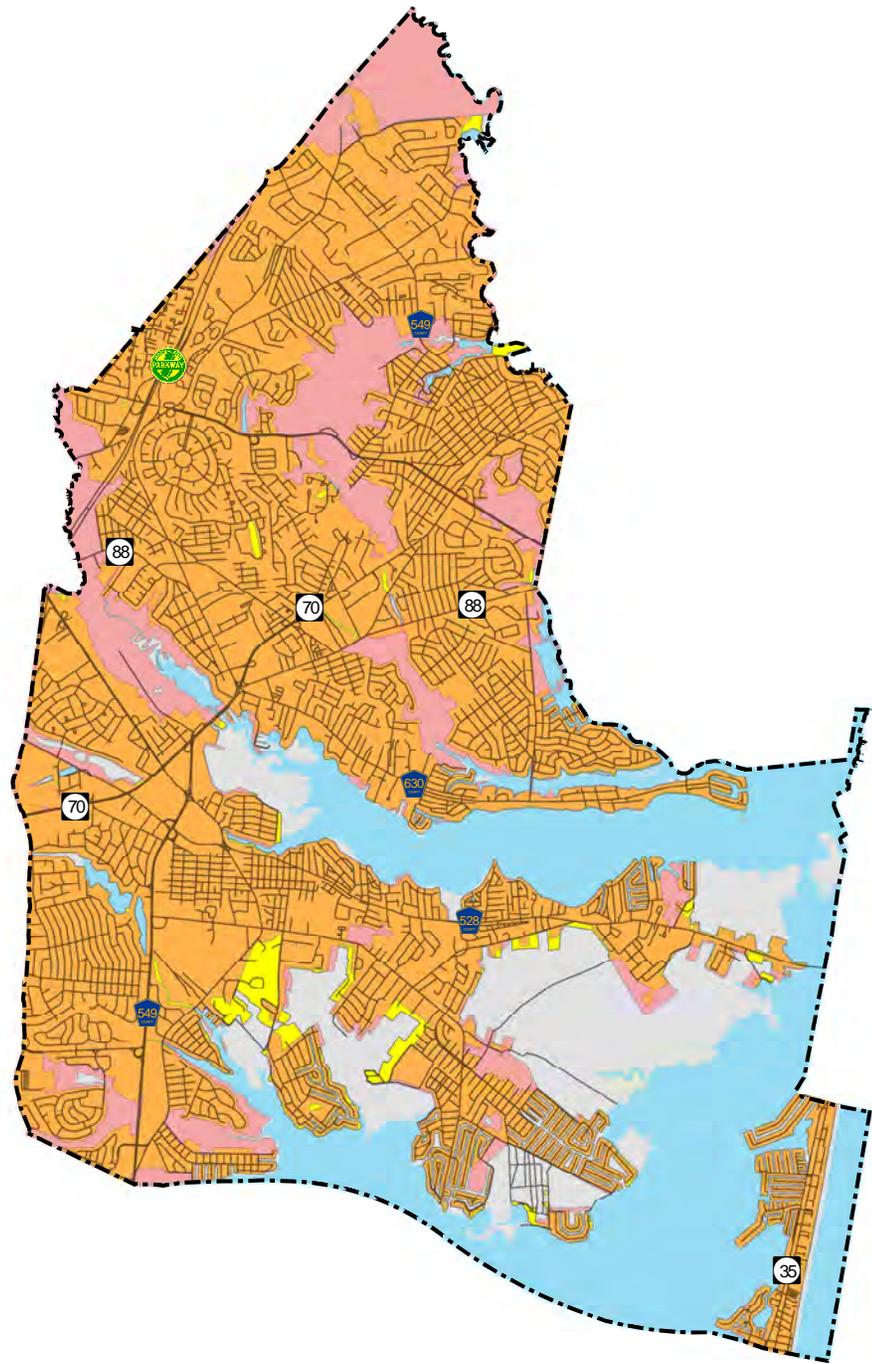
MAP 6

WATER SUPPLY



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

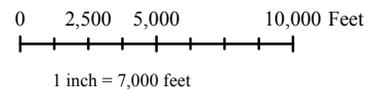
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated by the adoption of Township of Brick municipal code Chapter 352, Article 1."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

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BRICK TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

8. EAGLESWOOD TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Eagleswood is located in the southern portion of Ocean County, and was incorporated in 1874. Eagleswood fronts on Barnegat Bay to its east, and borders Stafford Township to the north and Little Egg Harbor Township to the south. 20.31% of the Township's 16.50 square miles of land area lies west of the Garden State Parkway, and within the Pinelands Comprehensive Management Plan Area. The remainder of the Township is located within the CAFRA region.

In 2010, the U.S. Census found that Eagleswood had a total population of 1,603 people. 760 housing units were counted by the Census that year, of which 139 were vacant. 94 of these vacant units were seasonal vacancies. NJTPA projects Eagleswood's population to more than double by the year 2035, to an estimated 3,217 residents. These projections appear very optimistic, considering the significant development constraints facing this rural municipality. Regardless, this amount of growth would not stress the Township's wastewater conveyance infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Nearly all land east of Route 9 is covered by emergent wetlands and lies within the Edwin B. Forsythe National Wildlife Refuge. Wetlands also stretch inland along the Westecunk Creek. West of Route 9, Eagleswood is mostly covered by forests, and much of the land west of the Garden State Parkway is within a National Heritage Priority Site. No preserved agriculture is present in Eagleswood.

Table 1 provides a breakdown of the Township's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	5,770.74	47.60%
Public Open Space/Recreational Areas	6,343.25	52.32%
Habitat T&E	9,053.05	74.67%
Natural Heritage Priority Sites	1,963.67	16.20%
Riparian Zones	1,931.70	15.93%
Preserved Agriculture	0.00	0.00%
Surface Water	1,725.17	14.23%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 103	12/28/2011
Master Plan		2008
Stormwater [County - MSWMP]	Chapter 103	12/18/2006 [6/7/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 105	9/22/1987
Source: Municipal Clerk		



III. Existing Infrastructure and Areas Served By Wastewater Facilities

Much of the existing development in Eagleswood along Route 9 and Dock Road is connected to the existing sewer system. In these areas, wastewater is collected through the Township’s lateral lines. The municipal system connects to the OCUA line that enters Eagleswood from the municipal boundary with Little Egg Harbor Township to the south. This interceptor runs north along Railroad Avenue, converts to a force main near Mill Street, and passes through the Eagleswood-Railroad Avenue Pump Station before turning east onto Cox’s Avenue. Here, the line converts back to an interceptor and turns north, following the course of Route 9 until crossing into Stafford Township. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 900.95 acres of developable land, of which 577.18 acres are zoned as residential and 101.60 acres are zoned as commercial. Another 222.17 acres are zoned for other uses. There is no developable land zoned for industrial uses.

No significant changes to the Township’s sewer service area have been adopted. The developed areas along Route 9 have seen only minor alterations in the extent of sewer service.

All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Eagleswood’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Much of the developed and developable land in the Township is included in the designated sewer service area. Most of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or both. Smaller scale large lot developments are usually served by septic systems. Because Eagleswood is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

There are no existing public water purveyors in Eagleswood.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There is one development located in the Township that is served by an NJPDES permitted facility with discharge to ground water greater than 2,000 GPD. The Facility Table for this system is provided in Table 3:



Table 3: NJPDES - Sea Pirate Campground		
1. Existing or Proposed facility:	Existing	
2. NJPDES Permit Number:	NJG0085448	
3. Discharge Type:	Discharge to groundwater	
4. Receiving Water or Aquifer:	Kirkwood Formation	
5. Classification of Receiving Water:	N/A	
6. Owner of Facility:	Patrick Benn	
7. Operator of Facility:	Patrick Benn	
8. Co-Permittee of Facility:	N/A	
9. Location of Facility:		
a. Municipality & County:	Eagleswood Township, Ocean County	
b. Street Address:	148 Main Street	
c. Block(s) and Lot(s):	Block 1, Lot 117.02	
10. Location of discharge:		
a. Longitude:	74 deg. 18 min. 36.74 sec. west	
b. Latitude:	39 deg. 37 min. 50.01 sec. north	
11. Present Permitted Flow:	0.023 MGD	
12. Summary of Population Served:	Present (2010) Population Served	Build Out (2035) Population Served
Total	Approximately 400*	Approximately 400
13. Summary of Wastewater Flows:	Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Eagleswood Township	Residential	0.023 MGD**
	Commercial	
	Industrial	
	Inflow/Infiltration	
Total	0.023 MGD	0.023 MGD
*There are 276 sites, which vary in occupancy, as per Patrick Benn.		
**Estimate assumes full occupancy of sites (85% have septic hook ups), at 100 gallons per site per day.		

V. Future Wastewater and Water Demand

Municipal Zoning

Table 4: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C-1	Marine Commercial	202.62	6.54
C-2	Highway Commercial	142.10	36.27
C-2/V	Highway Commercial/Village	177.61	44.31
C-3	Neighborhood Commercial	26.15	1.09
FA	Forest Area	1256.04	219.87
LB	Limited Business	159.34	13.39
PA	Preservation Area	953.41	2.30
R-1	Residential	533.54	101.34
R-3	Residential	149.61	16.41
RA-3	Residential	98.77	47.32
RA-5	Residential	1556.65	382.62
RC	Residential Conservation	4820.79	29.49

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no



further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 5: Wastewater Flow Directed to OCUA Facilities	
SWPCF	
Source	(MGD)
Existing Flow	0.032
Projected Residential	0.001
Projected Commercial	0.004
Total Future Planning Flow	0.037

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Eagleswood Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 6 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 6: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Southern	6.17	1.90	1.90	186,073.47

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Eagleswood Township’s municipal ordinance applicable to septic connection was adopted in 1987 (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area



parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 7: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301130	864.24	345.96	119.36	384.03	983.60	729.99
02040301140	0.00	0.00	0.00	0.00	0.00	0.00
Totals	864.24	345.96	119.36	384.03	983.60	729.99

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 8: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301130	5.0	3,470.67	694.13	729.99
02040301140	5.6	0.00	0.00	0.00

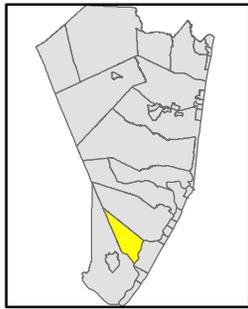
The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Eagleswood's portion of HUC11 02040301130. However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in 02040301130; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11, inclusive of Eagleswood Township, is less than the HUC11’s total capacity for development while maintaining optimal nitrate dilution. Information on this HUC11’s septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

There are no public water utilities in Eagleswood Township. The use of private wells will continue to meet the local demands for potable water supply (Source: NJDEP Division of Water Supply & Geoscience).

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

-  Natural Heritage Priority Sites
-  Roads
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courts may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

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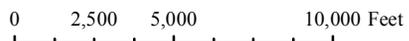
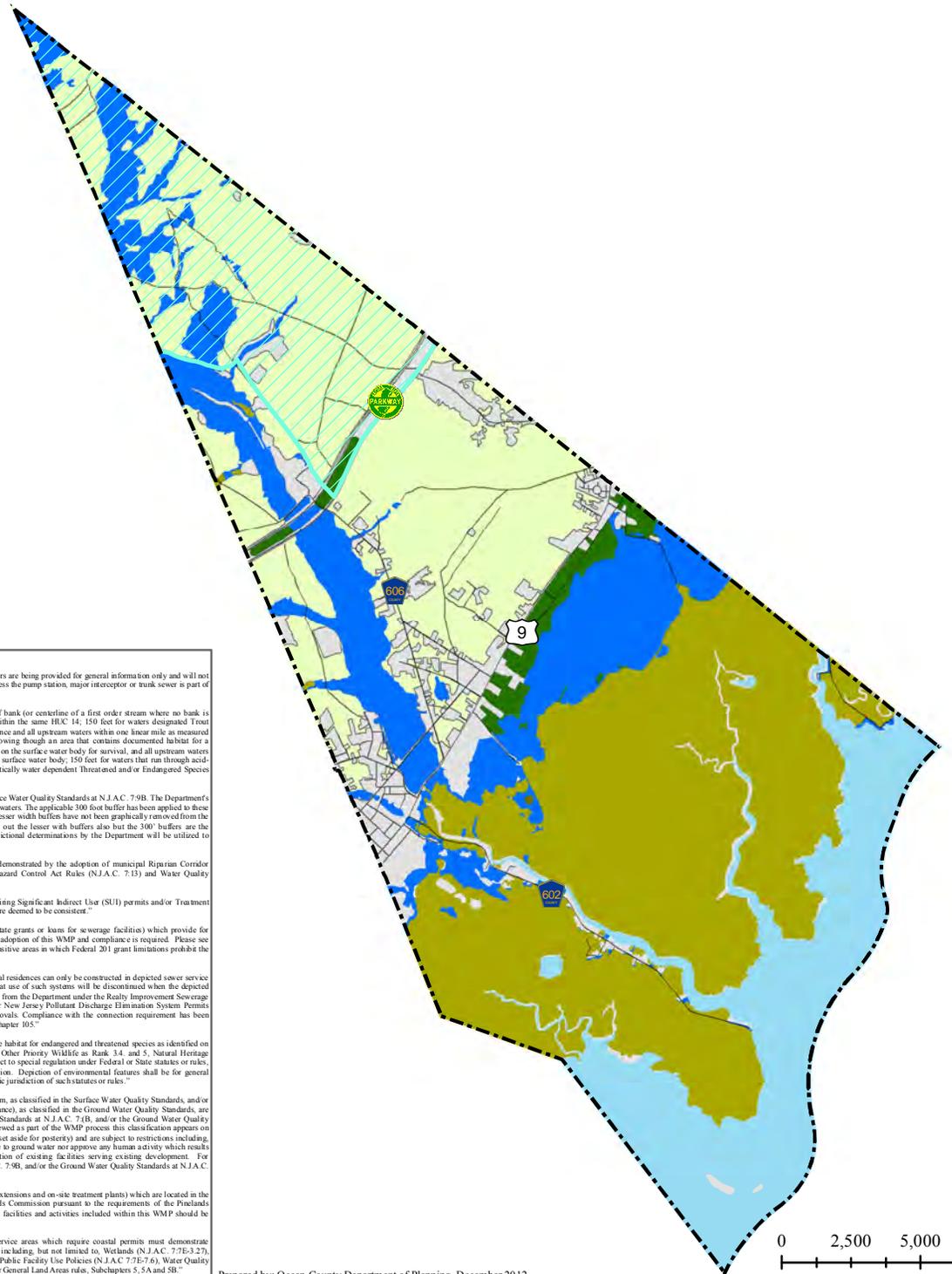
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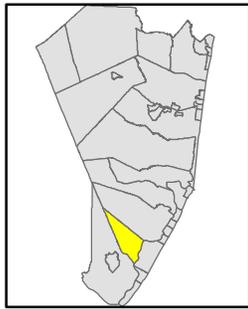
1 inch = 6,000 feet

EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

-  Interceptor
 -  ForceMain
 -  Roads
 -  DGW/Sanitary Subsurface Disposal
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Southern DSW (NJ0026018)

SEA PIRATE CAMPGROUND NJG0085448

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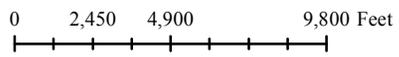
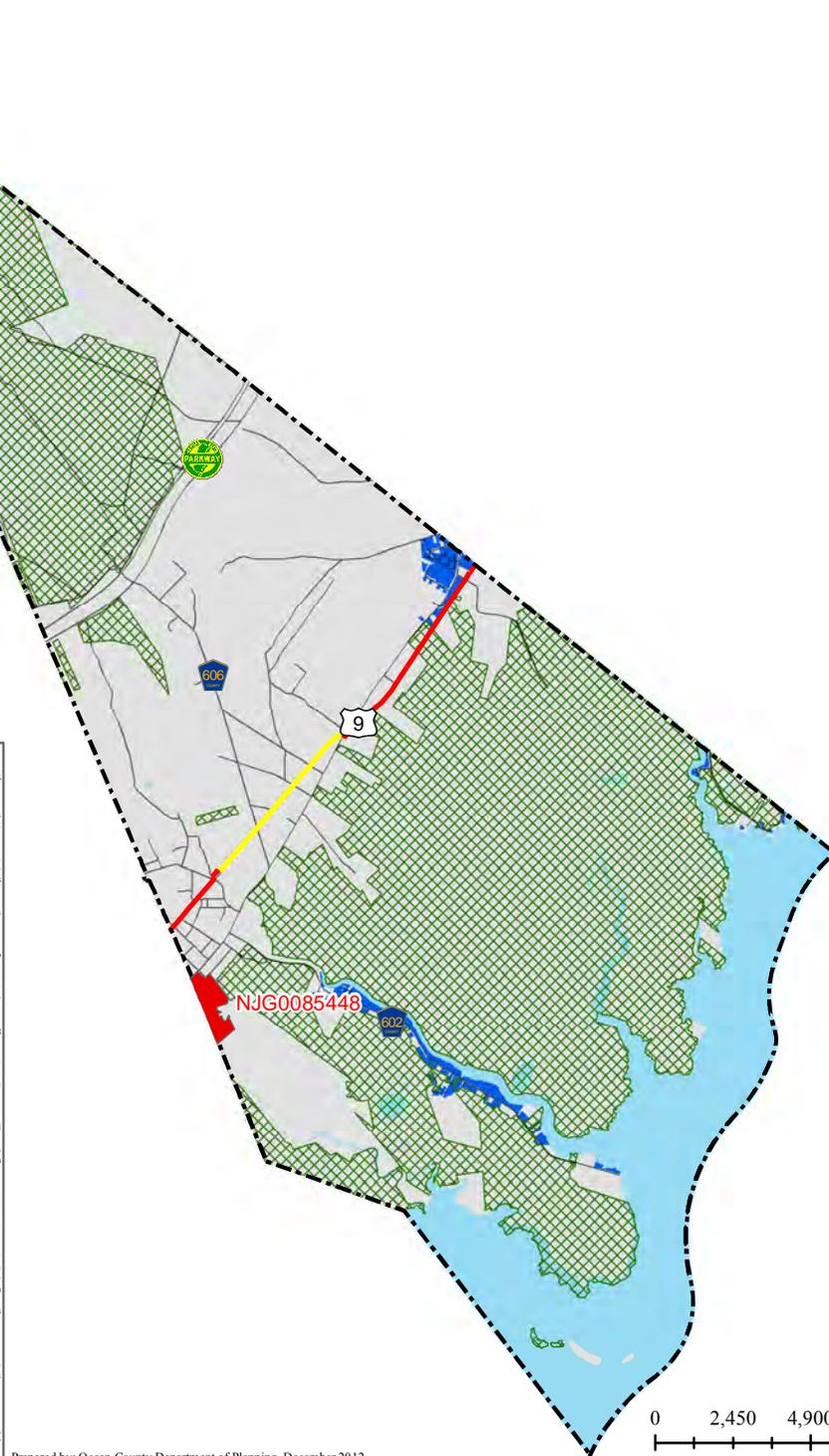
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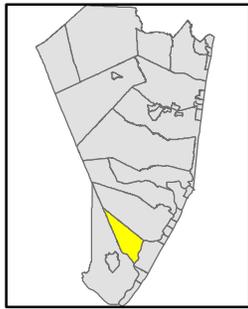
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EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ
MAP 2
EXISTING SEWERED AREA



Legend

-  HUC 11
-  Interceptor
-  ForceMain
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

SEA PIRATE CAMPGROUND NJG0085448

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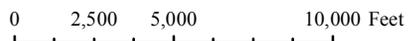
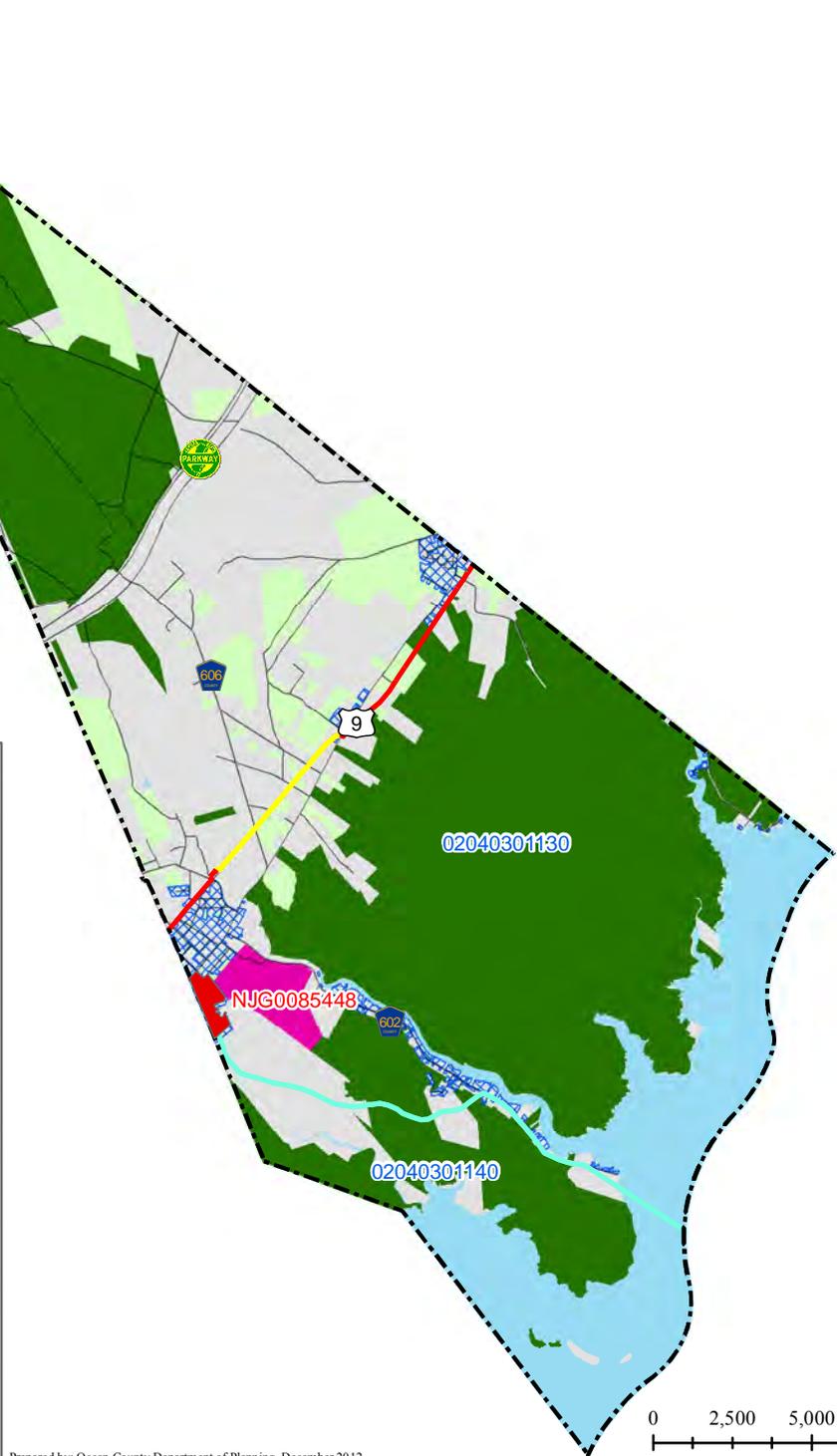
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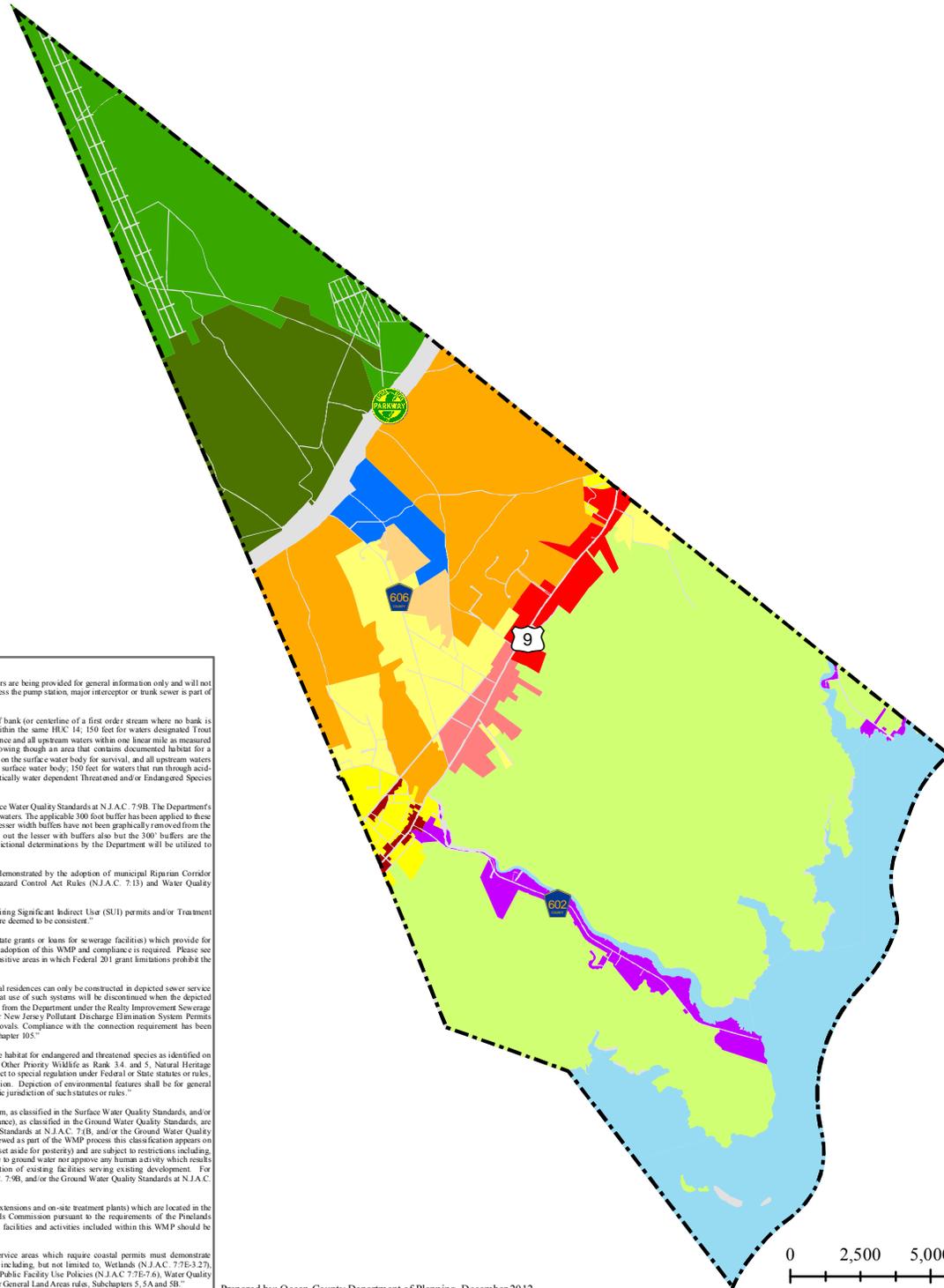
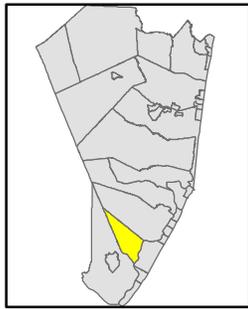
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EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

- C-1 (Marine Commercial)
- C-2 (Highway Commercial)
- C-2V (Highway Commercial/Village)
- C-3 (Neighborhood Commercial)
- FA (Forest Area)
- LB (Limited Business)
- PA (Preservation Area)
- R-1 (Residential)
- R-3 (Residential)
- RA-3 (Residential)
- RA-5 (Residential)
- RC (Residential Conservation)

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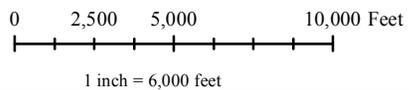
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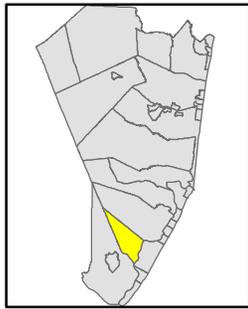
Prepared by: Ocean County Department of Planning, December 2012
 Sources: Township of Eagleswood; Ocean County Tax Board



EAGLESWOOD TOWNSHIP
 OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING



Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Southern Planning Area

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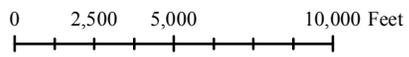
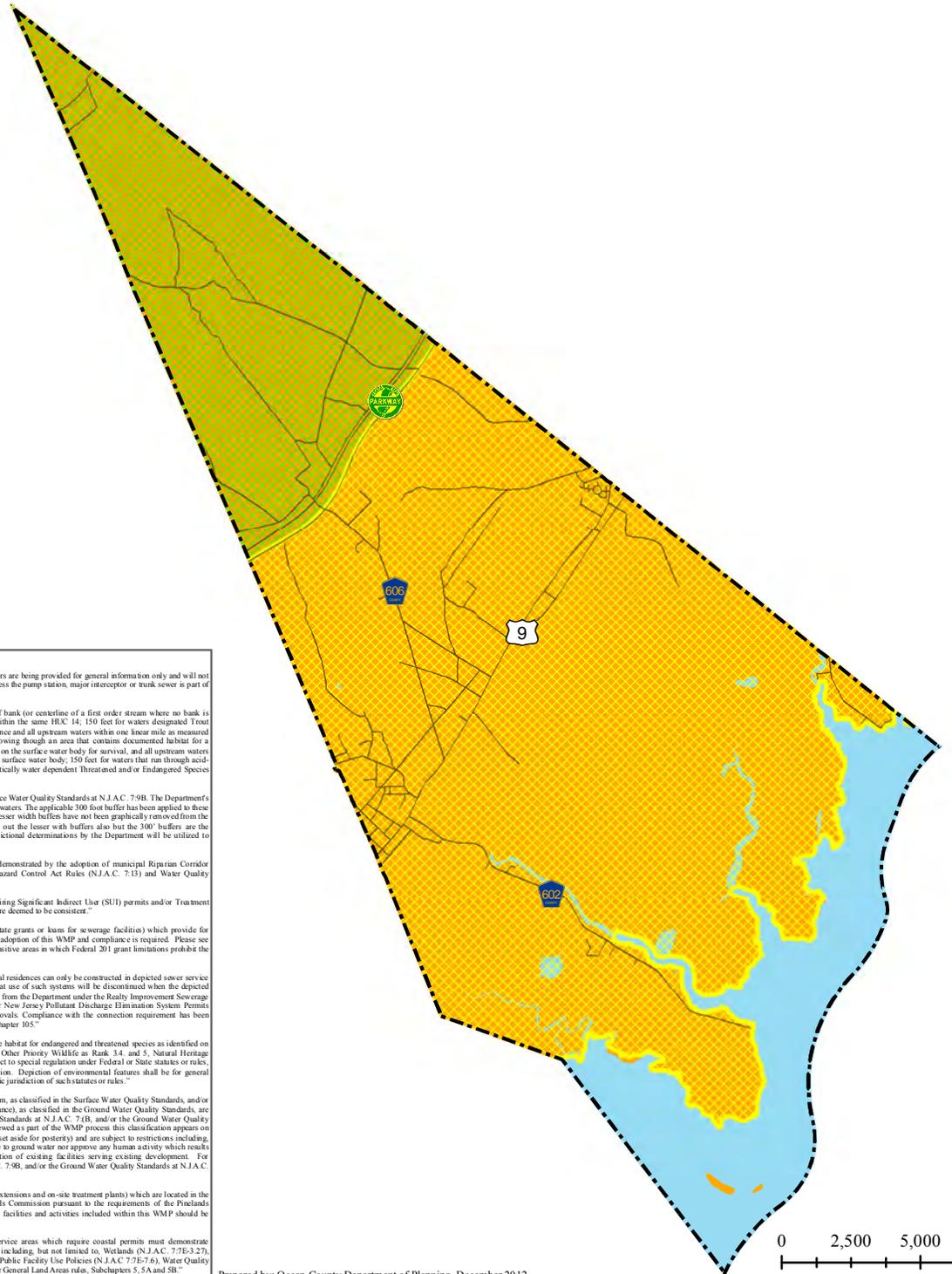
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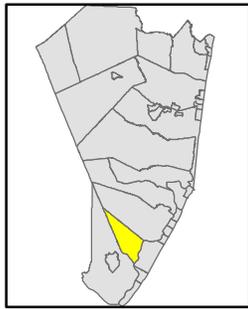
1 inch = 6,000 feet

EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



Legend

- HUC 11
- Roads
- Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courts may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

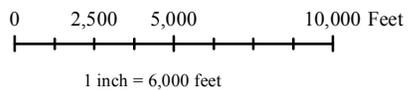
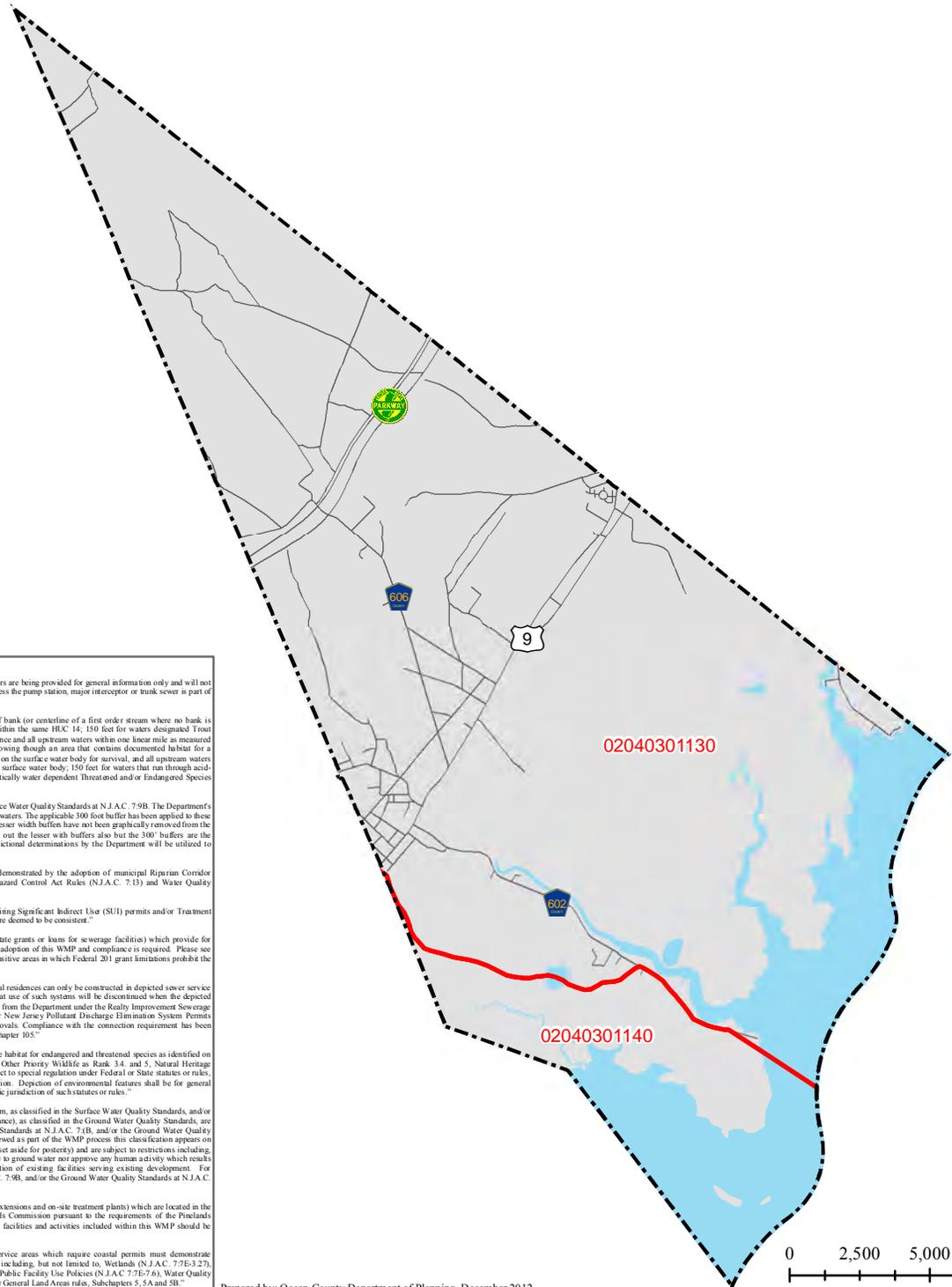
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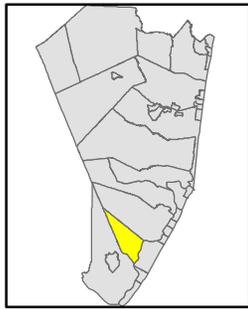


EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap

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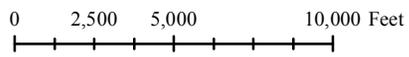
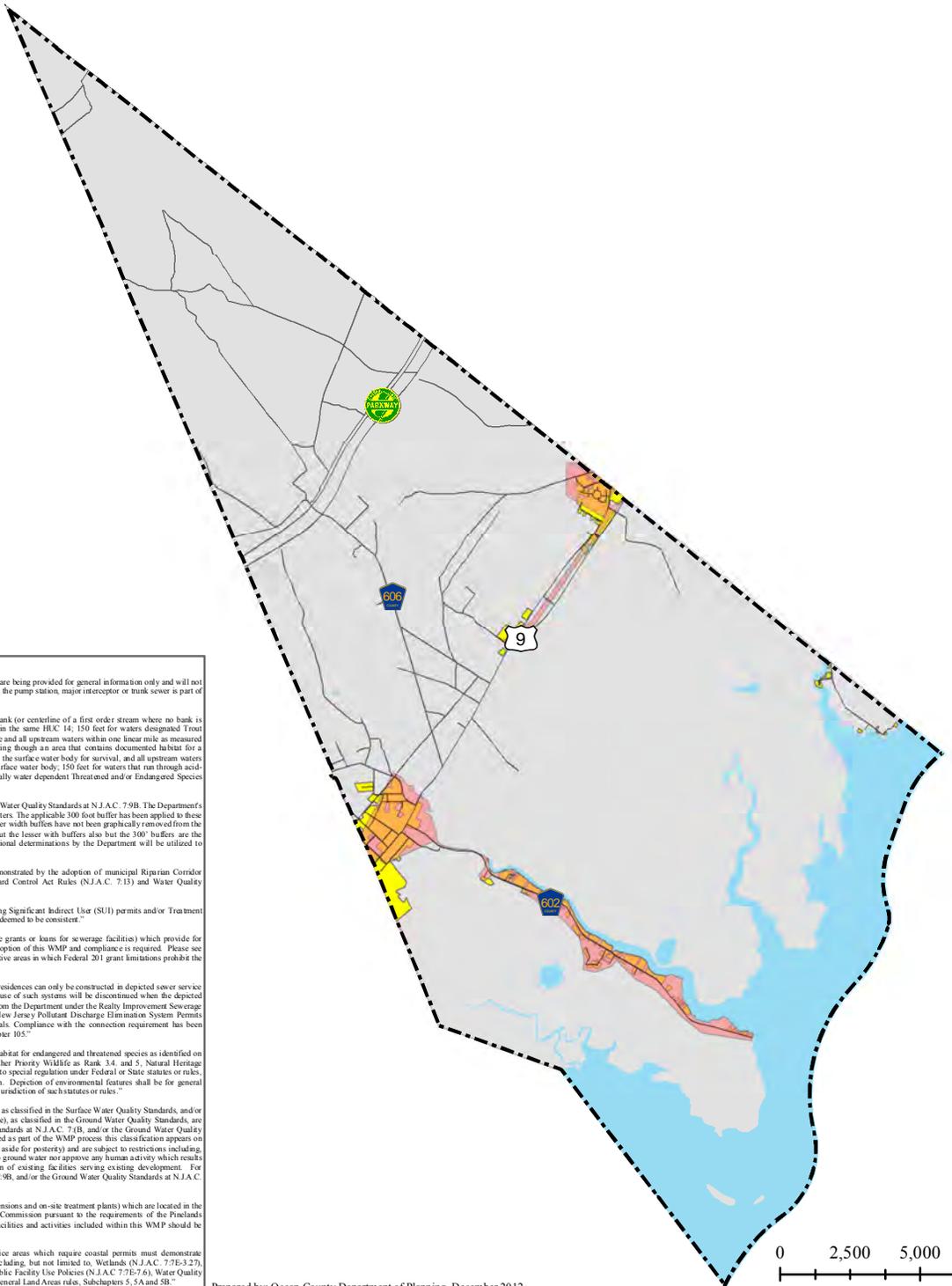
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1 inch = 6,000 feet

EAGLESWOOD TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

9. HARVEY CEDARS BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Harvey Cedars, incorporated in 1894, is located in the southeastern portion of Ocean County, on Long Beach Island. The Borough fronts on the Barnegat Bay to the west and the Atlantic Ocean to the east. On land, it is bordered by sections of Long Beach Township to the north (Loveladies) and to the south (North Beach). Covering 0.55 square miles of land, Harvey Cedars is the fourth smallest municipality in the County. The entire Borough is within the CAFRA zone.

According to the 2010 U.S. Census, Harvey Cedars had a total population of 337 people, the second smallest in the County (ahead of only Mantoloking). Also counted in 2010 were a total of 1,214 housing units. 1,045 of these housing units were found to be vacant, of which 1,008 were seasonal vacancies. NJTPA currently projects Harvey Cedars' population to grow to 382 by the year 2035. Neither the seasonal fluctuations nor the forecasted population growth are likely to stress the Borough's wastewater infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Fronting on the Atlantic Ocean, the eastern edge of Harvey Cedars is lined with beaches. Wetlands are present in the vicinity of these beaches, and in the central and southern portions of the Borough. There are no Natural Heritage Priority Sites or preserved farms in the Borough.

Table 1 provides a breakdown of the Borough's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	53.41	6.30%
Public Open Space/Recreational Areas	44.62	5.26%
Habitat T&E	41.89	4.94%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	8.78	1.04%
Preserved Agriculture	0.00	0.00%
Surface Water	506.07	59.70%

Ordinance	Code	Date Adopted
Zoning	Chapter 13	9/20/2011
Master Plan		4/14/2008
Stormwater [County - MSWMP]	Chapter 9	2/3/2006 [2/1/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 7-6.6	5/1981

Source: <http://harveycedars.org/ordinances.aspx>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Harvey Cedars is connected to the existing sewer system. Wastewater is collected through the Borough's lateral lines, which connect to a single OCUA line flowing from north to south through the municipality. This line enters the Borough from Long Beach Township to the north as an



interceptor. It then proceeds south along Long Beach Boulevard to Salem Avenue, at which point it converts to a force main. The main continues along Long Beach Boulevard to the Borough’s other municipal boundary with Long Beach Township to the south. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 3.39 acres of developable land, of which 2.60 acres are zoned as residential and 0.78 acres are zoned as commercial. There is no developable land zoned for industrial uses in Harvey Cedars. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Harvey Cedars’ sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Harvey Cedars. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Harvey Cedars’ drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via two wells. The system is operated by the Harvey Cedars Borough Water Department, and is capable of pumping 0.648 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
GB	General Business	2.00	0.16
LC	Limited Commercial	1.83	0.63
MC	Marine Commercial	2.28	0.00
P	Public	27.55	0.00
R-A	Single Family Residential	196.33	2.46
R-AA	Single Family Residential	42.44	0.15

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Harvey Cedars Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Harvey Cedars is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 45 people by 2035. This equates to a 0.003 MGD increase in wastewater flow being directed to OCUA’s SWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Harvey Cedars. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s SWPCF can be found in the County Document of the Ocean County WMP.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.276	0.012	0.288	0.291	0.000	0.291

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of yearly demands. Daily and monthly deficits in water supply have been recorded. While there is adequate infrastructure to supply water to towns running deficits, there is also ongoing coordination with the NJDEP to address deficits through additional conservation measures and or increased water supply allocation where appropriate.

Table 5: Public Water Purveyor Capacity								
Harvey Cedars Borough Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.648	0.908	-0.260	24.000	28.145	-4.145	140.000	133.412	6.588

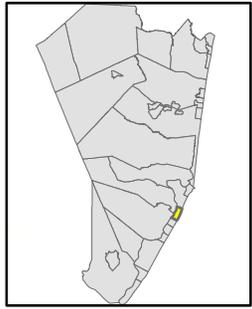
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



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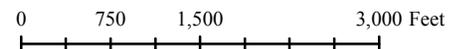
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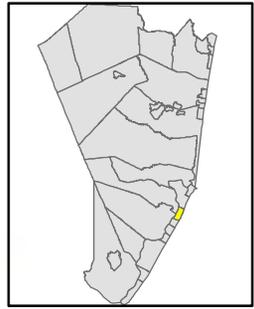
HARVEY CEDARS BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

- Interceptor
- Force Main
- Roads
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Southern DSW (NJ0026018)



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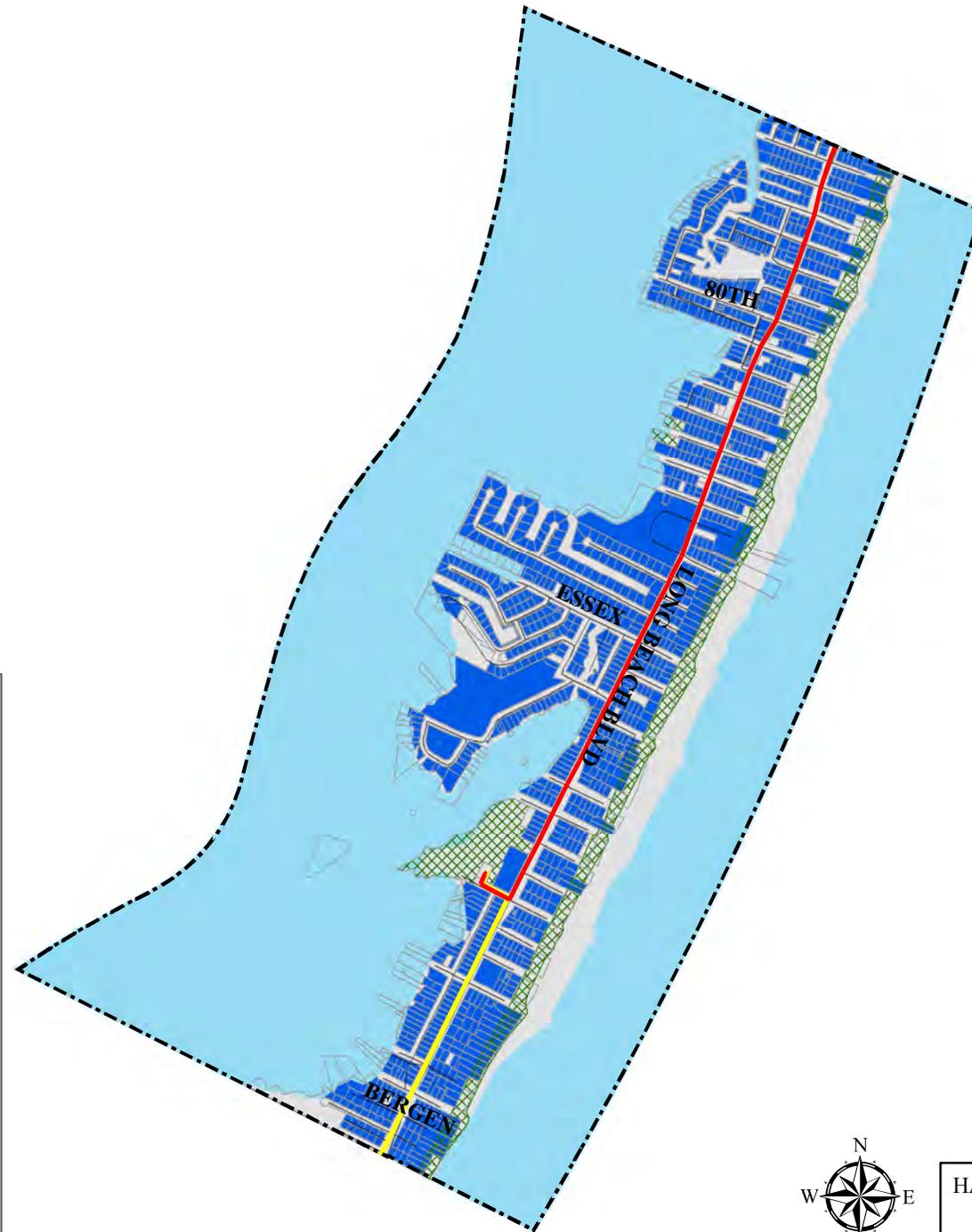
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HARVEY CEDARS BOROUGH
OCEAN COUNTY, NJ

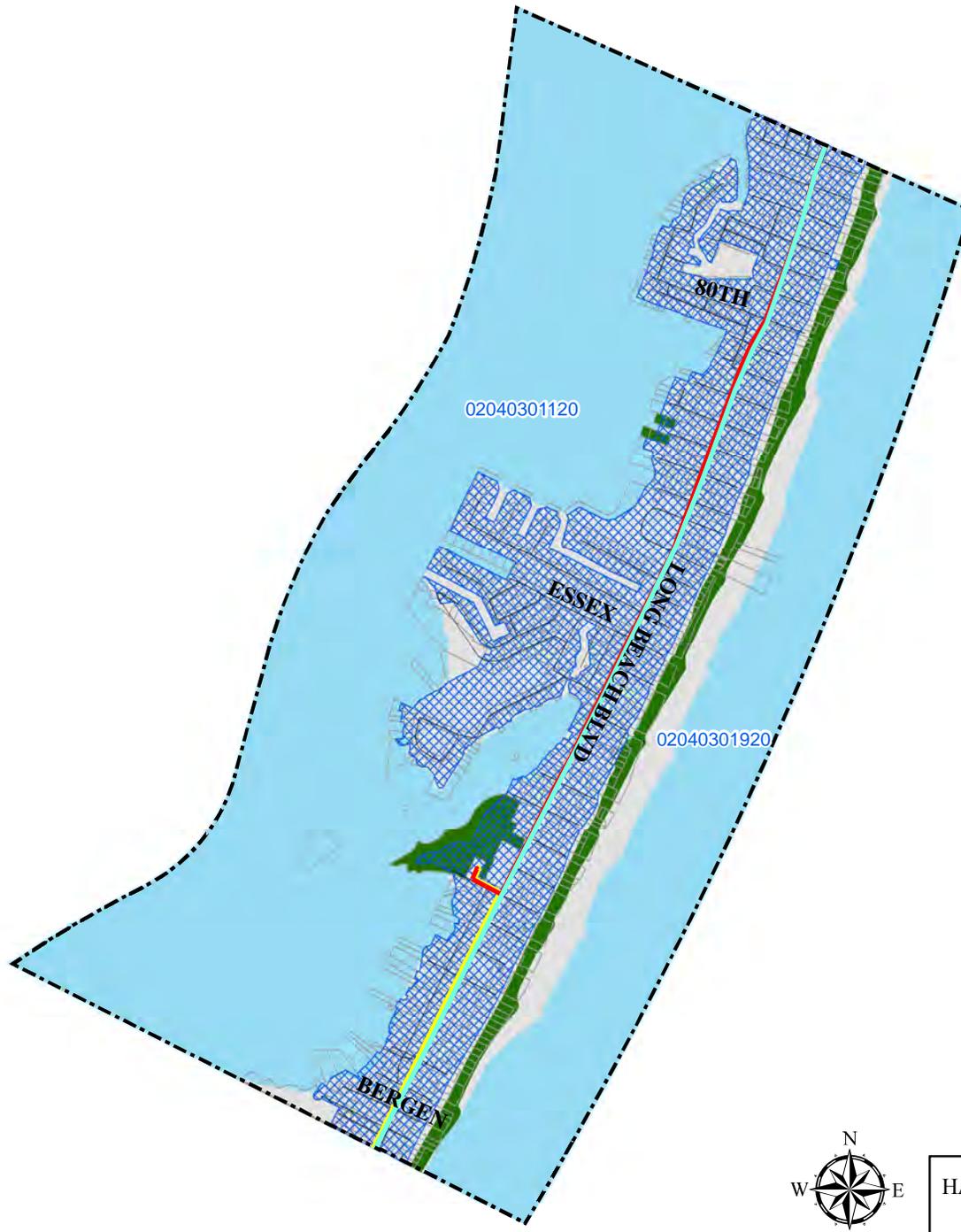
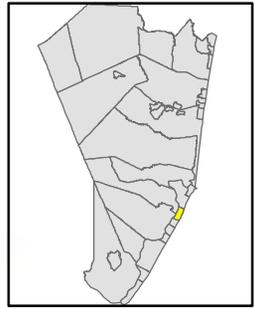
MAP 2

EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, October 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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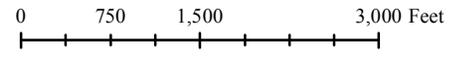
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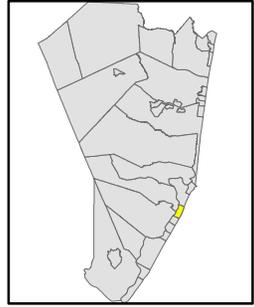


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HARVEY CEDARS BOROUGH
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

Legend

- GB (General Business)
- LC (Limited Commercial)
- MC (Marine Commercial)
- P (Public)
- R-A (Single Family Residential)
- R-AA (Single Family Residential)



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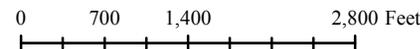
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OCEAN COUNTY, NJ

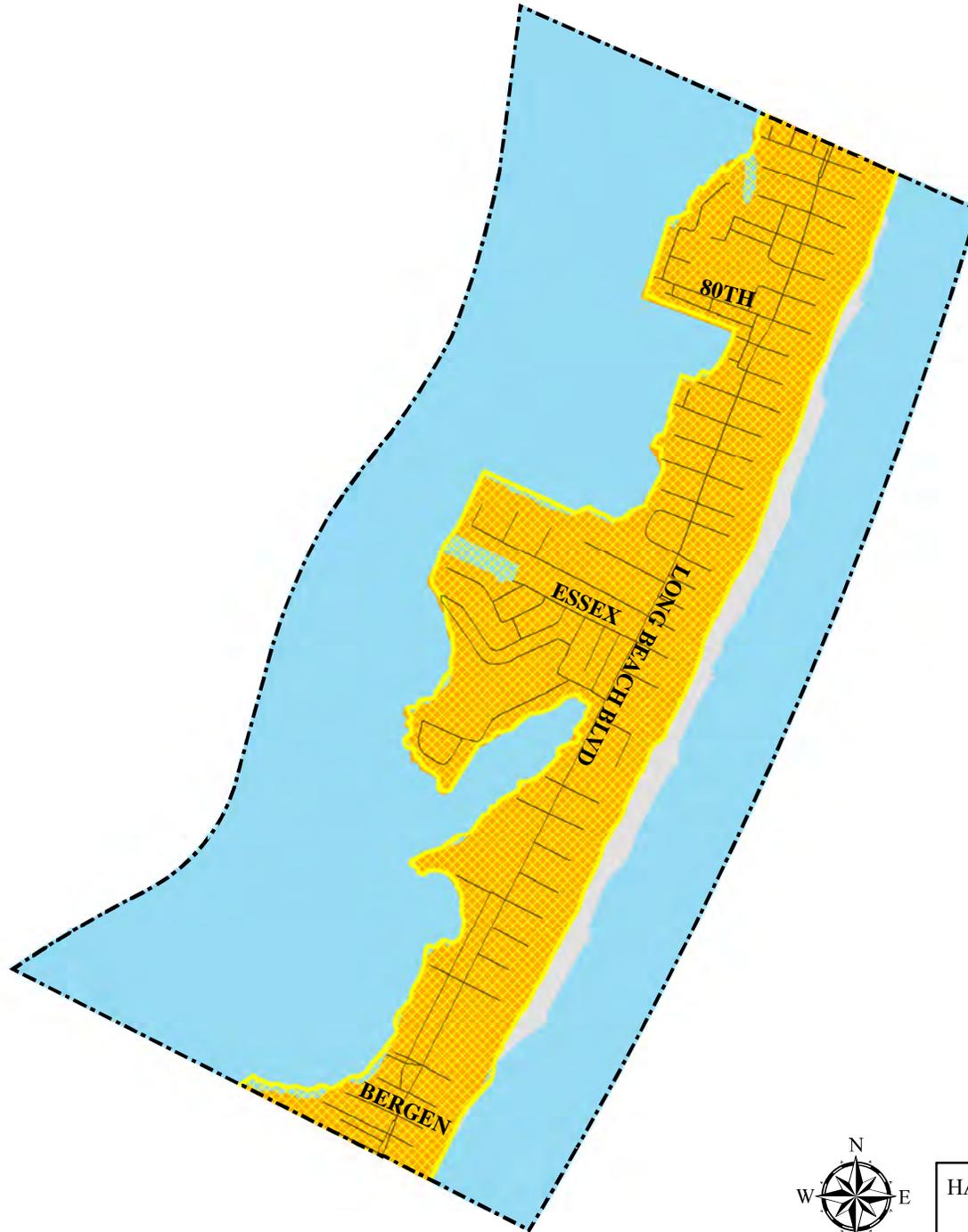
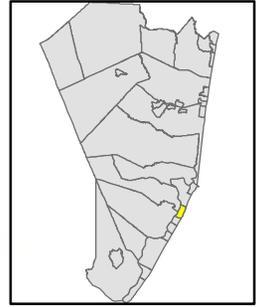
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, October 2012
Sources: Borough of Harvey Cedars, Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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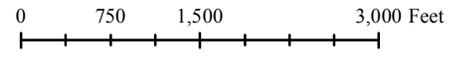
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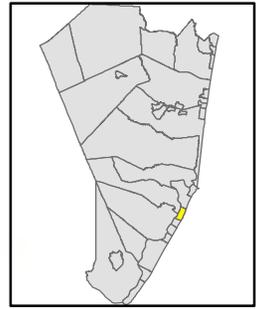
HARVEY CEDARS BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1509001	HARVEY CEDARS WATER DEPARTMENT

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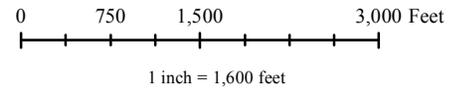
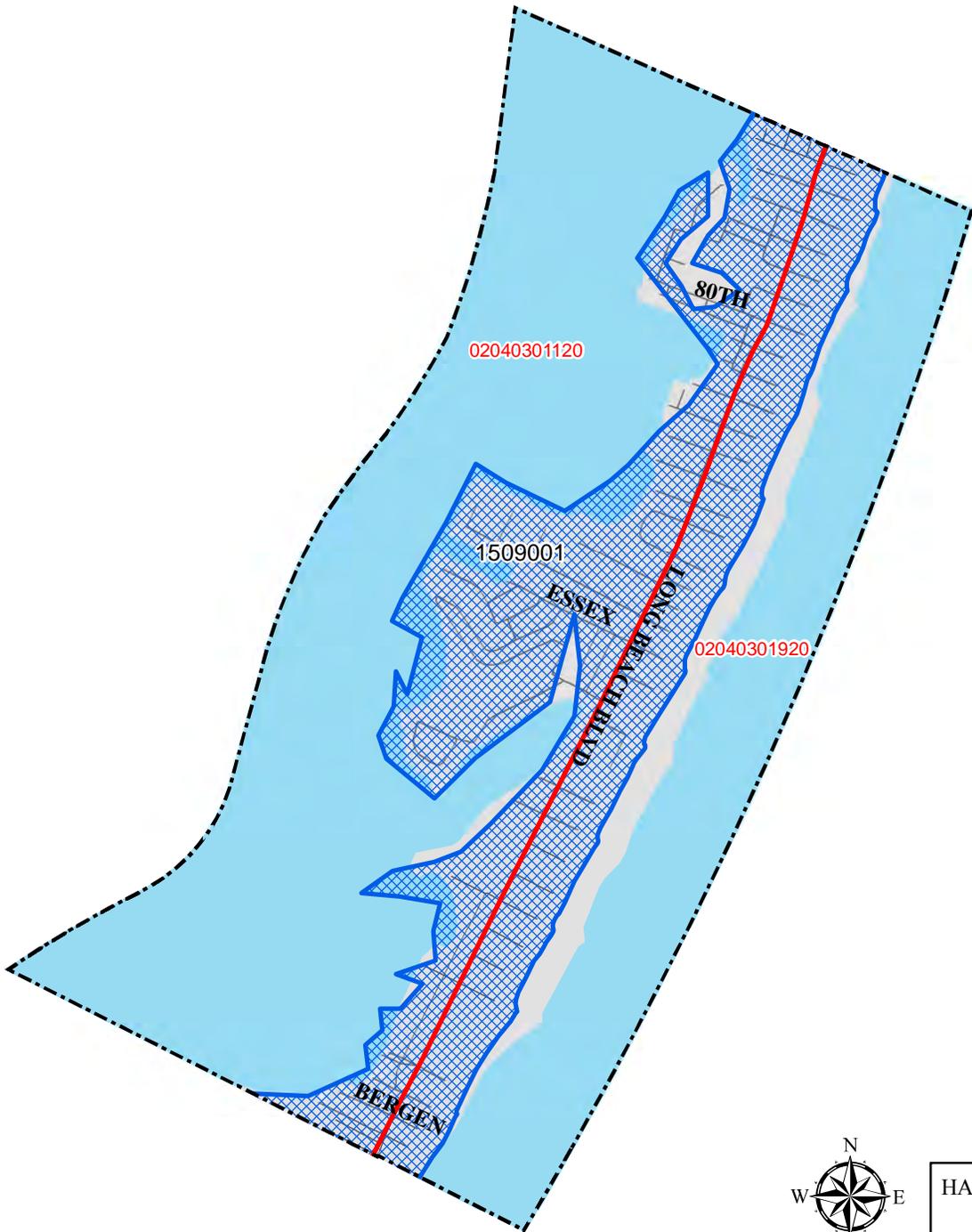
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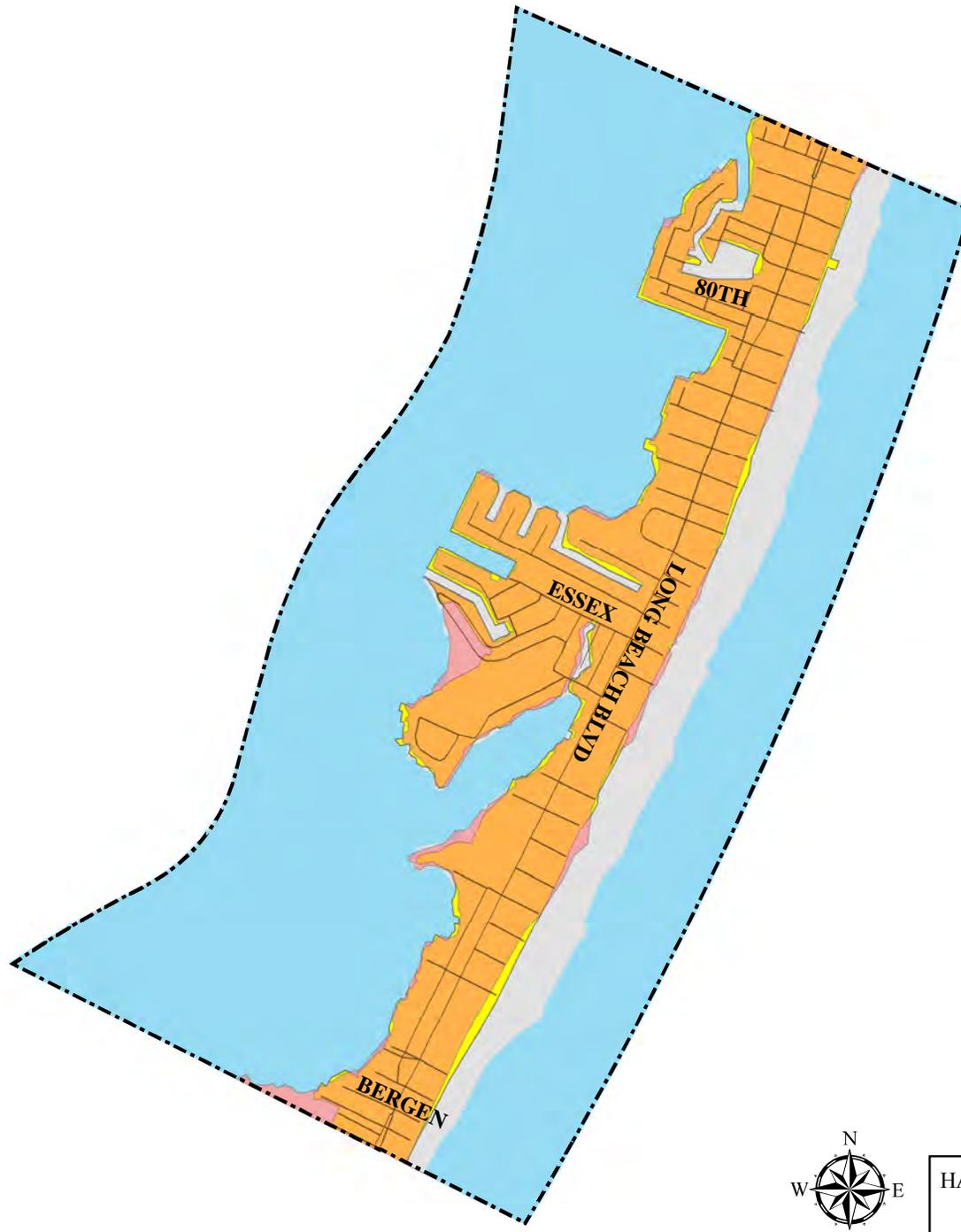
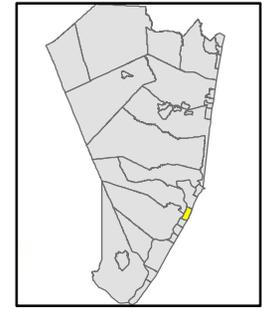


HARVEY CEDARS BOROUGH
 OCEAN COUNTY, NJ

 MAP 6
 WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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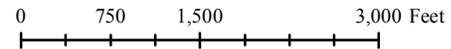
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1 inch = 1,600 feet

HARVEY CEDARS BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, October 2012
Sources: Department of Environmental Protection

10. ISLAND HEIGHTS BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Island Heights lies on the northern bank of the Toms River. On land, it is bordered by Toms River Township on all sides. First incorporated in 1887, Island Heights is approximately 0.60 square miles of land (384 acres) in size. The Borough has 2.09 miles of coastline, and falls entirely within the CAFRA region.

According to the U.S. Census, Island Heights had a population of 1,673 people in 2010. Island Heights also had a total of 831 housing units in 2010, of which 148 were vacant. Of these vacant units, 97 were seasonal vacancies. NJPTA projects that the Borough’s population will increase to 1,767 people by the year 2035. Seasonal fluctuations and future growth are not expected to overtax the Borough’s wastewater conveyance infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Fronting on the Toms River, Island Heights’ southern edge is lined with beaches. Wetlands are present to the north, including several emergent wetlands surrounding Dillon Creek. There are no Natural Heritage Priority Sites or preserved farms in the Borough of Island Heights, and minimal critical habitat.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	47.64	8.26%
Public Open Space/Recreational Areas	13.77	2.39%
Habitat T&E	26.73	4.63%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	23.38	4.05%
Preserved Agriculture	0.00	0.00%
Surface Water	213.56	37.03%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Chapter XXXII	6/28/2009
Master Plan		3/14/2007
Stormwater [County - MSWMP]	Chapter XXIX	3/11/2008 [2/8/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: <http://www.islandheightsboro.com/Ord/default.htm>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Island Heights is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines, which then connect to a series of OCUA lines that crisscross the municipality. One of these lines, a combination of interceptors and force mains, originates along Lake Avenue in the vicinity of Siddons Court, heads west along Lake Avenue, and turns north on Central Avenue toward



Dillon Creek. There, it joins with another interceptor which enters the Borough from the east, hugging the bank of Dillon Creek as it flows to the west. In the proximity of the intersection of River and Lake Avenues, this interceptor links with another interceptor flowing from the west out of Toms River Township along Dillon Creek. Also converging at this point is a force main which enters the Borough from the north along Garfield Avenue, turns west at Garden Avenue, resumes its southern course at Maple Avenue, then proceeds northwest along Lake Avenue. From the convergence of lines near River and Lake Avenues, a force main carries its wastewater south along River Avenue and crosses under the Toms River near West End Avenue. After emerging on the southern bank of the Toms River, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough of Island Heights.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 16.02 acres of developable land, of which 15.31 acres are zoned as residential and 0.70 acres are zoned as commercial. There is no developable land zoned for industrial uses in Island Heights. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Island Heights’ sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Island Heights. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Island Heights’ drinking water is diverted from the Piney Point Aquifer via two wells. The system is operated by the Island Heights Water Department, and is capable of pumping 0.576 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
COMM	Commercial	15.17	0.47
L-R	Residential	9.40	1.63
M-R	Residential	325.52	13.69
MRNA	Marina	12.90	0.22

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Island Heights Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 94 people by 2035. This equates to a 0.007 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Island Heights. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.125	0.009	0.134	0.141	0.000	0.141

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Island Heights Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.576	0.377	0.199	15,500	11,700	3,800	95,000	82,700	12,300

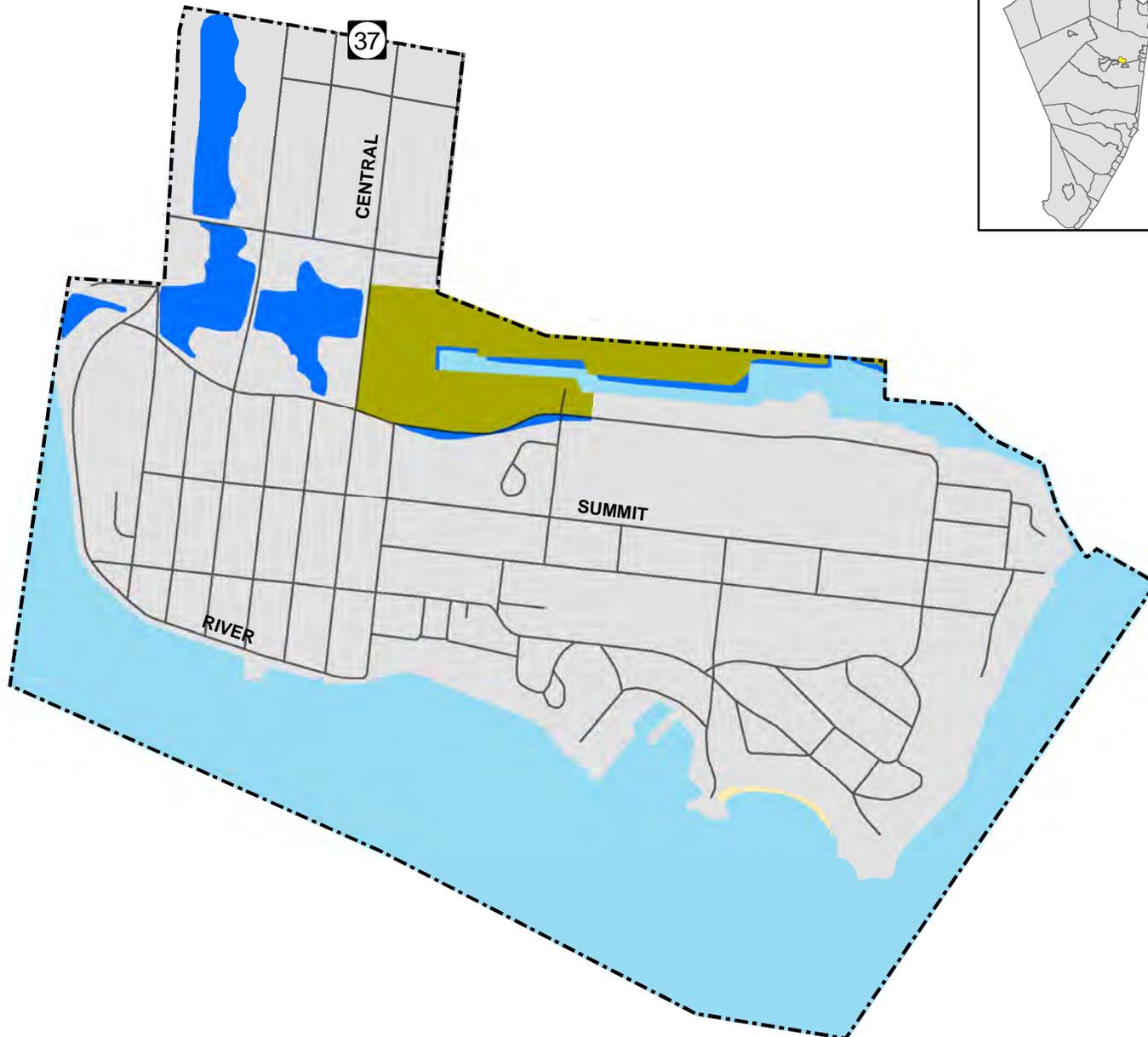
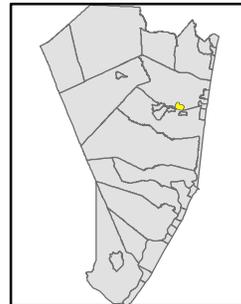
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

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Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 4)
-  Wetlands
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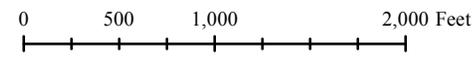
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ISLAND HEIGHTS BOROUGH
OCEAN COUNTY, NJ

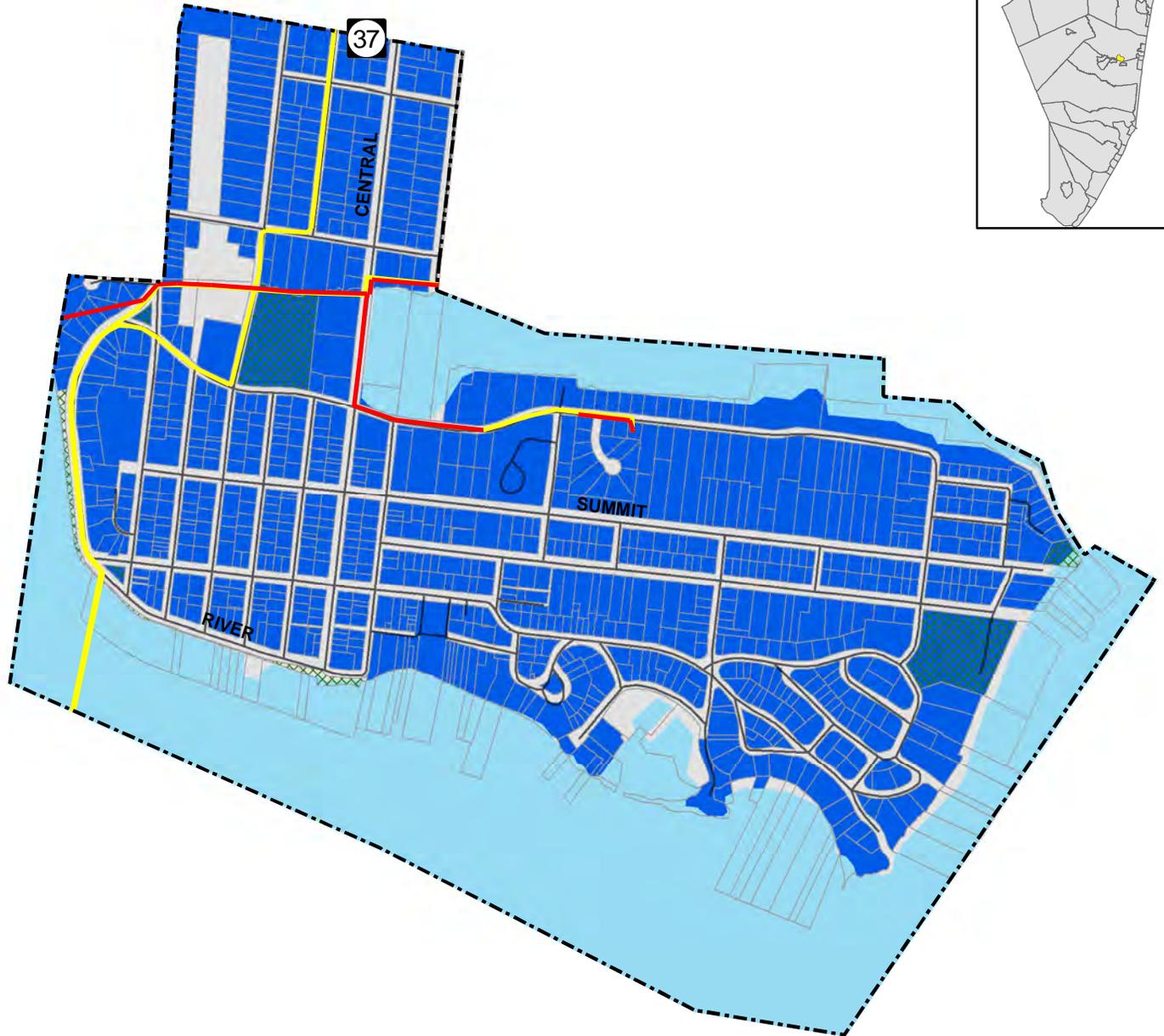
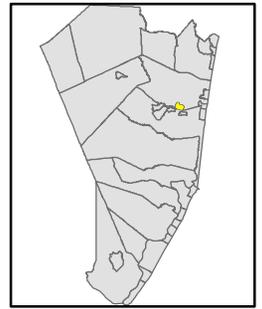
MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Force Main
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



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"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9D. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courtesies may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for protection) and are subject to restrictions including, but not limited to the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

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ISLAND HEIGHTS BOROUGH
OCEAN COUNTY, NJ

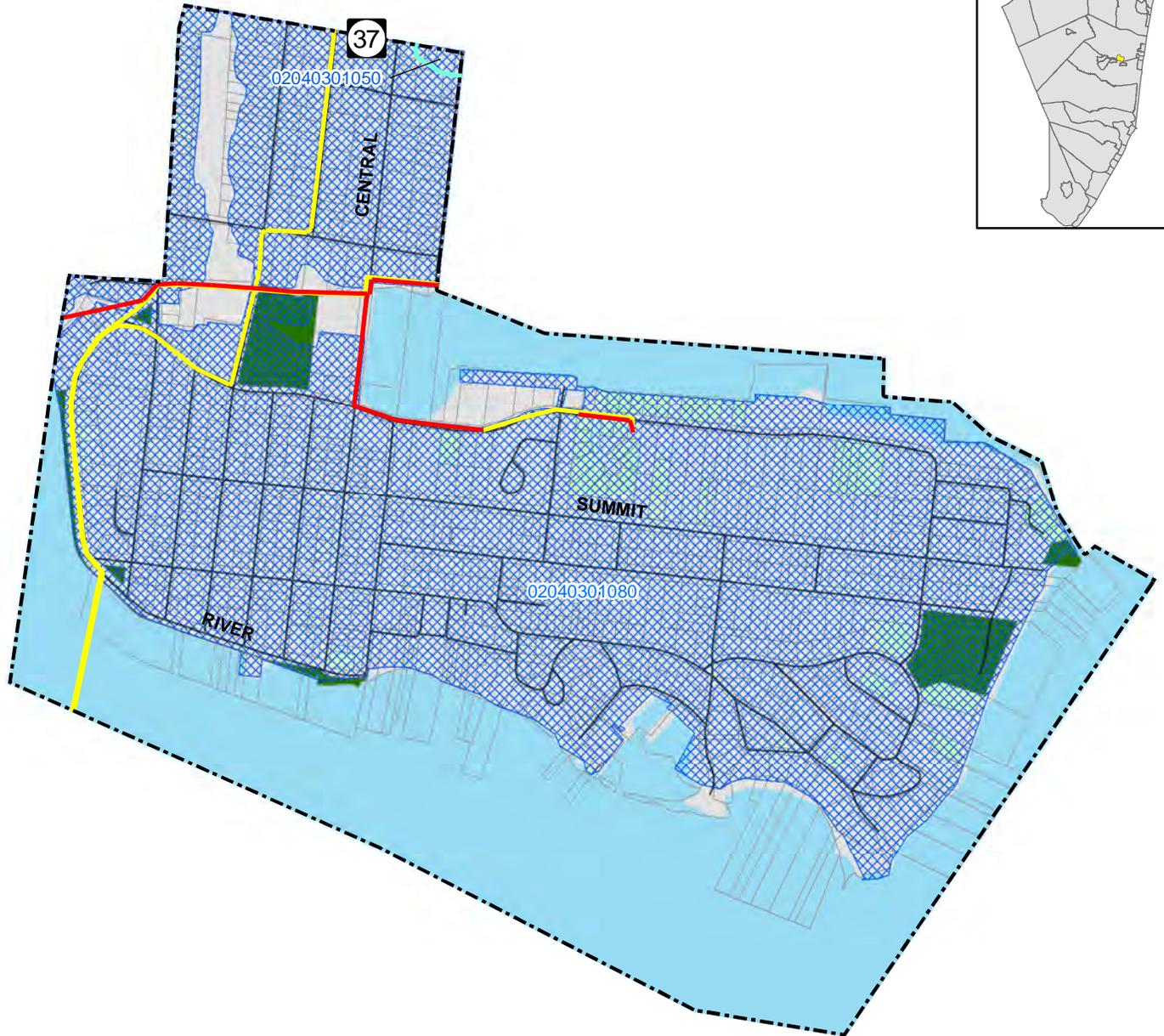
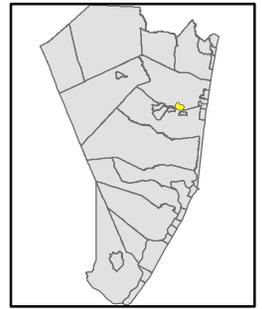
MAP 2

EXISTING SEWERED AREAS

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courtesies may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

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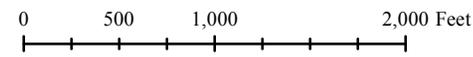
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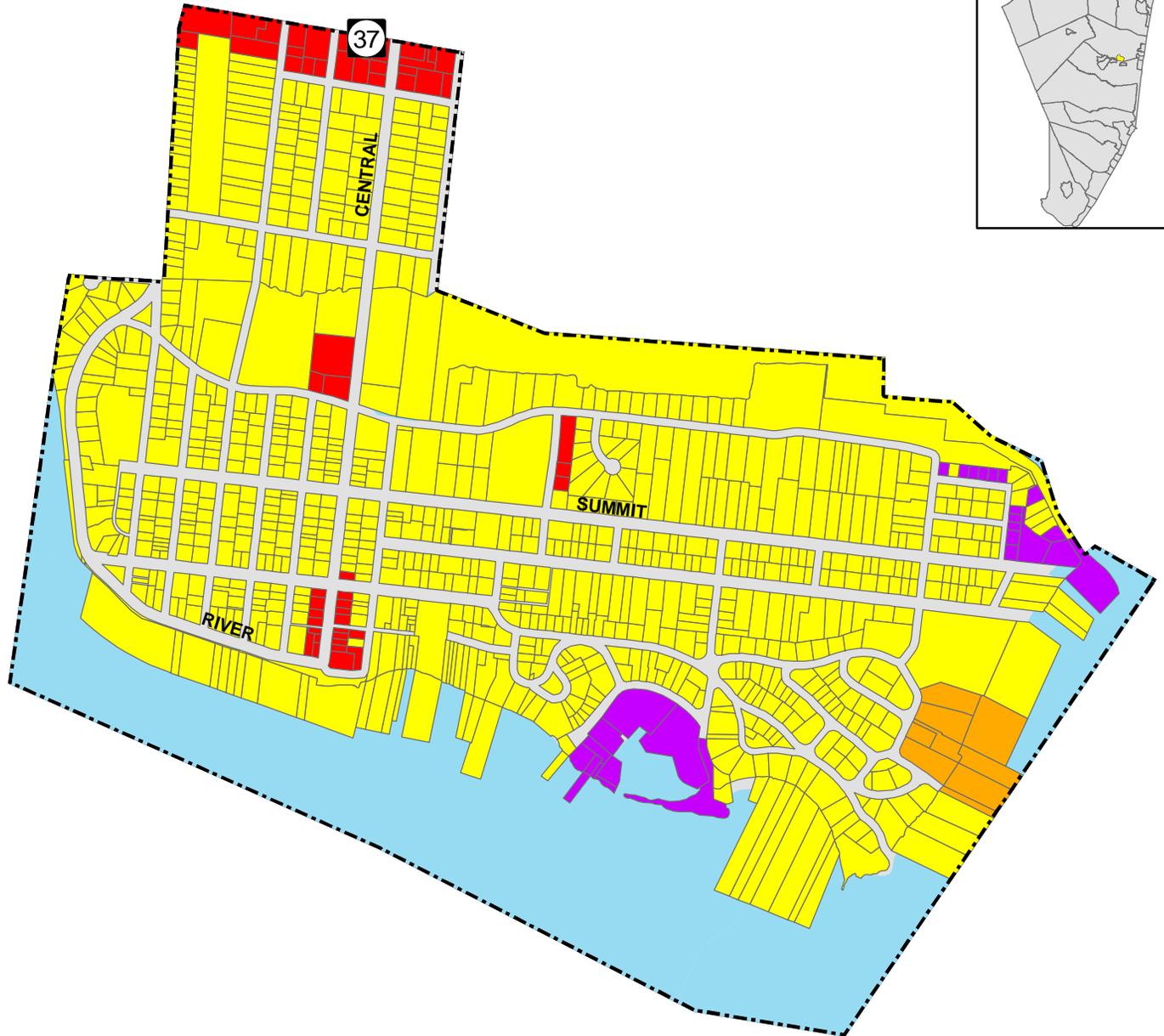
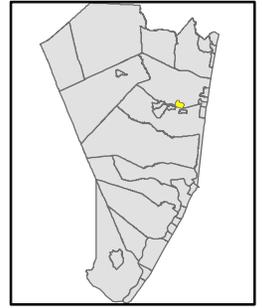
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- COMM (Commercial)
- L-R (Residential)
- M-R (Residential)
- MRNA (Marina)



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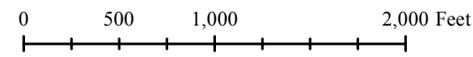
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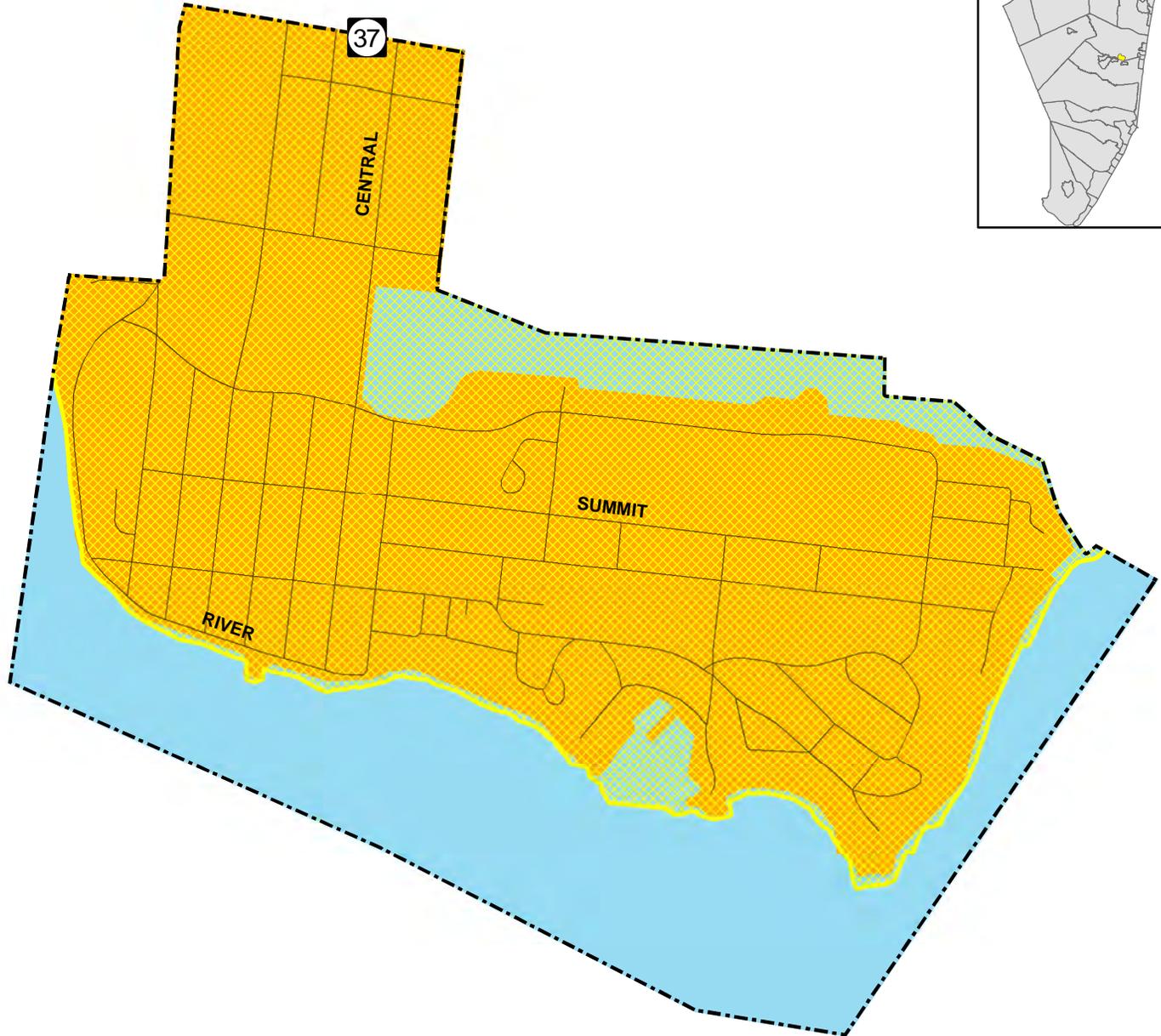
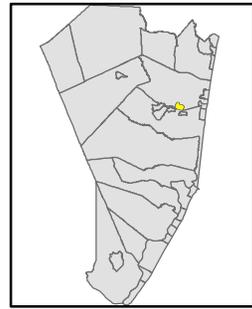
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Island Heights; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



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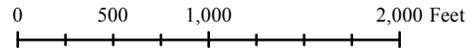
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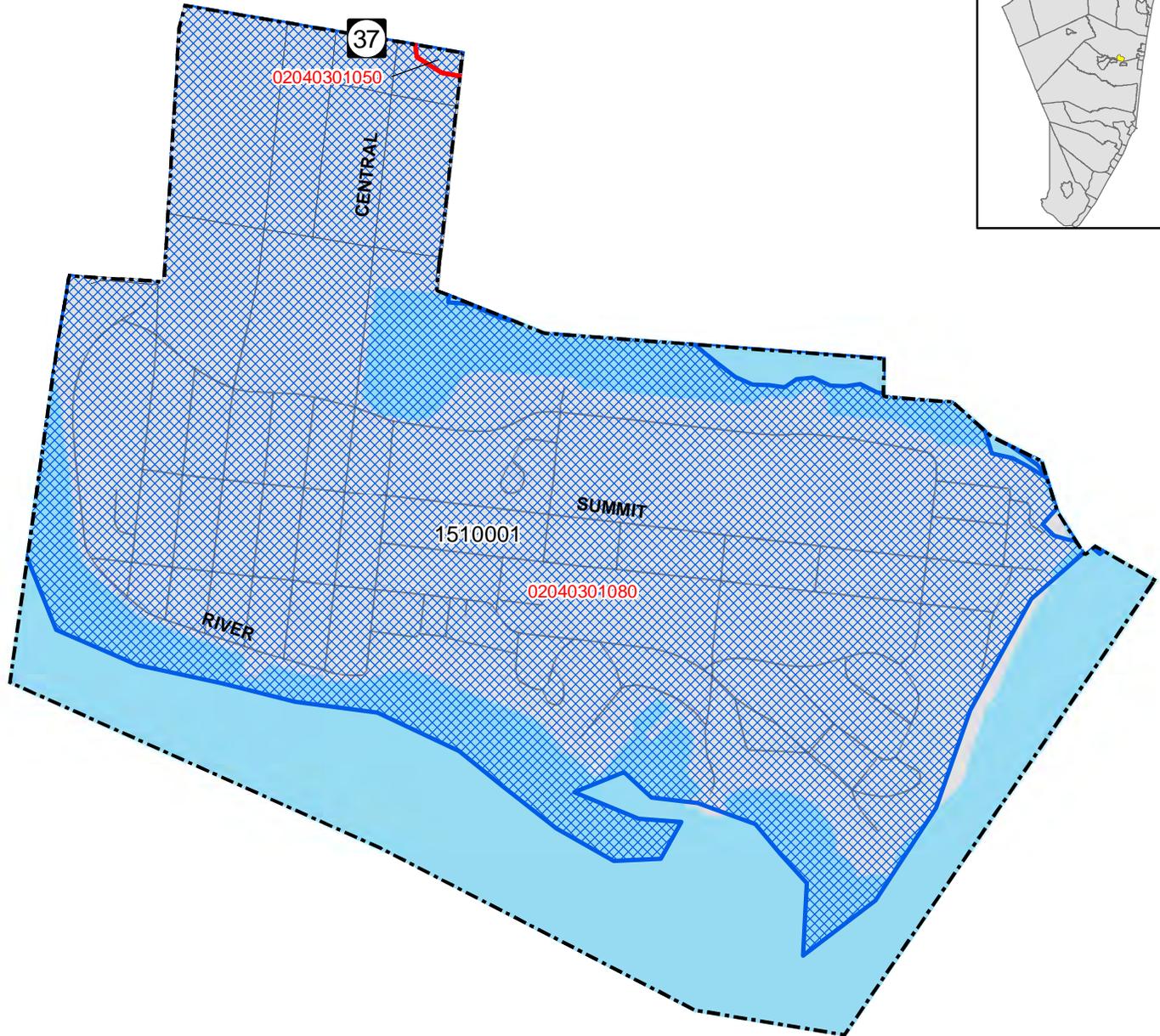
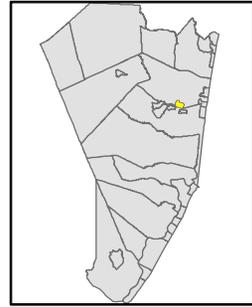
MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1510001	ISLAND HEIGHTS WATER DEPARTMENT

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 13:11-23) or Individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for protection) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.8), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



0 500 1,000 2,000 Feet

1 inch = 1,000 feet

ISLAND HEIGHTS BOROUGH
OCEAN COUNTY, NJ

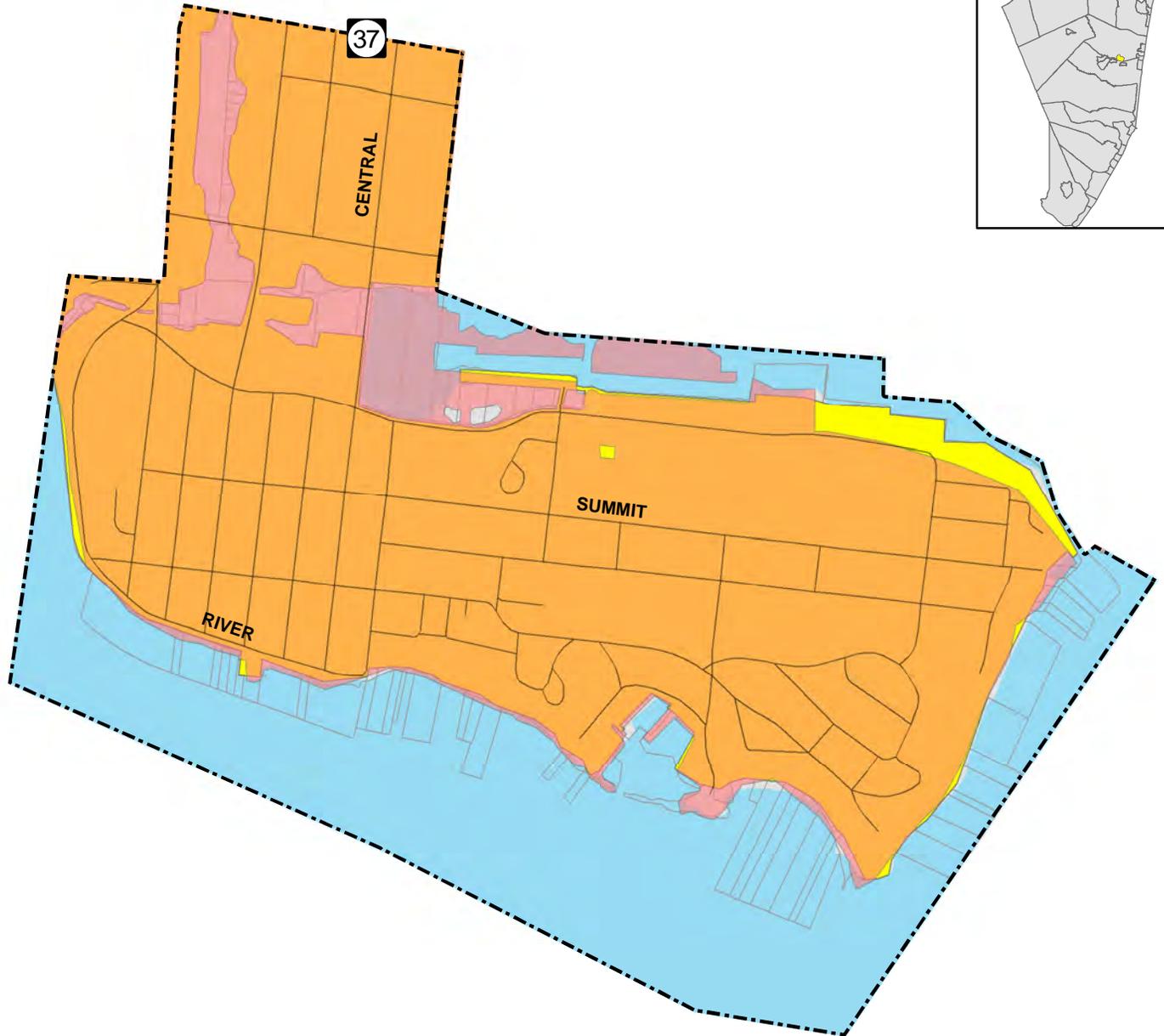
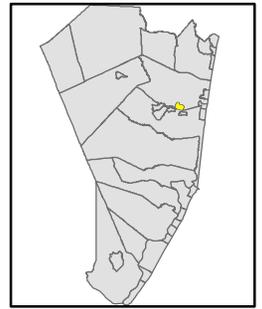
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival; and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waters and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courtesies may map out the lesser width buffers also but the 300' buffers are the minimum; the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.A.C. 88:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for protection) and are subject to restrictions including, but not limited to the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.8), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 1,000 feet

ISLAND HEIGHTS BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

11. JACKSON TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Jackson was incorporated in 1844, and was one of the six municipalities which comprised Ocean County at the time of the County’s formation in 1850. Jackson is bordered by Monmouth County to the north, Plumsted Township to the west, Manchester Township to the south, and Lakewood Township to the east. Covering 100.24 square miles of land, it is the largest municipality in the County.

Jackson accommodates a variety of land uses, including several age restricted communities, as well as numerous parks and natural areas, including the Colliers Mills Wildlife Management Area. The Six Flags Great Adventure Theme Park—which includes an amusement park, water park, and safari park—is located in the northwest portion of the Township, along its border with Monmouth County. The portion of the Joint Base McGuire-Dix-Lakehurst which was formerly known as the Naval Air Engineering Station at Lakehurst is situated in the Township’s southwest corner. Jackson also features a number of farms and agricultural areas, of which more than 143 acres have been preserved through the County’s Farmland Preservation Program.

The Pinelands Comprehensive Management Plan area covers the southern portion of Jackson Township, with the boundary roughly cutting the municipality in half. From the border with Manchester Township to the south, the Pinelands boundary follows Whitesville Road (Route 527), South Hope Chapel Road (Route 547), and Veterans Highway (Route 528) to the border with Plumsted Township to the west. All told, 30,403.57 acres, or 47.20% of Jackson Township, lies within the Pinelands. Much of the Township’s development has occurred in the areas to the north and east of this boundary.

In 2010, the U.S. Census counted 54,856 residents and 20,342 housing units, of which 925 housing units were vacant. 208 of these vacant units were seasonal vacancies. As such, seasonal population change is not a significant factor in Jackson. However, NJTPA projects that Jackson’s population will grow to 77,291 by the year 2035; an increase of 29.03%. This anticipated addition of 22,435 residents represents the second largest projected numerical growth in municipal population in the County during the next quarter century.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

The landscape of Jackson Township is dotted with small lakes and ponds, many of which are situated along the upper branches of the Toms and Metedeconk Rivers. The areas surrounding these corridors are largely comprised of wetlands, and select areas provide foraging grounds for bald eagles. A wood turtle habitat is also present in the northwestern corner of the township. Nearly the entire expanse of the Township is forested. Jackson is also home to several preserved farms.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	17,666.73	27.43%
Public Open Space/Recreational Areas	22,984.38	35.69%
Habitat T&E	46,163.97	71.67%
Natural Heritage Priority Sites	242.57	0.38%
Riparian Zones	3,303.75	5.13%
Preserved Agriculture	236.31	0.37%
Surface Water	1,067.62	1.66%



Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 244, Article VI-VII	5/8/2012
Master Plan		8/2009
Stormwater [County - MSWMP]	Chapter 244-209	4/10/2006 [6/5/2007]
Riparian Zone	Chapter 244-45	11/9/2010
Septic System Maintenance	Chapter 336	8/27/2001
Dry Conveyance	Chapter 336-1	8/27/2001
Septic Connections	Chapter 336	8/27/2001
Source: http://www.ecode360.com/JA0364		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

Most existing development in the northwestern, eastern, and southern portions of Jackson Township is connected to the existing sewer system. In these areas, wastewater is collected through the Township’s lateral lines. The municipal system connects to one of two OCUA lines which are located in the northeastern section of the municipality. One of these lines—an interceptor—enters the Township from Monmouth County near Aldrich Avenue and follows the course of the North Branch of the Metedeconk River to the municipal boundary with Lakewood Township. The other line—a force main—originates west of Brewers Bridge Road’s crossing of the South Branch of the Metedeconk River and flows southeast along Metedeconk Trail into Lakewood Township. Both of these lines converge within Lakewood Township and continue on to the NWPCF in Brick Township.

Existing wastewater flows generated in the southern and western portions of the Township are directed to the CWPCF in Berkeley Township, via connection to Toms River Township’s municipal collection system. No OCUA lines are present in this area of Jackson Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 12,135.44 acres of developable land, of which 5146.15 acres are zoned as residential, 1516.09 acres are zoned as commercial, and 605.50 acres are zoned as industrial. The remaining 4867.70 acres are zoned for other uses.

Two regions in central Jackson Township were recently added to the sewer service area. One includes the residential areas surrounding Jackson Memorial High School. The second includes residential development in the vicinity of Jackson Acres Mobile Home Park. Concurrently, a far greater amount of acreage was removed from sewer service prior to the adoption of the new sewer service area boundaries in 2013. These include the open areas of the Pine Barrens and Metedeconk National Golf Clubs, the eastern end of the Joint Base, portions of Six Flags Great Adventure, and other sparsely populated regions of the Township.

Local zoning is presented in Map 4, while Map 5 displays the boundary of the Pinelands. The Delta Map displays the changes to Jackson’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

A large portion of the developed and developable land in the Township is included in the designated sewer service area. Most of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or both. Smaller scale large lot developments are usually served by septic systems. Because Jackson is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).



Existing Areas Served By Public Water Supply Facilities

Jackson’s drinking water is derived from eleven wells, six which draw from the Middle Potomac Raritan Magothy Aquifer, two which draw from the Englishtown Aquifer, two which draw from the Vincentown Aquifer, and one which draws from the Upper Potomac Raritan Magothy Aquifer. The system is operated by the Jackson Township MUA, and is capable of pumping 7.582 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are 21 developments located in the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these systems are provided in Tables 3 through 23:

Table 3: NJPDES - Butterfly Campground			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0085138	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Butterfly Camp, LLC	
7. Operator of Facility:		Don Letho	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		360 Butterfly Road	
c. Block(s) and Lot(s):		Block 15301, Lot 31	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 15.24 sec. west	
b. Latitude:		40 deg. 5 min. 56.93 sec. north	
11. Present Permitted Flow:		0.014 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build-Out (2035) Population Served
Total		Approximately 200*	Approximately 200
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.0139 MGD**	0.0139 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.0139 MGD	0.0139 MGD
*There are 139 sites which vary in occupancy, as per Don Letho.			
**Estimate assumes maximum occupancy, and 100 gallons per site each day			

**Table 4: NJPDES - Doves Mills Apartments**

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0136719	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Georgette and Robert Madsen	
7. Operator of Facility:		Georgette Madsen	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		401 Bennetts Mills Road	
c. Block(s) and Lot(s):		Block 12401, Lot 6	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 36.86 sec. west	
b. Latitude:		40 deg. 6 min. 56.71 sec. north	
11. Present Permitted Flow:		0.005 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		42*	42
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.0048 MGD**	0.0048 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.0048 MGD	0.0048 MGD
**Maximum occupancy among 15 units, as per Georgette Madsen			
**Estimate based on 200 GPD for first bedrooms (15) and 150 gpd for additional bedrooms (12)			

Table 5: NJPDES - Forest Resource Education Center (FREC)

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0133205	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		NJDEP	
7. Operator of Facility:		Lynn Fleming, State Forrester	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		370 East Veterans Highway	
c. Block(s) and Lot(s):		Block 16001, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 3.02 sec. west	
b. Latitude:		40 deg. 5 min. 58.19 sec. north	
11. Present Permitted Flow:		0.003 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 30*	Approximately 30
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential		
	Commercial	0.0001 MGD**	0.0001 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.0001 MGD	0.0001 MGD
*Estimate based on 10000 visitors each year (approximately 30 per day), at 5 gpd			



Table 6: NJPDES - Harmony Hideaway Campground			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0089010	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Harmony Hideaway Campground, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		380 Clearstream Road	
c. Block(s) and Lot(s):		Block 13501, Lot 3	
10. Location of discharge:			
a. Longitude:		74 deg. 15 min. 45.38 sec. west	
b. Latitude:		40 deg. 6 min. 27.32 sec. north	
11. Present Permitted Flow:		0.003 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 60	Approximately 60
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.003 MGD*	0.003 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.003 MGD	0.003 MGD

*Estimate assumes 30 occupied sites using 100 gpd

Table 7: NJPDES - Indian Rock Campground			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084794	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Tomaron, Inc.	
7. Operator of Facility:		Anita Pfefferkorn	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		920 West Veterans Highway	
c. Block(s) and Lot(s):		Block 17802, Lot 37	
10. Location of discharge:			
a. Longitude:		74 deg. 24 min. 55.68 sec. west	
b. Latitude:		40 deg. 6 min. 0.77 sec. north	
11. Present Permitted Flow:		0.030 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 400*	Approximately 400
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.021 MGD**	0.035 MGD**
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.021 MGD	0.035 MGD

*There are currently 210 sites, and plans to add up to 140 additional sites, as per Indian Rock Campground.

**Estimates based on maximum occupancy and build out, at 100 gallons per site per day



Table 8: NJPDES - Jackson Acres

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0090158	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Tom Kapp	
7. Operator of Facility:		John Dicapua	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		2 Lisa Lane South	
c. Block(s) and Lot(s):		Block 18603, Lot 17	
10. Location of discharge:			
a. Longitude:		74 deg. 24 min. 31.59 sec. west	
b. Latitude:		40 deg. 4 min. 1.91 sec. north	
11. Present Permitted Flow:		0.035 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 500*	Approximately 500
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.023 MGD**	0.023 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.023 MGD	0.023 MGD
**There are 232 sites, as per John Dicapua.			
**Estimate based on maximum occupancy, at 100 gallons per site per day			

Table 9: NJPDES - Jackson Colonial Arms Apartments

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0136913	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Monjoy Limited Partnership	
7. Operator of Facility:		Charles Monjoy	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		80 West Veterans Highway # 13B	
c. Block(s) and Lot(s):		Block 12001, Lot 5	
10. Location of discharge:			
a. Longitude:		74 deg. 20 min. 59.32 sec. west	
b. Latitude:		40 deg. 6 min. 45.62 sec. north	
11. Present Permitted Flow:		0.008 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		84*	84
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.007 MGD**	0.007 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.007 MGD	0.007 MGD
**Estimate provided by Kim Monjoy			
**Estimate assuming maximum occupancy of 42 units, using 175 gallons per day			



Table 10: NJPDES - Jackson Premium Outlets

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0108963	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Simon Property Group	
7. Operator of Facility:		Rayna Kelly	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		537 Monmouth Road	
c. Block(s) and Lot(s):		Block 2901, Lot 5	
10. Location of discharge:			
a. Longitude:		74 deg. 24 min. 58.70 sec. west	
b. Latitude:		40 deg. 9 min. 47.39 sec. north	
11. Present Permitted Flow:		0.030 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		various	various
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential		
	Commercial	0.024 MGD*	0.024 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.024 MGD	0.024 MGD

*Estimate based on 0.125 gpd multiplied by 195,853 square feet of retail space

Table 11: NJPDES - Land O'Pines Mobile Home Park

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0083186	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Land O' Pines Mobile Home Park	
7. Operator of Facility:		Frederick F. Hebel	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		135 West Commodore Boulevard	
c. Block(s) and Lot(s):		Block 4201, Lots 42-51	
10. Location of discharge:			
a. Longitude:		74 deg. 21 min. 22.88 sec. west	
b. Latitude:		40 deg. 8 min. 59.77 sec. north	
11. Present Permitted Flow:		0.008 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		109*	109
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.008 MGD**	0.008 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.008 MGD	0.008 MGD

*Estimate provided by Frederick F. Hebel
 **Estimate based on 81 total sites using 100 gpd



Table 12: NJPDES - Luxury Mobile Home Park

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084697	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		PSL, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		Route 571 West	
c. Block(s) and Lot(s):		Block 23303, Lots 15, 16	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 18.36 sec. west	
b. Latitude:		40 deg. 2 min. 41.15 sec. north	
11. Present Permitted Flow:		0.012 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 120*	Approximately 120
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.012 MGD*	0.012 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.012 MGD	0.012 MGD

*Estimate assumes 60 occupied mobile homes using 200 gpd

Table 13: NJPDES - Maple Glen Mobile Home Park

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0062090	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Peg Leg Webb, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		2 Maplewood Drive	
c. Block(s) and Lot(s):		Block 18602, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 20 min. 55.13 sec. west	
b. Latitude:		40 deg. 4 min. 32.01 sec. north	
11. Present Permitted Flow:		0.017 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 170*	Approximately 170
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.017 MGD*	0.017 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.017 MGD	0.017 MGD

*Estimate assumes 85 occupied mobile homes using 200 gpd



Table 14: NJPDES - Maple Lakes Campgrounds

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0088951	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Maple Lake, Inc.	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		980 East Veterans Highway	
c. Block(s) and Lot(s):		Block 20801, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 16 min. 41.69 sec. west	
b. Latitude:		40 deg. 5 min. 3.03 sec. north	
11. Present Permitted Flow:		0.015 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 300*	Approximately 300
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.015 MGD*	0.015 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.015 MGD	0.015 MGD

*Estimate assumes 150 occupied sites using 100 gpd

Table 15: NJPDES - Meadowbrook Village

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0140368	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Meadowbrook Cooperative, Inc.	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		Route 528	
c. Block(s) and Lot(s):		Block 15901, Lot 22	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 12.06 sec. west	
b. Latitude:		40 deg. 6 min. 6.36 sec. north	
11. Present Permitted Flow:		0.039 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 170*	Approximately 170
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.035 MGD**	0.035 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.035 MGD	0.035 MGD

*There are 116 units, which vary in occupancy.
 **Estimate assumes full occupancy, with each unit using 300 gpd



Table 16: NJPDES – Metedeconk National Golf Club

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0109193	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Metedeconk National Golf Club, Inc.	
7. Operator of Facility:		Anthony Castaldo, GM/COO	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		50 Hannah Hill Road	
c. Block(s) and Lot(s):		Block 601, Lots 1, 2, 3, 4, 25, 26, 42, 43	
10. Location of discharge:			
a. Longitude:		74 deg. 20 min. 15.00 sec. west	
b. Latitude:		40 deg. 9 min. 32.00 sec. north	
11. Present Permitted Flow:		0.0075 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		420*	420
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential		
	Commercial	0.0074 MGD**	0.0074 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.0074 MGD	0.0074 MGD
*Estimate provided by Anthony Castaldo; assumes peak employees (110) and members (310).			
**Estimate based on employees using 25 gpd and members using 15, at peak.			

Table 17: NJPDES - Ocean County Vo-Tech School—Jackson

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0108545	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		County of Ocean	
7. Operator of Facility:		Lilian Zavattieri, Principal	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		850 Toms River Road	
c. Block(s) and Lot(s):		Block 18401, Lot 4	
10. Location of discharge:			
a. Longitude:		74 deg. 21 min. 14.69 sec. west	
b. Latitude:		40 deg. 3 min. 30.79 sec. north	
11. Present Permitted Flow:		0.008 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		400*	400
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.006 MGD**	0.006 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.006 MGD	0.006 MGD
*Estimated size of student population, provided by Ocean County Vo-Tech School			
**Estimate based on 400 students using 15 gpd			



Table 18: NJPDES - Pine Barrens Golf Club			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0132225	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Pine Barrens Golf Club, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		540 South Hope Chapel Road	
c. Block(s) and Lot(s):		Block 22801, Lot 3	
10. Location of discharge:			
a. Longitude:		74 deg. 17 min. 48.22 sec. west	
b. Latitude:		40 deg. 3 min. 25.98 sec. north	
11. Present Permitted Flow:		0.006 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 100	Approximately 100
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential		
	Commercial	0.006 MGD*	0.006 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.006 MGD	0.006 MGD

*Estimate assumes 100 members using 60 gpd

Table 19: NJPDES - Pleasant Garden Apartments			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0100404	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Pleasant Garden Holdings, LLC	
7. Operator of Facility:		Goldstone Management	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		1080 East Veterans Highway	
c. Block(s) and Lot(s):		Block 20901, Lot 11	
10. Location of discharge:			
a. Longitude:		74 deg. 16 min. 11.00 sec. west	
b. Latitude:		40 deg. 5 min. 2.30 sec. north	
11. Present Permitted Flow:		0.012 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		75*	75
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.010 MGD**	0.010 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.010 MGD	0.010 MGD

*Estimate provided by Pleasant Garden Apartments

**Estimate based on 52 units using 200 gpd



Table 20: NJPDES - Shady Lake Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0086860	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Shady Lake, Inc.	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		631 North County Line Road	
c. Block(s) and Lot(s):		Block 4303, Lots 45, 47	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 16.50 sec. west	
b. Latitude:		40 deg. 8 min. 46.49 sec. north	
11. Present Permitted Flow:		0.008 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 70*	Approximately 70
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.007 MGD**	0.007 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.007 MGD	0.007 MGD
*There are 34 pad sites, which vary in occupation.			
**Estimate assumes full occupancy, with each site using 200 gpd			

Table 21: NJPDES - Shady Oak Trailer Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0112658	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Earl and Scott Terhune	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		76 Lewis Lane	
c. Block(s) and Lot(s):		Block 23302, Lots 4, 5, 7	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 19.40 sec. west	
b. Latitude:		40 deg. 2 min. 41.94 sec. north	
11. Present Permitted Flow:		0.009 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 160*	Approximately 160
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.007 MGD**	0.007 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.007 MGD	0.007 MGD
*There are 66 pad sites, which vary in occupancy.			
**Estimate assumes full occupancy, with each site using 100 gpd			



Table 22: NJPDES - South Wind Village/United MHP			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0090344	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		UMH Properties	
7. Operator of Facility:		Russell Corbett	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		435 East Veterans Highway	
c. Block(s) and Lot(s):		Block 15501, Lots 20, 22	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 43.00 sec. west	
b. Latitude:		40 deg. 5 min. 55.53 sec. north	
11. Present Permitted Flow:		0.045 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		600*	600
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.025 MGD**	0.025 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.025 MGD	0.025 MGD
*Estimate provided by South Wind Village			
**Estimate based on 250 sites using 100 gpd			

Table 23: NJPDES - Tip Tam Camping Resort			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0085278	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Leo Guglielmelli	
7. Operator of Facility:		Joann Guglielmelli	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Jackson Township, Ocean County	
b. Street Address:		301 Brewers Bridge Road	
c. Block(s) and Lot(s):		Block 14301, Lots 11, 12, 13	
10. Location of discharge:			
a. Longitude:		74 deg. 16 min. 16.79 sec. west	
b. Latitude:		40 deg. 5 min. 58.63 sec. north	
11. Present Permitted Flow:		0.002 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 350*	Approximately 350
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Jackson Township	Residential	0.0175 MGD**	0.0175 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.0175 MGD	0.0175 MGD
*There are 175 sites, which vary in occupancy.			
**Estimate based on 175 sites using 100 gpd			



V. Future Wastewater and Water Demand

Municipal Zoning

Table 24: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
AR	Agricultural Retention	170.99	3.46
CR-1	Commercial Recreation	681.10	166.14
CR-2	Commercial Recreation	1830.08	138.88
FA-1	Forest	2767.98	715.41
FA-2	Forest	2427.61	1072.64
FA-6	Forest	894.13	316.90
HC	Highway Commercial	1698.56	576.69
I	Industrial	293.19	56.63
LC	Limited Commercial	844.57	366.42
LM	Commercial Office/Light Industrial	952.55	375.42
MF	Multifamily Residential	405.21	60.83
MF-AH-6	Multifamily Affordable Housing-6	15.18	4.31
MHP	Mobile Home Park	201.18	52.18
MI	Military Installation	6281.56	0.00
NC	Neighborhood Commercial	444.05	220.62
PA	Preservation Area	9281.45	55.07
PED-1	Pinelands Environmental Development District	9.17	9.17
PED-9	Pinelands Environmental Development District	230.18	196.59
PFE	Public Facilities and Education	489.58	0.00
PM-1	Pinelands Manufacturing	416.75	173.45
PMURD	Planned Mixed Unit Residential Development	620.83	173.81
PRC	Planned Retirement Community	1797.80	400.06
PV	Pinelands Village	1246.14	320.40
PVC-1	Pinelands Village Commercial	5.15	3.14
PVC-2	Pinelands Village Commercial	99.12	44.12
R-1	Residential	4275.52	1188.90
R-15	Residential	579.79	24.69
R-2	Residential	241.05	83.79
R-20	Residential	797.86	25.17
R-3	Residential	6214.50	1005.17
R-30	Residential	45.80	0.60
R-5	Residential	1950.83	522.15
R-9	Residential	327.12	3.12
RD	Rural Development	548.33	169.25
RD-1	Rural Development Area	826.21	425.04
RD-9	Rural Development Area	3404.55	1990.49
RG-2	Regional Growth	1415.60	686.69
RG-3	Regional Growth	131.75	72.83
RGC-1	Regional Growth Commercial	15.02	0.08
RGC-2	Regional Growth Commercial	4.58	0.00
ROS	Recreation-Open Space	6884.91	435.15

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than



wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 25: Wastewater Flow Directed to OCUA Facilities	
NWPCF	
Source	(MGD)
Existing Flow	2.042
Projected Residential	1.027
Projected Commercial	1.282
Total Future Planning Flow	4.351
CWPCF	
Source	(MGD)
Existing Flow	0.300
Projected Residential	0.210
Projected Commercial	0.737
Total Future Planning Flow	1.247

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Jackson Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 26 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 26: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Northern	2,544.95	1,633.27	3,422.77	39,712,780.81
Central	1,941.74	1,550.87	699.18	17,026,153.83

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Jackson’s municipal ordinance applicable to septic connection can be found in the Township’s Land Use and Related Regulations, Chapter 249.

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district's density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040201040	0.00	0.00	0.00	0.00	0.00	0.00
02040201050	113.99	38.20	91.59	274.26	205.58	312.46
02040202020	0.00	0.00	0.00	0.00	0.00	0.00
02040301020	116.74	39.11	0.00	0.00	116.74	39.11
02040301030	447.10	383.69	300.43	948.80	747.53	1,322.49
02040301060	2,124.40	831.67	117.71	462.84	2,242.11	1,294.51
02040301070	1,242.03	411.10	0.00	0.00	1,242.03	411.10
Totals	4,044.26	1,703.77	509.73	1,685.90	4,553.99	3,389.67

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Because wetlands and surface waters within these open/public space areas are presumed to provide no recharge credit, these acres were removed from the total acres of "recharge credit." Factors such as marginal soils, topography, and precipitation rates, for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used the NJDEP's nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP.

The initial results of this nitrate dilution analysis indicate that two HUC11s, 02040201050 and 02040301030, would exceed the nitrate-nitrogen target if built out under current zoning regulations. Similar results have been produced for other HUC11s in Ocean County where, in some cases, projected nitrate discharges from non-residential zones are several times greater than that from residential zones. This could be due to the application of the commercial-based Equivalent Dwelling Unit (EDU) formula to exceedingly large tracts of non-residential land, which may have resulted in a higher number of projected gallons per day than the building code for that non-residential zone would otherwise typically indicate. However, without specific development parameters such as type of non-residential development, square footage of floor space, number of floors, etc., the NJDEP has no other meaningful way to estimate non-residential development potential in the necessary increment of gpd. The NJDEP notes that the above situation predicated the development of the EDU formula, and having been established as a useful and reasonable tool, the NJDEP indicates it will continue



to utilize it as such. Concurrently, however, the NJDEP acknowledges that under some circumstances in Ocean County, the model may overestimate septic area flows from some commercially zoned areas. Therefore, at the time of this writing, and with no site-specific information currently available for potential projects or activities on these non-residential lands, the NJDEP has advised the County to not include septic dilution projections for those municipalities that cannot meet the applicable septic densities with the submission of this WMP. The septic analysis for these municipalities will be submitted separately in the future and according to those mechanisms the County may choose to incorporate.

Public Water Supply Availability

The Jackson Township MUA is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future. This is also true for the portions of the Joint Base McGuire-Dix-Lakehurst in Jackson Township, which derive their potable water from on-site wells.

Table 28: Public Water Purveyor Capacity

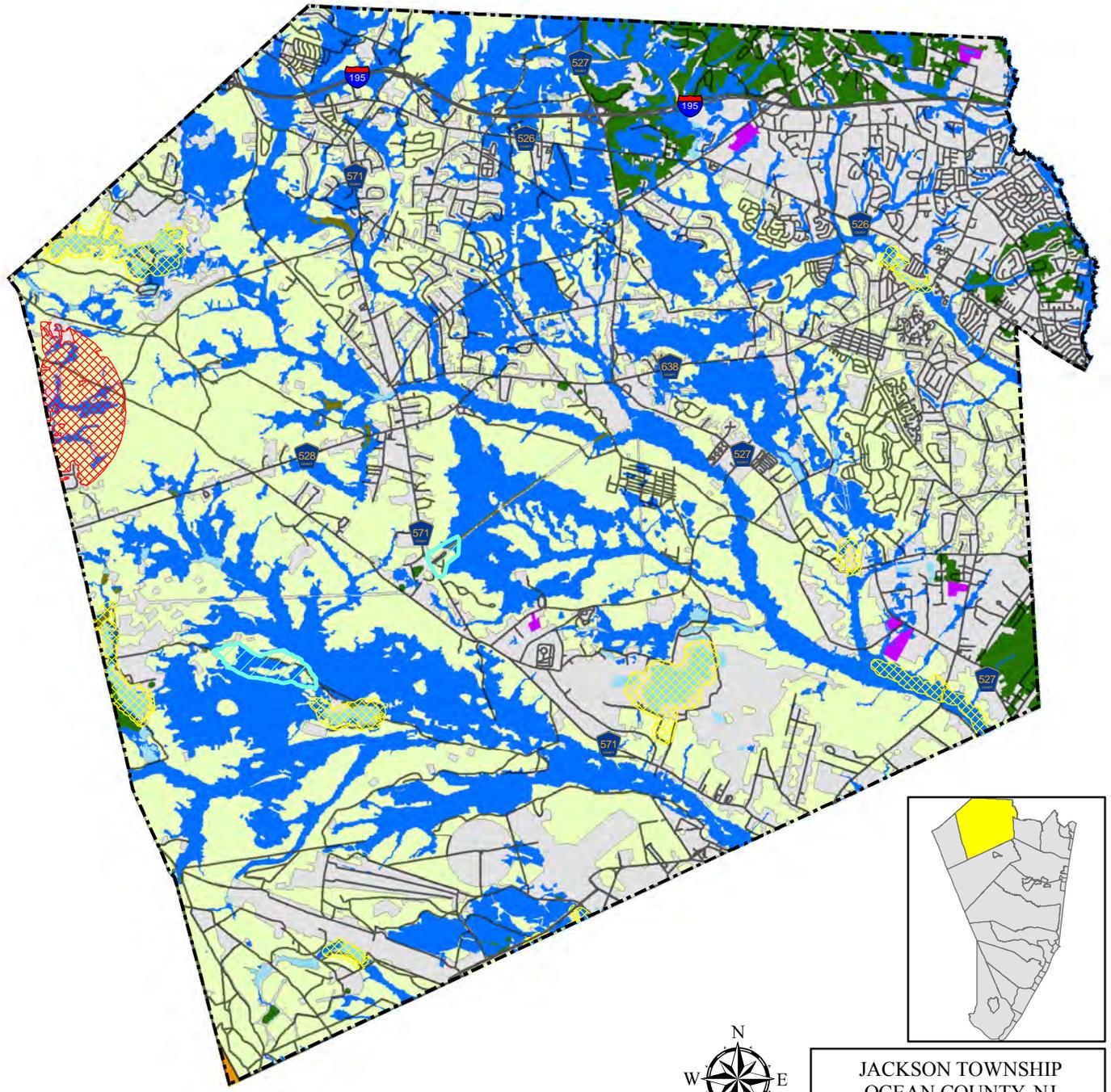
Jackson Township MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
7.870	6.723	1.147	312.350	220.965	91.385	2,060.000	1,473.714	586.286
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Bald Eagle Foraging
-  Wood Turtle Habitat
-  Roads
-  Emergent Wetlands (Rank 3)
-  Wetlands
-  Preserved Agriculture
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Forest (Rank 5)
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waters and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courts may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis). Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapter for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

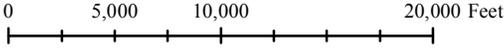
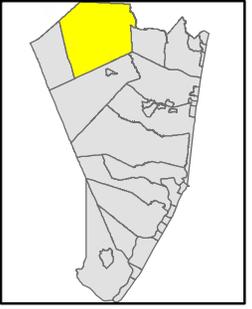
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6." Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Area rules, Subchapters 5, 5A and 5B."



1 inch = 9,000 feet

JACKSON TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
-  ForceMain
-  Roads
-  DGW/Sanitary Subsurface Disposal
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)
-  OCUA Northern DSW (NJ0028142)

BUTTERFLY CAMPGROUND	NJG0085138
DOVES MILLS APARTMENTS	NJG0136719
FOREST RESOURCE EDUCATION CENTER (FREC)	NJG0133205
HARMONY HIDEAWAY CAMPGROUND	NJG0089010
INDIAN ROCK CAMPGROUND	NJG0084794
JACKSON ACRES	NJ0090158
JACKSON COLONIAL ARMS APARTMENTS	NJG0136913
JACKSON PREMIUM OUTLETS	NJ0108963
LAND O' PINES MOBILE HOME PARK	NJG0083186
LUXURY MOBILE HOME PARK	NJG0084697
MAPLE GLEN MOBILE HOME PARK	NJ0062090
MAPLE LAKES CAMPGROUNDS	NJG0088951
MEADOWBROOK VILLAGE	NJG0140368
OCEAN COUNTY VO-TECH SCHOOL	NJG0108545
PINE BARRENS GOLF CLUB	NJ0132225
PLEASANT GARDEN APARTMENTS	NJG0100404
RED CEDAR VILLAGE	NJG0139777
SHADY LAKE PARK	NJG0086860
SHADY OAK TRAILER PARK	NJG0112658
SOUTH WIND VILLAGE/UNITED MHP	NJ0090344
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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974.

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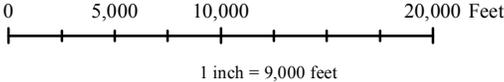
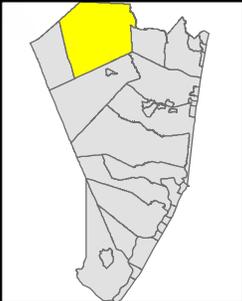
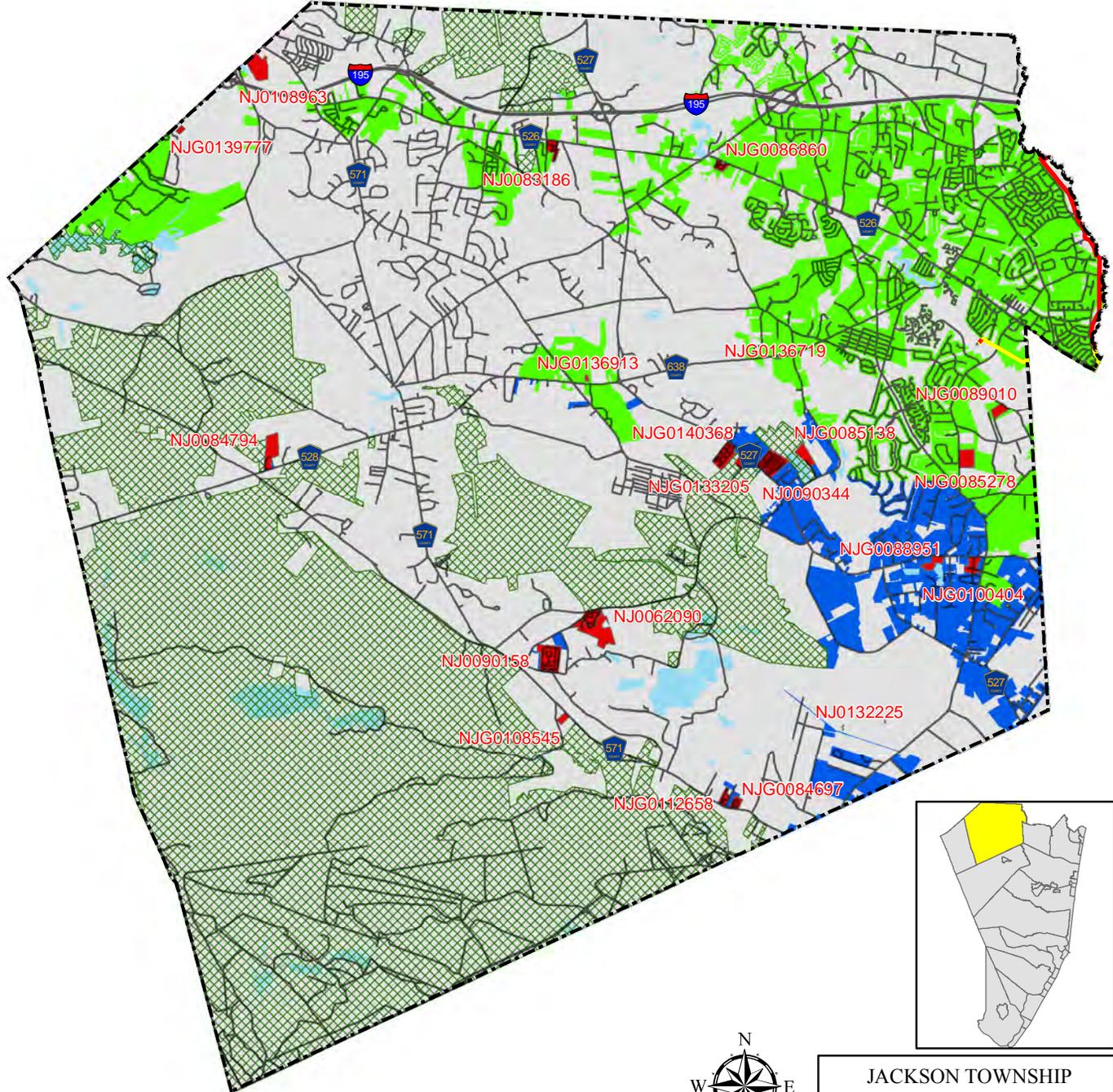
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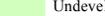
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

JACKSON TOWNSHIP
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  ForceMain
-  Roads
-  OCUA Northern DSW (NJ0028142)
-  OCUA Central DSW (NJ0029408)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

BUTTERFLY CAMPGROUND	NJG0085138
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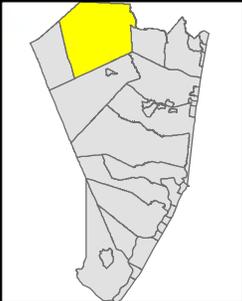
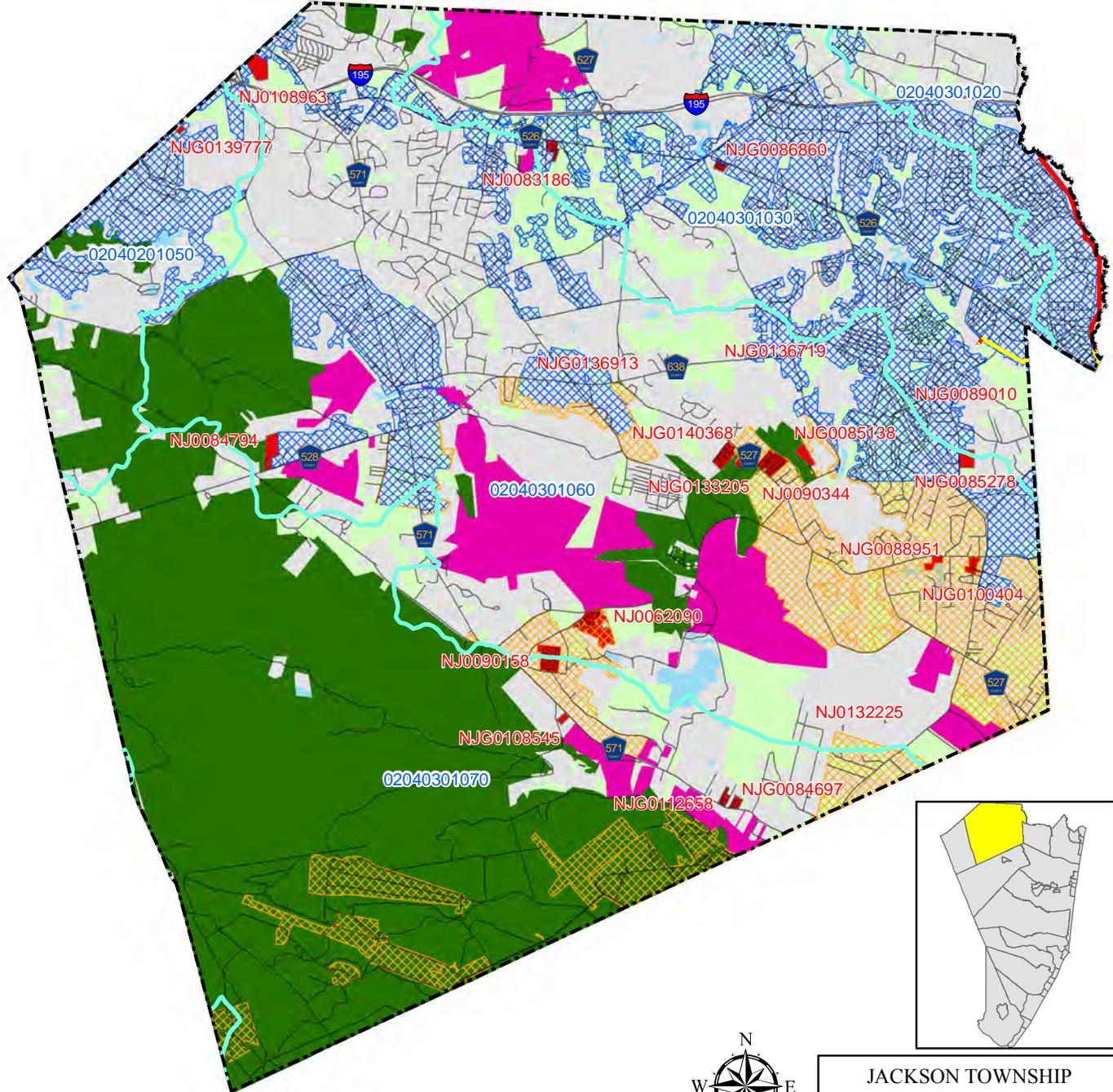
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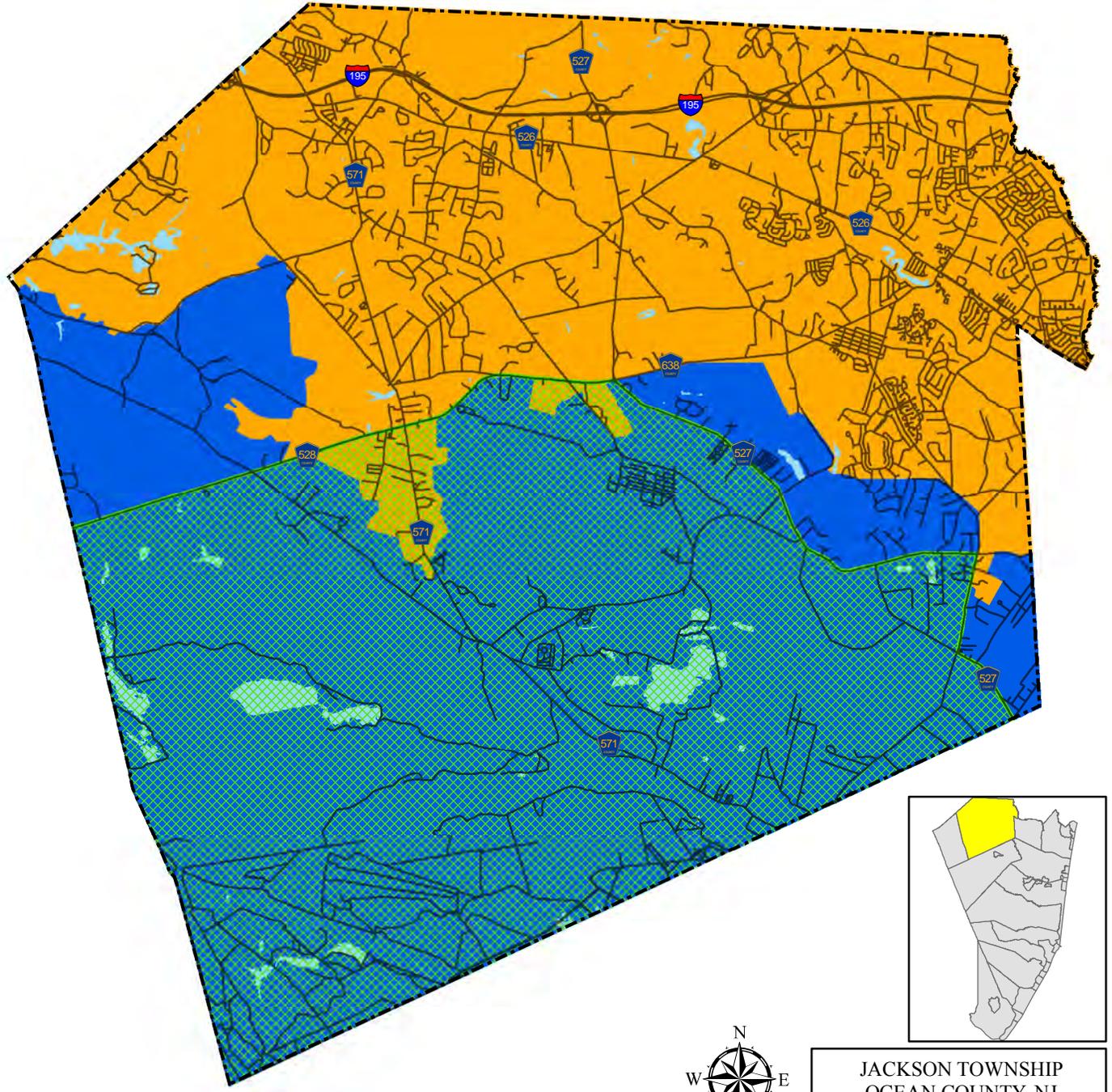
1 inch = 9,000 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

JACKSON TOWNSHIP
OCEAN COUNTY, NJ
MAP 3
ADOPTED SEWER SERVICE AREA

Legend

-  Roads
-  Pinelands
-  Surface Water
-  OCUA Northern Planning Area
-  OCUA Central Planning Area



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

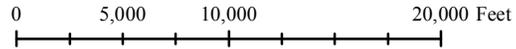
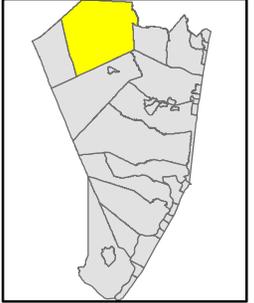
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1 inch = 9,000 feet

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Sources: New Jersey Department of Environmental Protection

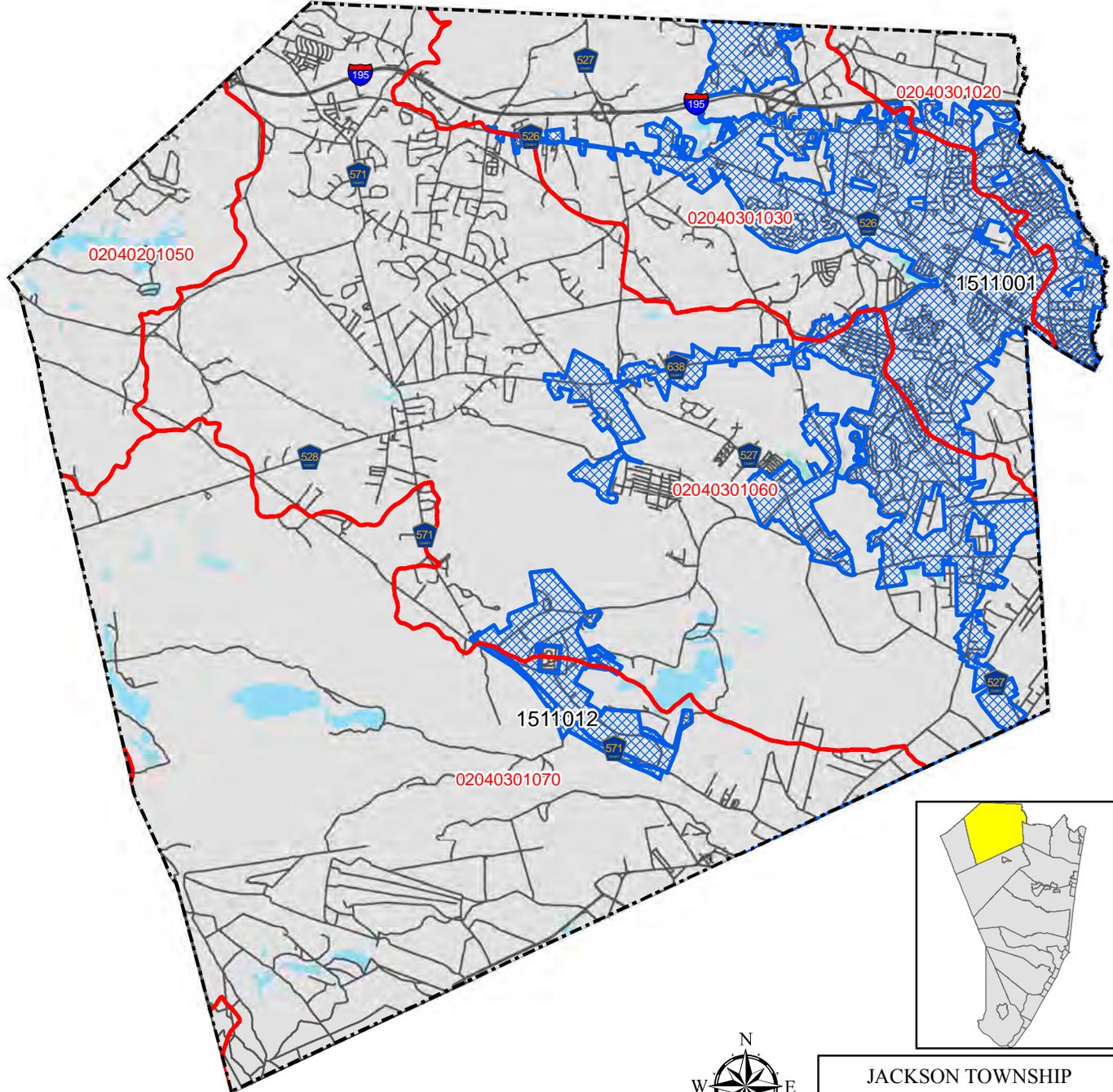
JACKSON TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1511001	JACKSON TOWNSHIP MUA
1511012	JACKSON TOWNSHIP MUA - LEDGER

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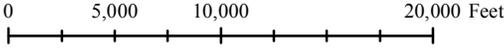
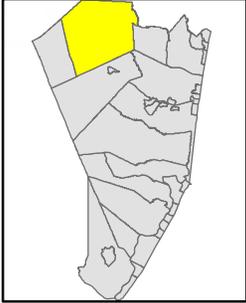
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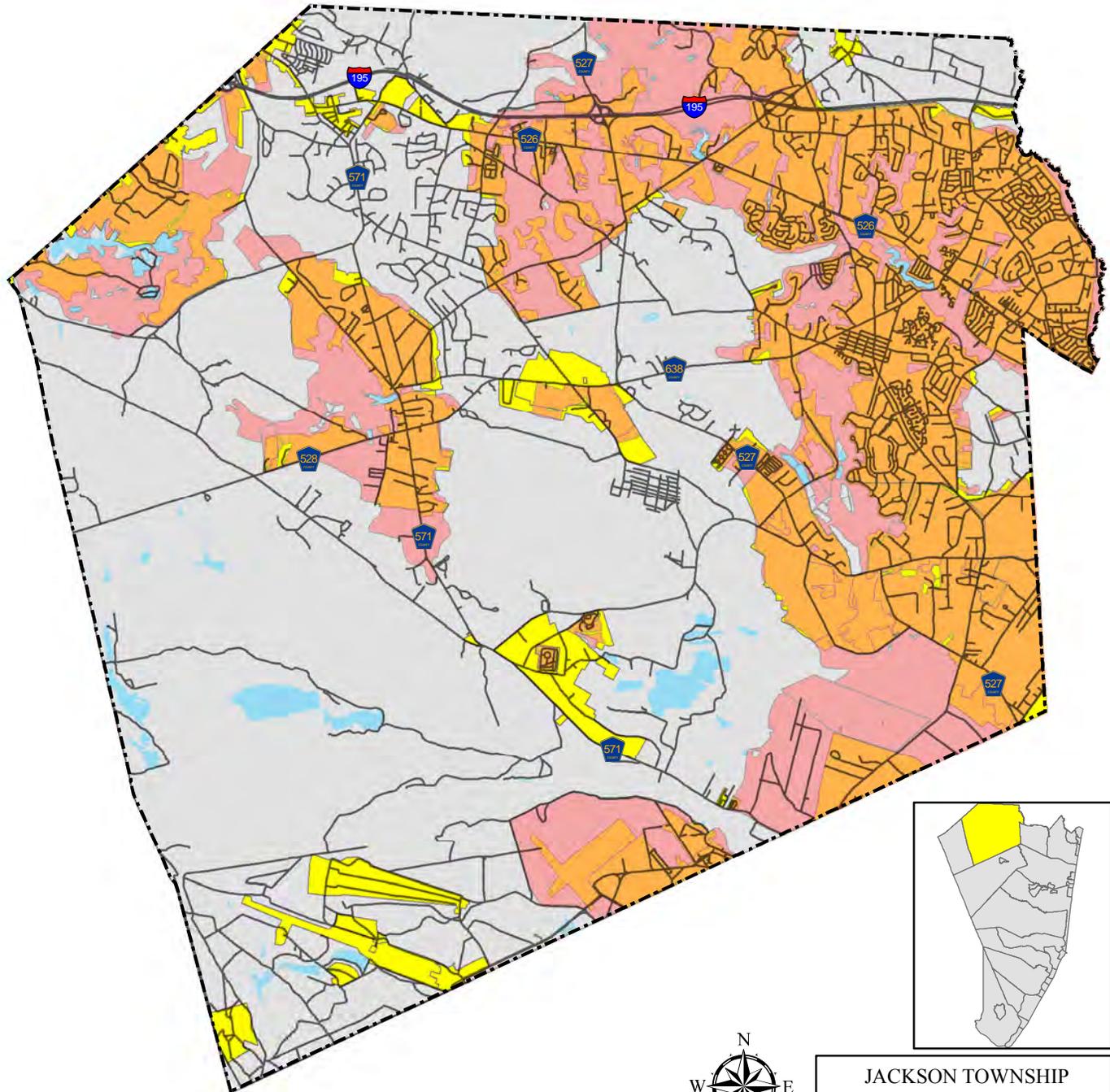
JACKSON TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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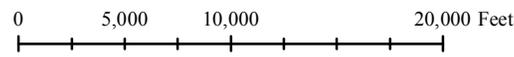
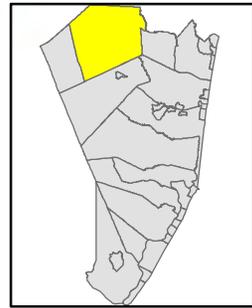
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JACKSON TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

12. LACEY TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Lacey is located in central Ocean County. The Township was incorporated in 1871, and fronts on Barnegat Bay to the east. It is bordered on land by Berkeley Township to the north, Manchester Township to the northwest, Burlington County to the west, and Barnegat and Ocean Townships to the south. With a land area of 84.60 square miles, Lacey is the second largest municipality in Ocean County, after Jackson Township. All land west of the Garden State Parkway (about 66.93% of the municipality's total area) is located within the Pinelands Comprehensive Management Plan Area. The Balance of Lacey's land area is within the CAFRA region to the east. Lacey Township is also the location of the Oyster Creek Nuclear Generating Station, which is a major energy generator in the area.

As of 2010, Lacey had a population of 27,644 people. The U.S. Census that year also counted were 11,573 housing units, of which 1,390 were vacant. 973 of these vacant units were seasonal vacancies. NJTPA projects that Lacey's population will grow by 16.82% to 33,234 residents by the year 2035. The municipal wastewater conveyance infrastructure is expected to continue to handle seasonal fluctuations and future growth in population.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

65.60 square miles of Lacey Township is within the Pinelands Comprehensive Management Plan Area—more than any other municipality in the County. As such, a great amount of Lacey's total area is forested, especially west of the Garden State Parkway. Much of Lacey's land is within Natural Heritage Priority Sites, including the Forked River Mountain Natural Heritage Priority Site. Along the shore of the Barnegat Bay to the east, the Township is dotted by emergent wetlands. Additional wetlands stretch far inland along the branches of Cedar Creek, Forked River, Oyster Creek, and other small streams. There is no preserved agricultural land in the Township.

Table 1 provides a breakdown of the Township's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	10,393.77	16.29%
Public Open Space/Recreational Areas	27,008.95	42.34%
Habitat T&E	45,158.11	70.79%
Natural Heritage Priority Sites	27,684.95	43.40%
Riparian Zones	2,717.53	4.26%
Preserved Agriculture	0.00	0.00%
Surface Water	10,087.56	15.81%

Ordinance	Code	Date Adopted
Zoning	Chapter 335	12/1/1978
Master Plan		12/10/2012
Stormwater [County - MSWMP]	Chapter 353, Article II	5/2/2005 [3/7/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 404	7/3/1974
Source: http://www.ecode360.com/LA0472?#LA0472		



III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Lacey Township east of the Garden State Parkway is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines, which connect to an OCUA line that runs roughly tracks the course of Route 9. This OCUA interceptor enters the Township at the boundary with Ocean Township to the south, running north along a disused railroad right-of-way. This interceptor converts to a force main north of the Forked River, then back to an interceptor near Musket Road, passing through the Lacey-Middle Branch Lift Station (CPS-11) and the Lacey-Parker Avenue Pump Station (CPS-6) along the way. The OCUA line leaves Lacey at the municipal boundary with Berkeley Township to the north. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 3,646.07 acres of developable land, of which 736.01 acres are zoned as residential, 283.21 acres are zoned as commercial, and 733.94 acres are zoned as industrial. The remaining 1892.91 acres are zoned for other uses.

Much of Lacey’s sewer service area has remained unchanged. The largest areas which have been removed are located in the southeast portion of the Township, and include parcels owned by the Exelon Generation Company and the federal government. Sewer service will also be added to three designated Pinelands Village areas situated along Lacey Road (Route 614), consistent with the MOA between the NJDEP and the Pinelands Commission.

All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Lacey’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Township is included in the designated sewer service area. Nearly all of the land excluded from the sewer service area lies to the in the Pinelands region to the west of the Garden State Parkway. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Lacey is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Lacey’s drinking water is derived from seven wells, five which draw from the Atlantic City 800-Foot Sand Aquifer, and two which draw from the Kirkwood-Cohansey Aquifer. The system is operated by the Lacey Township MUA, and is capable of pumping 3.816 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.



V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
A-RPURD	Age-Restricted Planned Unit Residential Development	206.88	81.87
C-100	Marine Commercial	684.73	135.66
C-150	Highway Business	331.44	67.83
C-200	Limited Business	144.72	46.13
C-300	Limited Business	31.18	14.33
FA	Forest Area	24237.60	1516.26
M-1	Business Park	645.33	267.53
M-2	Limited Industrial	171.30	140.85
M-6	Industrial	736.29	325.56
ML-OFF	Municipal Land/Office	25.77	4.03
O-C	Office Commercial	84.46	15.23
PA	Preservation Area	16562.20	341.22
R-100	Residential	2015.09	309.69
R-100A	Residential	33.19	0.00
R-150	Residential	385.64	1.88
R-75	Residential	2591.83	131.14
R-75A	Residential	74.67	0.00
R-75B	Residential	85.46	2.30
R-80	Residential	179.10	36.83
RD	Rural Development	260.85	35.43
RO-100	Residential and Office	18.80	5.52
RO-150	Residential and Office Park	21.50	10.60
RRCD	Residential Retirement Cluster Development	849.42	107.15
SGF	State Game Farm Property	508.68	0.00
VR	Village Residential	568.94	49.03

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 4: Wastewater Flow Directed to OCUA Facilities

CWPCF	
Source	(MGD)
Existing Flow	2.061
Projected Residential	0.619
Projected Commercial	0.201
Total Future Planning Flow	2.881



Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Lacey Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 6 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 5: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	649.48	526.79	2,063.43	5,344,628.98

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Lacey Township’s municipal ordinance applicable to septic connection was adopted in 1974 (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \left(\frac{\text{Square Feet} \times (\text{Building Lot Coverage})}{500} \right) \times (0.125 \text{ Gallons/Day})$$

The results of this analysis, which are further broken out by HUC11, are as follows:



Table 6: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040202030	0.00	0.00	0.00	0.00	0.00	0.00
02040301080	3.92	3.92	0.00	0.00	3.92	3.92
02040301090	5,026.48	1,124.32	2.50	10.91	5,028.98	1,135.23
02040301100	7.76	36.15	10.10	44.00	17.86	80.15
02040301110	3,885.81	755.93	670.43	2611.28	4,556.24	3,367.21
02040301180	120.54	23.44	0.00	0.00	120.54	23.44
02040301190	80.73	14.63	0.00	0.00	80.73	14.63
Totals	9,125.24	1,958.39	683.03	2666.19	9,808.27	4,624.58

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP's nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 7: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040202030	4.4	1,137.55	258.53	0.00
02040301080	4.9	953.59	211.91	3.92
02040301090	4.5	20,899.26	4,644.28	1,135.23
02040301100	6.6	328.22	49.73	80.15
02040301110	4.6	9,061.00	1,969.78	3,367.21
02040301180	4.5	2,968.38	659.64	23.44
02040301190	4.5	204.19	45.38	14.63

The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Lacey's portion of HUC11 02040301100 and 02040301110. However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in 02040301100; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11, inclusive of Lacey Township, is less than the HUC11's total capacity for development while maintaining optimal nitrate dilution.

According to the NJDEP's nitrate dilution model, several industrial and commercially zoned parcels in the vicinity of the Oyster Creek Nuclear Generating Station are projected to discharge far more than their proportional share of the total assimilative capacity of 02040301110, and would cause this HUC11 to exceed its nitrate target if developed as zoned. However, the actual nitrate discharge from the Oyster Creek area will be far less than projected at build out. At the time of this writing, Oyster Creek Nuclear Generating Station is still operational and will start decommissioning in 2019—a process that is expected to take several years. No development is expected to occur in this area until the decommissioning is complete, and any future development in this area is almost certainly to be either NJPDES permitted or added to the sewer service area through amendment. Furthermore, it is anticipated that a significant percentage of the remaining area in



question will be designated for preservation in the course of decommissioning. The NJDEP model used to produce these results—and all nitrate dilution projections in this WMP—incorporates the Equivalent Dwelling Unit (EDU) formula, which, lacking specific development parameters such as type of non-residential development, square footage of floor space, number of floors, etc., may project nitrate discharges from non-residential zones that are several times greater than those from residential zones. For these reasons, the standard septic dilution is not applicable for this area.

Information on each HUC11’s septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

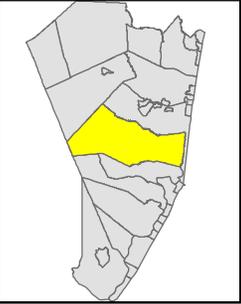
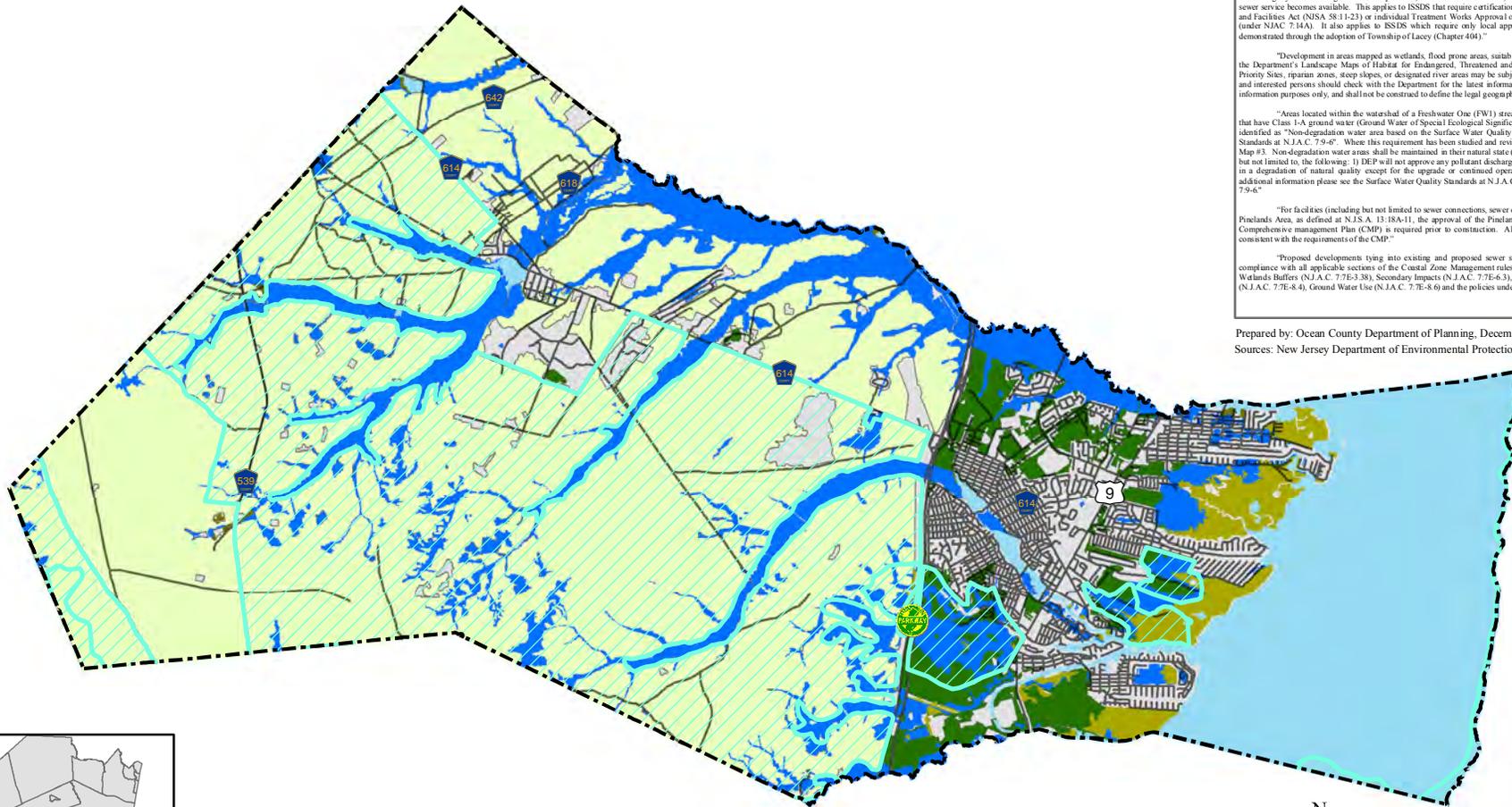
Table 8 Public Water Purveyor Capacity								
Lacey Township MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
4.176	3.535	0.641	112.700	99.554	13.146	1,027.500	858.831	168.669
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)



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"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC. 14, 150 feet for waters designated Trout Production and II upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the built-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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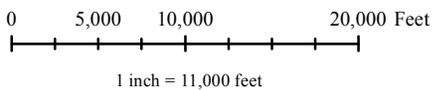
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: (1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

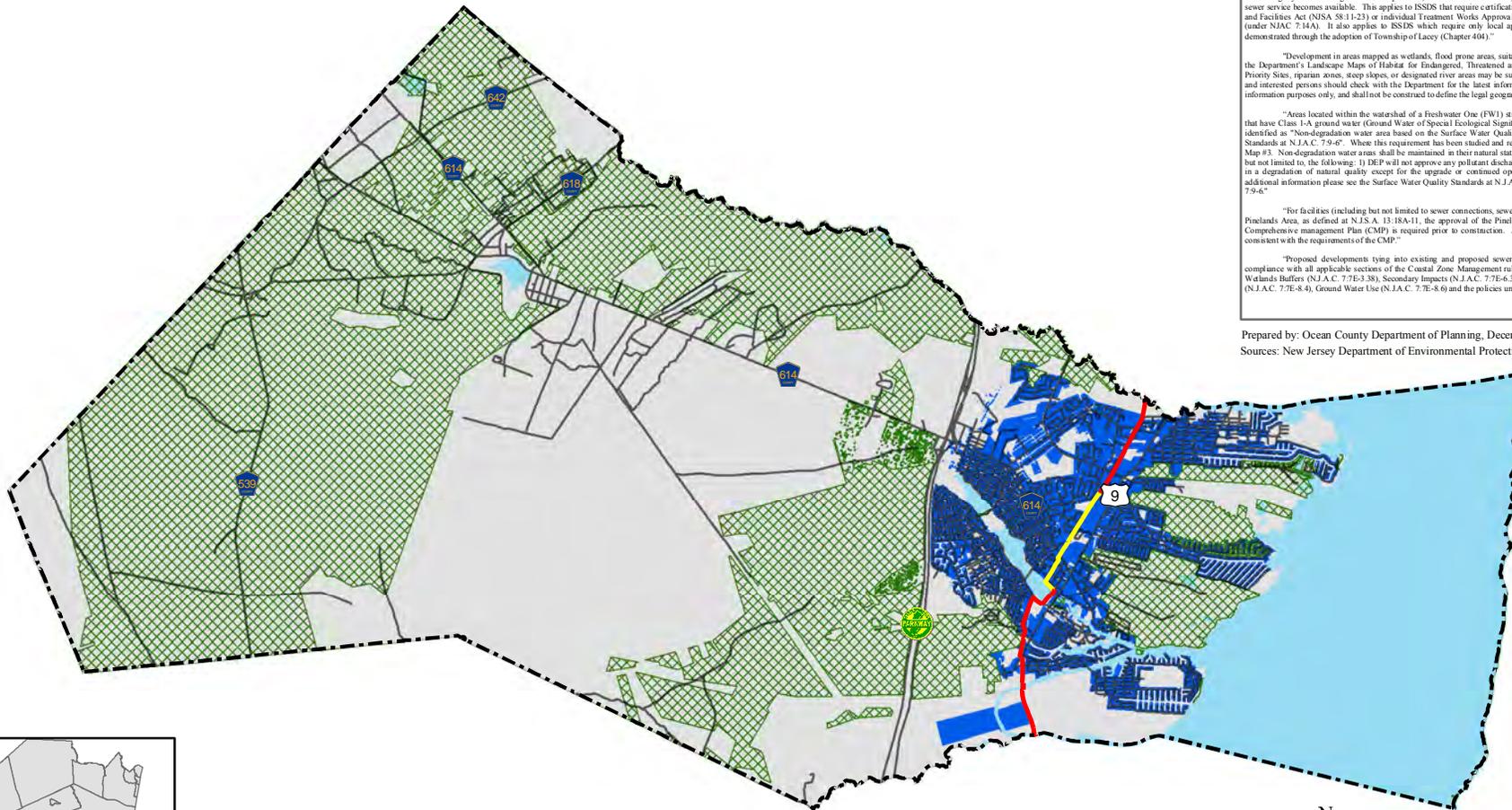
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
OCEAN COUNTY, NJ
MAP 1
ENVIRONMENTAL FEATURES

Legend

- Interceptor
- Force Main
- Roads
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Central DSW (NJ0029408)



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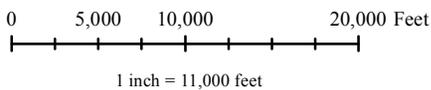
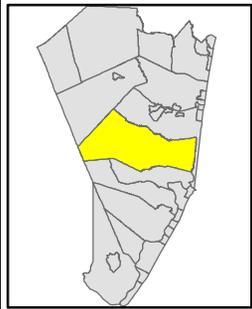
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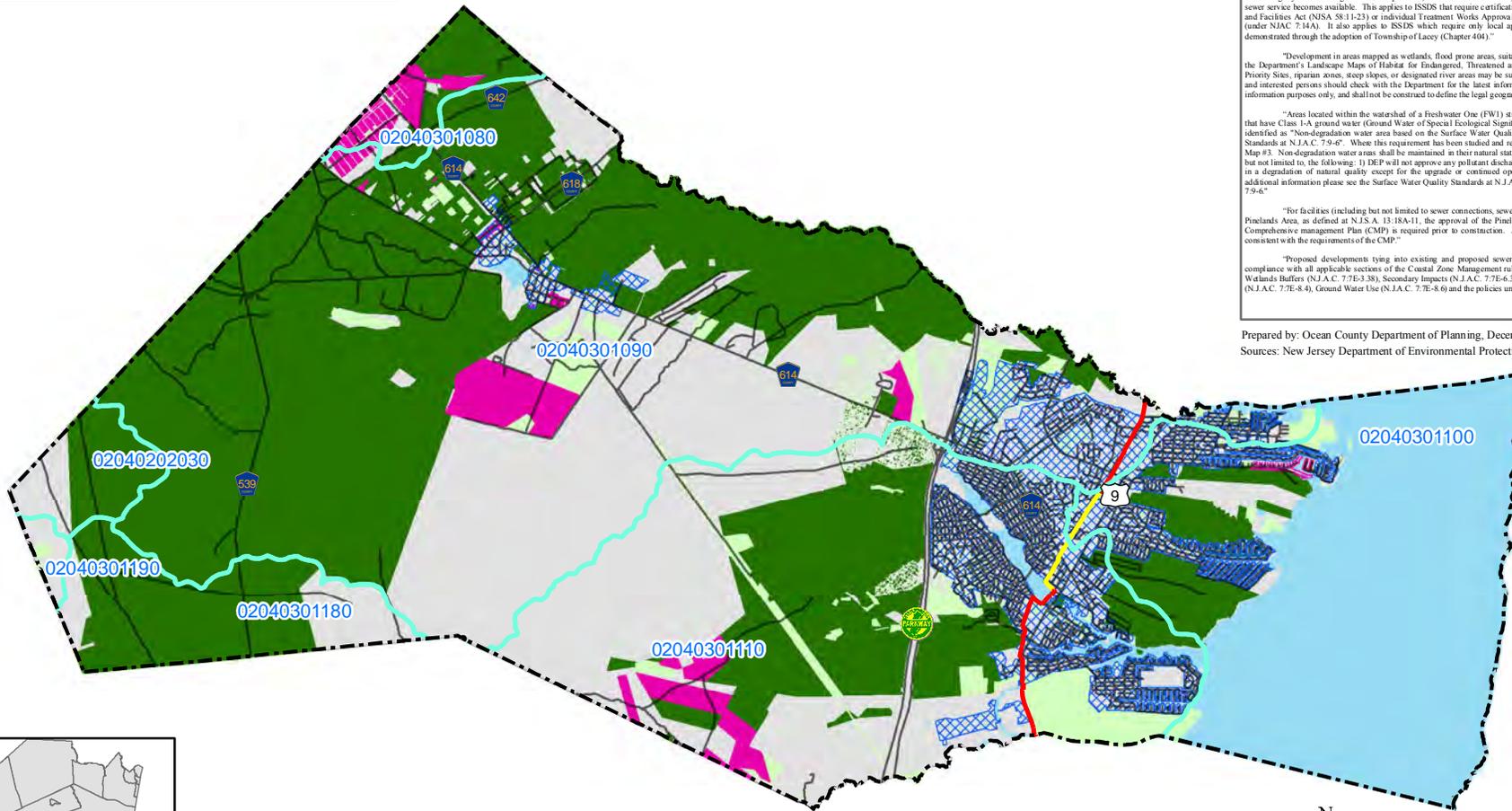
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
OCEAN COUNTY, NJ
MAP 2
EXISTING SEWERED AREA

- Legend**
-  HUC 11
 -  Interceptor
 -  Force Main
 -  Roads
 -  OCUA Central DSW (NJ0029408)
 -  Non Discharge Areas
 -  Undeveloped Parcels
 -  Public Open Space & Recreation Areas
 -  Surface Water



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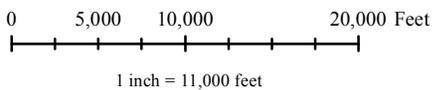
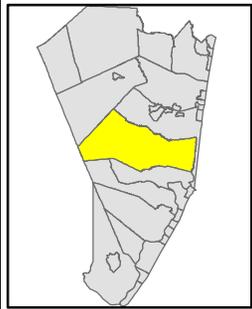
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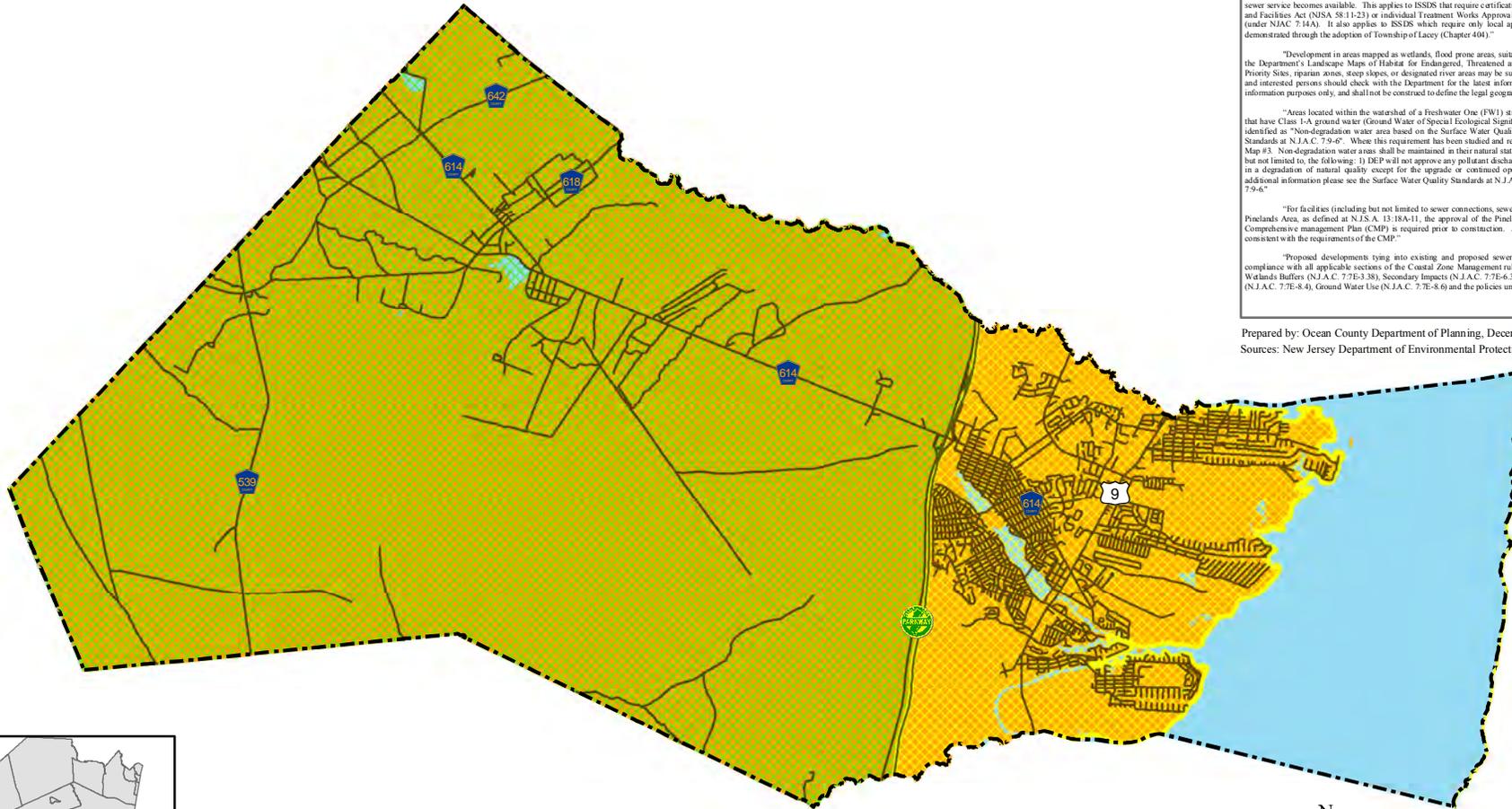
Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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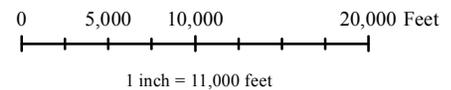
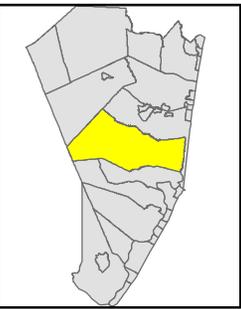
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 5
REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1512001	LACEY TOWNSHIP MUA

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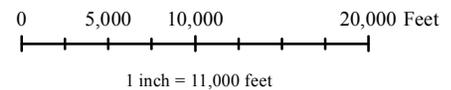
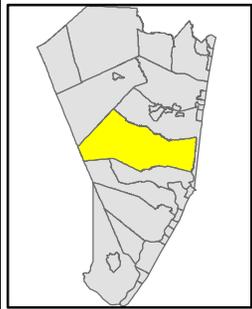
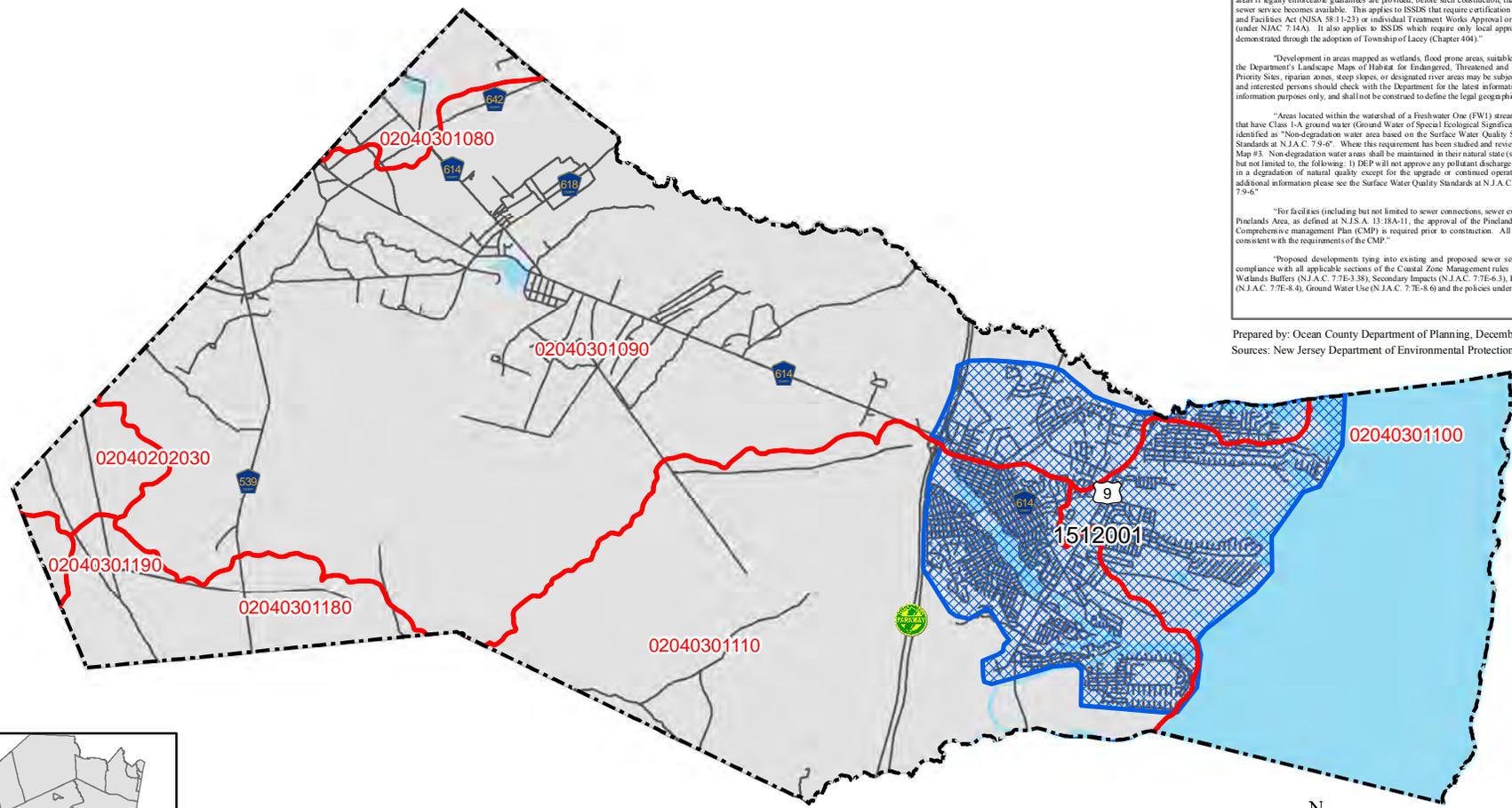
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap

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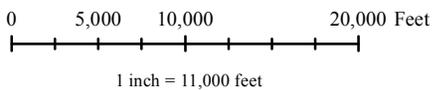
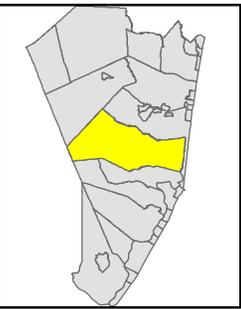
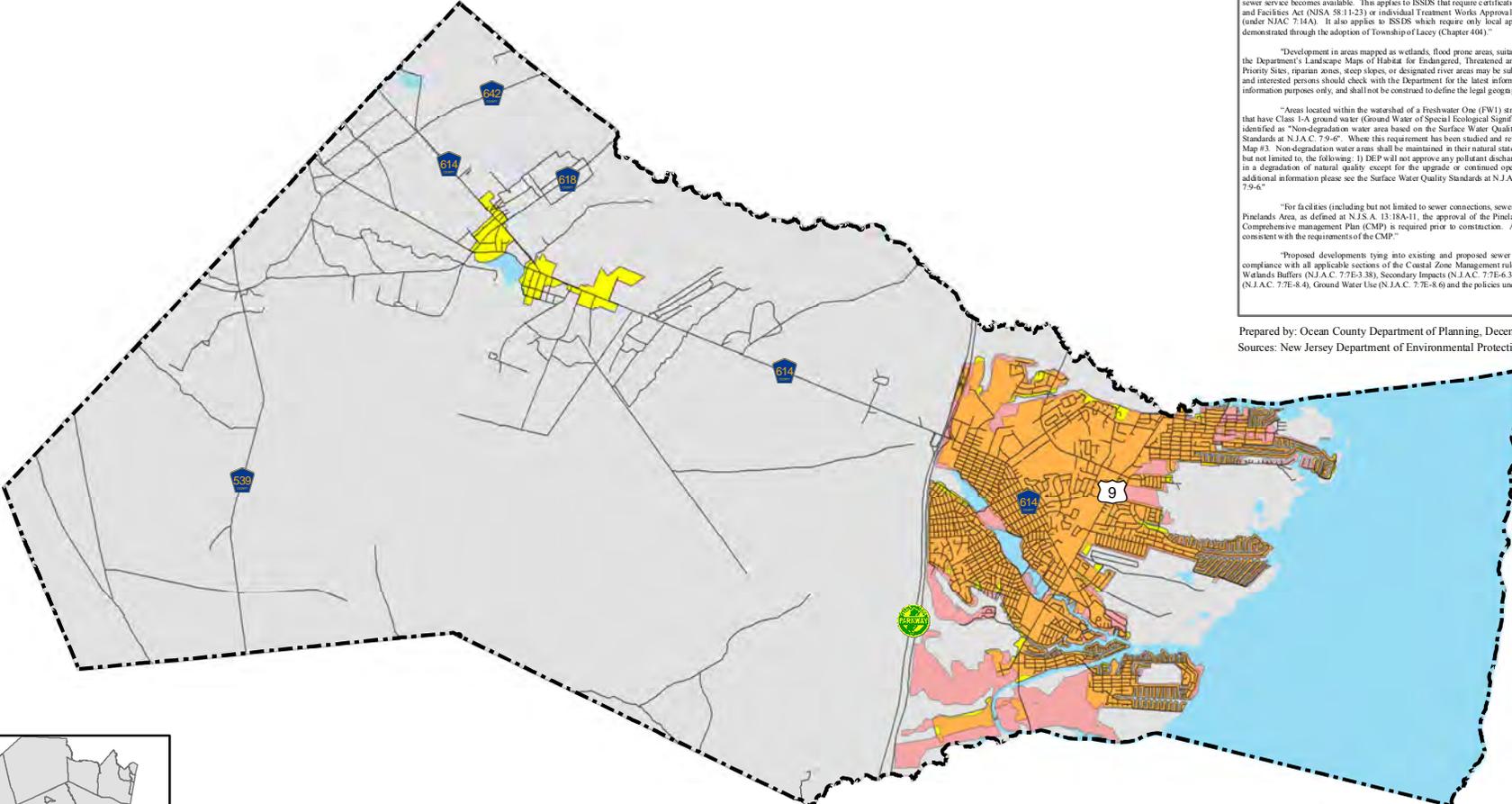
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Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



LACEY TOWNSHIP
 OCEAN COUNTY, NJ
 DELTA MAP
 SIGNIFICANT CHANGES



13. LAKEHURST BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Lakehurst was founded in 1921, and is located in northern inland Ocean County. The Borough is bordered on all sides by Manchester Township. The Naval Air Engineering Station at Lakehurst, now a part of Joint Base McGuire-Dix-Lakehurst, is located in Manchester Township to the north. 87.49% of the Borough’s 0.99 square miles of land (631.52 acres) lies within the Pinelands CMP Area. Only the eastern end of the Borough is within the CAFRA region. The boundary between these two protected areas is marked by a lightly used railroad right-of-way which crosses through Lakehurst on a southwest-northeast course.

According to the 2010 U.S. Census, Lakehurst had a total population of 2,654, in a total of 943 housing units. Of these units, 62 were found to be vacant, and five of these vacant units were seasonal vacancies. NJTPA projects the population to grow to 3,237 by the year 2035, an increase of 18.02%. Neither seasonal fluctuations nor future population growth are likely to stress the Borough’s wastewater infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Lakehurst’s northern and southern municipal borders are formed by the Manapagua and Old Hurricane Brooks, respectively, which are lined by forests and wetlands. A bald eagle foraging area is present in the southern portion of the Borough, in the vicinity of Horicon Lake. A small region southwest of the Route 70 traffic circle lies within a Natural Heritage Priority Site. There are no preserved farms in Lakehurst.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	137.79	21.82%
Public Open Space/Recreational Areas	47.75	7.56%
Habitat T&E	195.87	31.02%
Natural Heritage Priority Sites	4.94	0.78%
Riparian Zones	58.87	9.32%
Preserved Agriculture	0.00	0.00%
Surface Water	49.07	7.77%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 25	1982
Master Plan		6/2008
Stormwater [County - MSWMP]	(Ordinance 2006-01)	3/16/2006 [2/15/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: Municipal Clerk

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Lakehurst is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which



originates at the intersection of Chestnut and Myrtle Streets. From this point, the interceptor carries wastewater successively east and south along Chestnut Street, Manapaqua Avenue, Hibernia Avenue, Centre Street, Brown Avenue, and Route 37, finally crossing into Manchester Township at the southeast corner of the Borough. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 108.11 acres of developable land, of which 60.20 acres are zoned as residential, 30.90 acres are zoned as commercial, and 17.02 acres are zoned as industrial. All development west of the Pinelands boundary is under the jurisdiction of the Pinelands Commission. Since Lakehurst is a designated “Pinelands Village,” the entire Pinelands area must be in the sewer service area, consistent with the MOU between the Pinelands Commission and the NJDEP. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Lakehurst’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Lakehurst. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Lakehurst’s drinking water is derived from two wells which draw from the Potomac-Raritan-Magothy Aquifer. The system is operated by the Lakehurst Water Department, and is capable of pumping 0.432 MGD. Map 6 shows the current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B-1	Downtown Business	15.91	1.16
B-2	Highway Business	65.36	12.75
LI	Light Industrial	50.66	17.02
PRCD	Planned Retirement Community Development	23.03	0.00
R-1	Single Family Residential	221.64	54.66
R-2	Single Family Residential	89.29	5.32
R-3	Two Family Residential	23.00	0.22
R-4	Multiple Dwelling, Office District	20.83	16.98

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Lakehurst Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 583 people by 2035. This equates to a 0.044 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Lakehurst. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.189	0.024	0.213	0.257	0.000	0.257

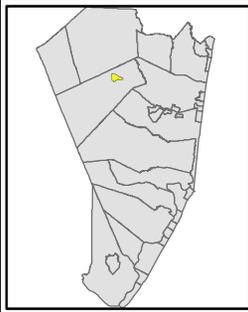
Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Lakehurst Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.432	0.303	0.129	15.000	9.400	5.600	140.000	95.120	44.880
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

-  Natural Heritage Priority Sites
-  Bald Eagle Foraging
-  Roads
-  Wetlands
-  Forest (Rank 4)
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these watersheds and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974.

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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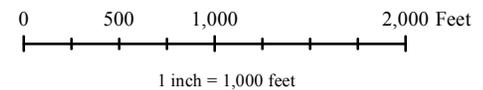
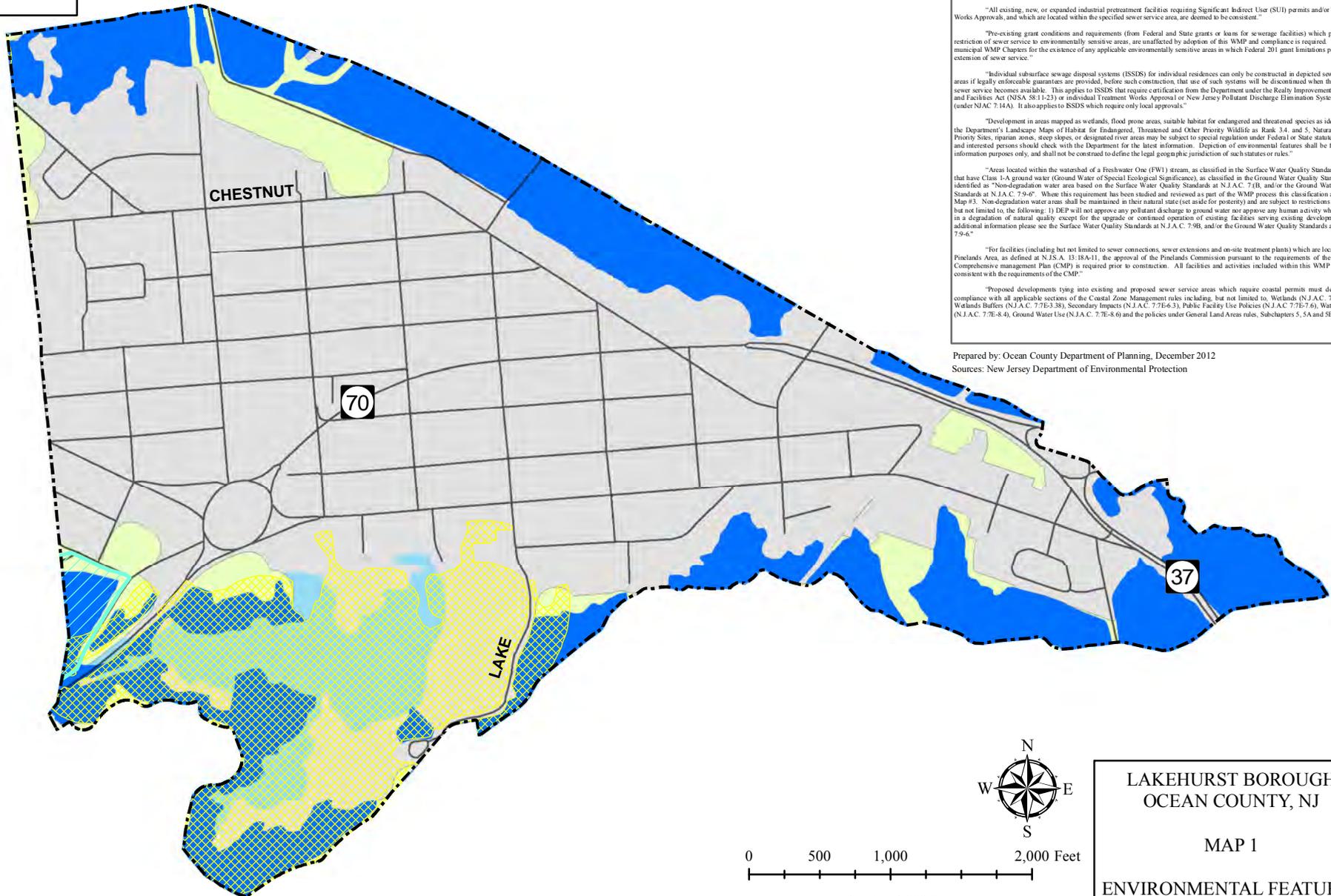
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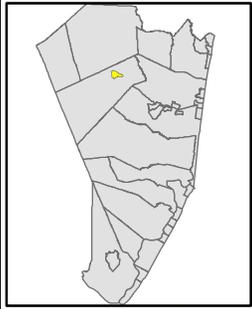
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LAKEHURST BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES



Legend

-  Interceptor
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water

Sewered Areas

-  OCUA Central DSW (NJ0029408)

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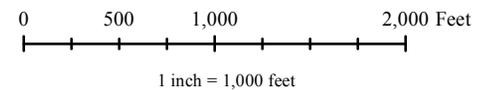
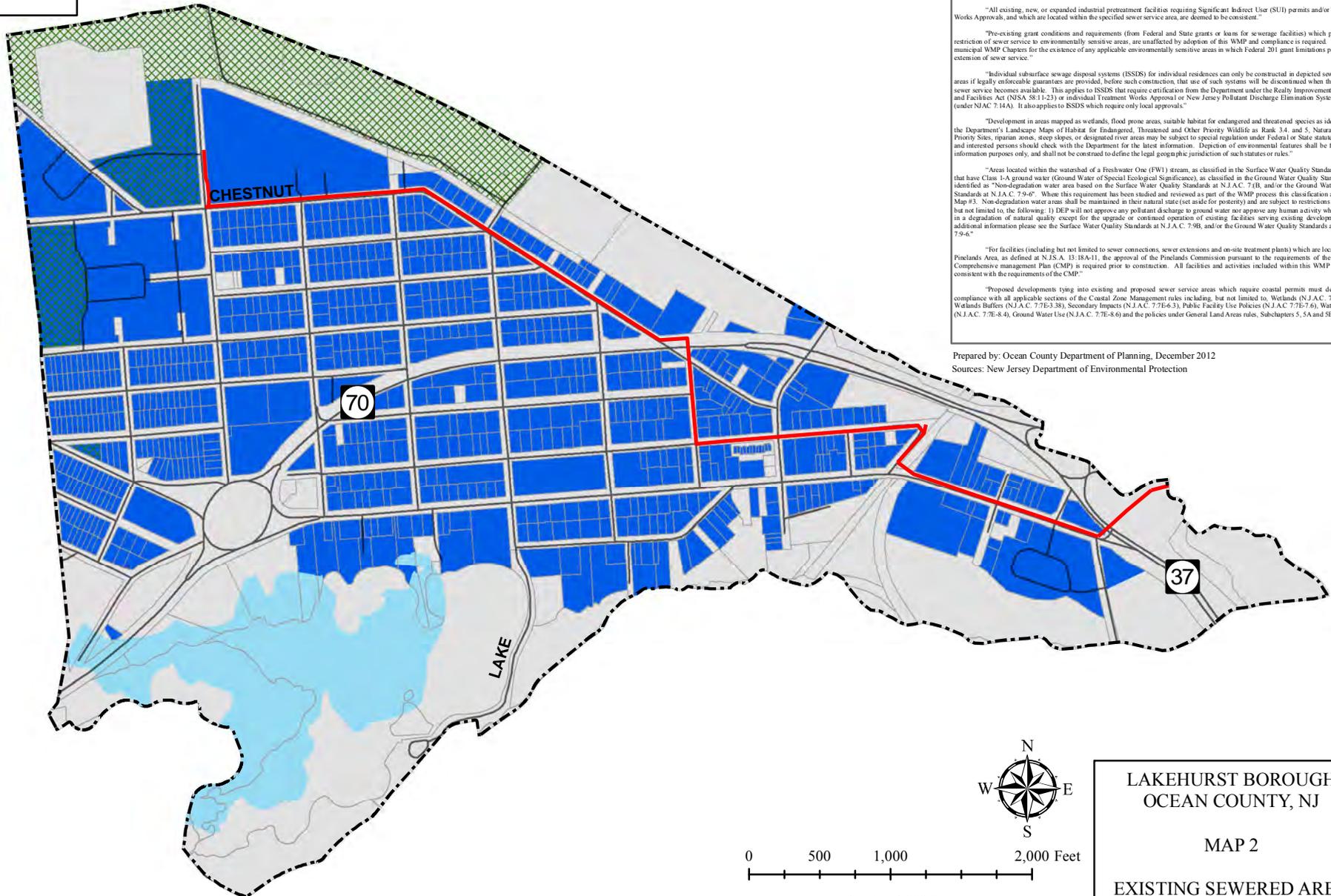
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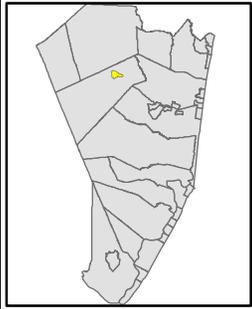
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LAKEHURST BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA



Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

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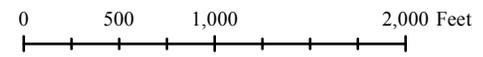
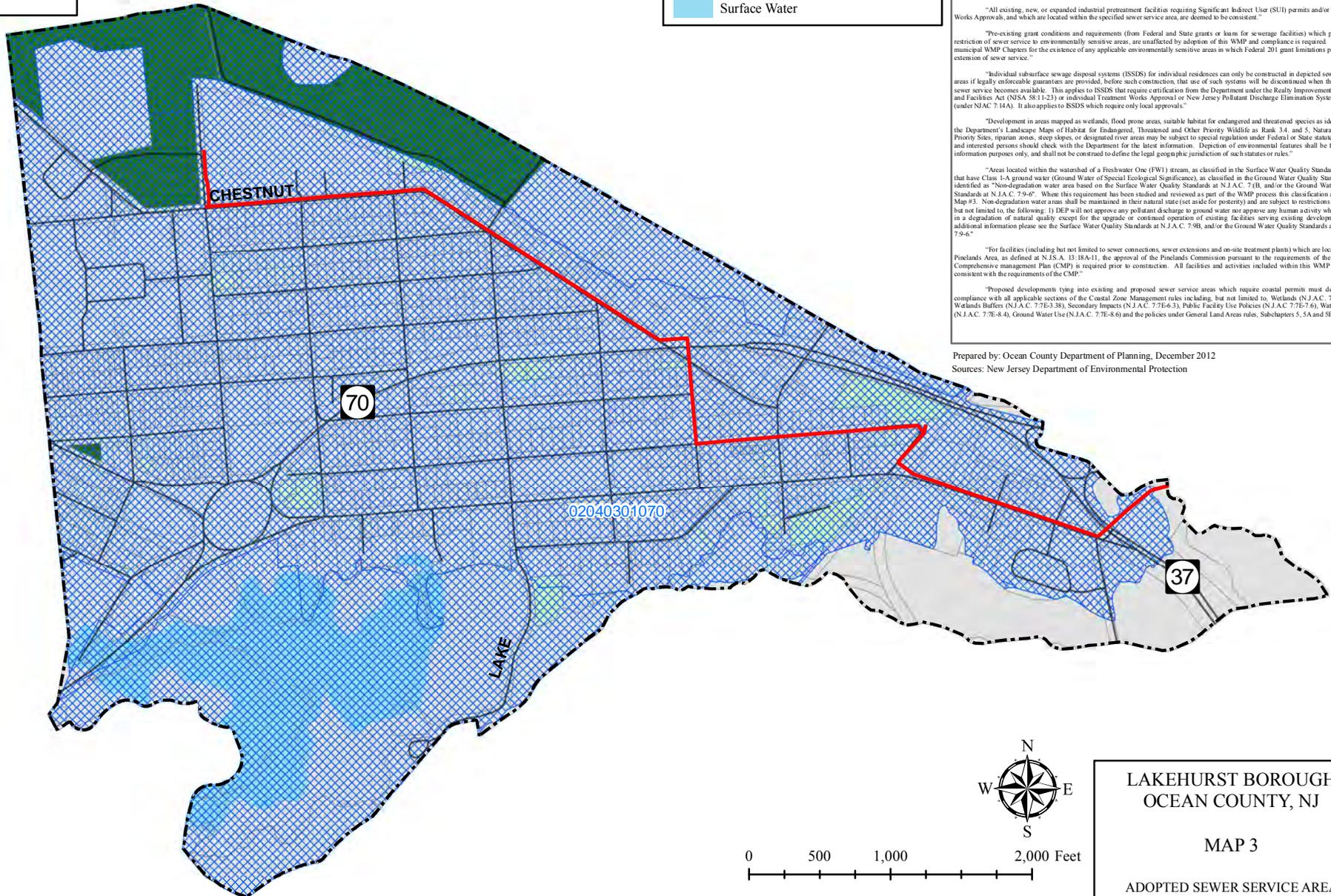
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Prepared by: Ocean County Department of Planning, December 2012
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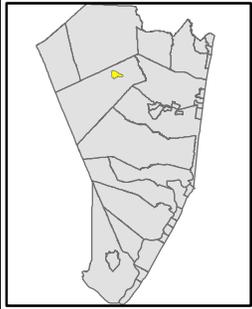


1 inch = 1,000 feet

LAKEHURST BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA



Legend

- B-1 (Downtown Business)
- B-2 (Highway Business)
- LI (Light Industrial)
- PRCD (Planned Retirement Community Development)
- R-1 (Single Family Residential)
- R-2 (Single Family Residential)
- R-3 (Two Family Residential)
- R-4 (Multiple Dwelling, Office District)

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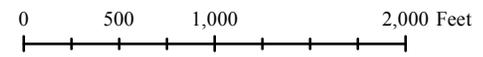
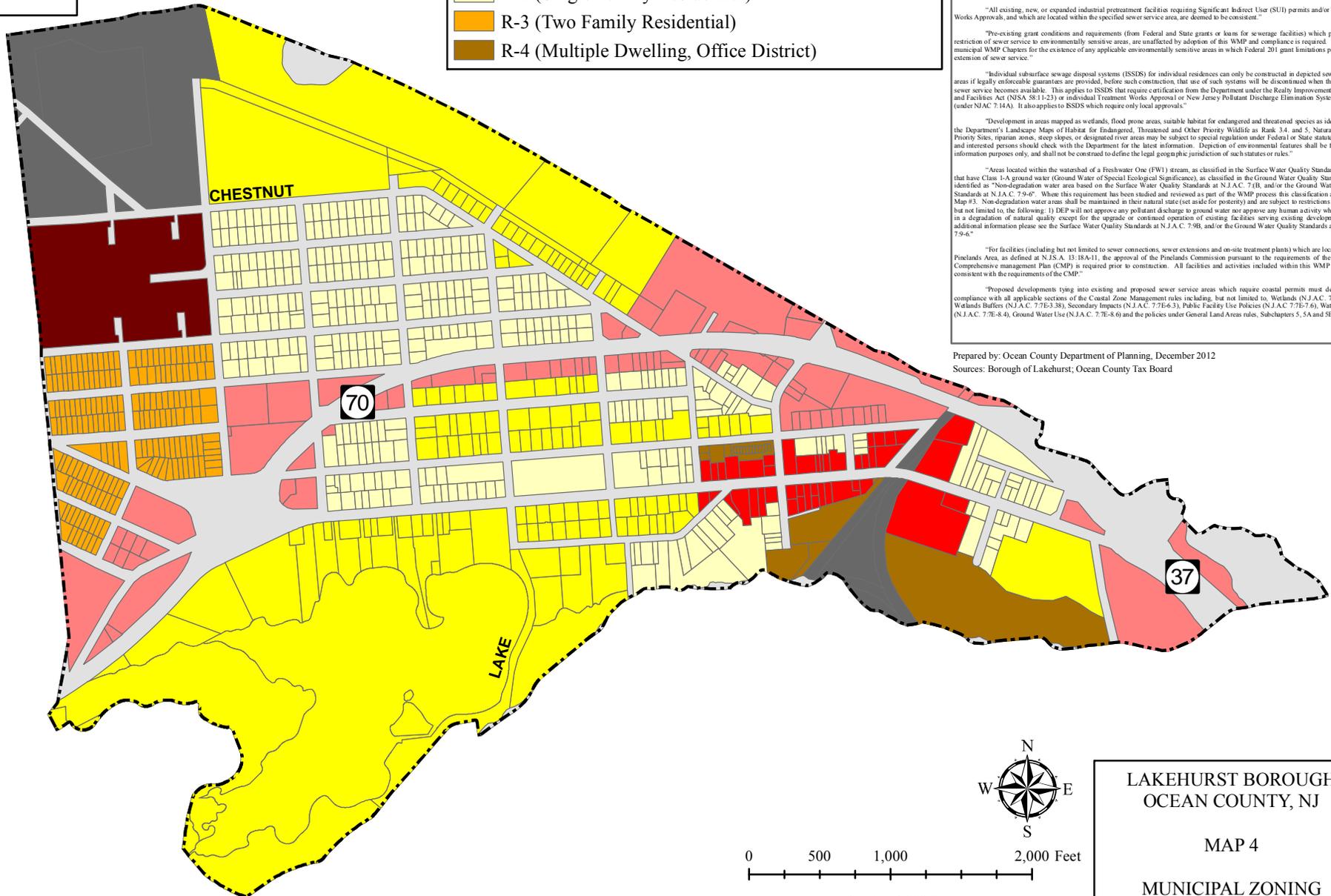
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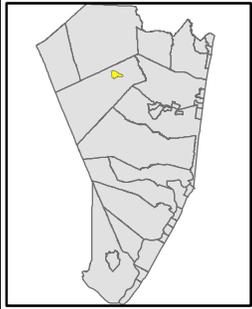
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Lakehurst; Ocean County Tax Board



1 inch = 1,000 feet

LAKEHURST BOROUGH
OCEAN COUNTY, NJ
MAP 4
MUNICIPAL ZONING



Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974.

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.A.C. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

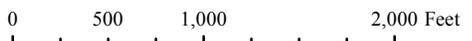
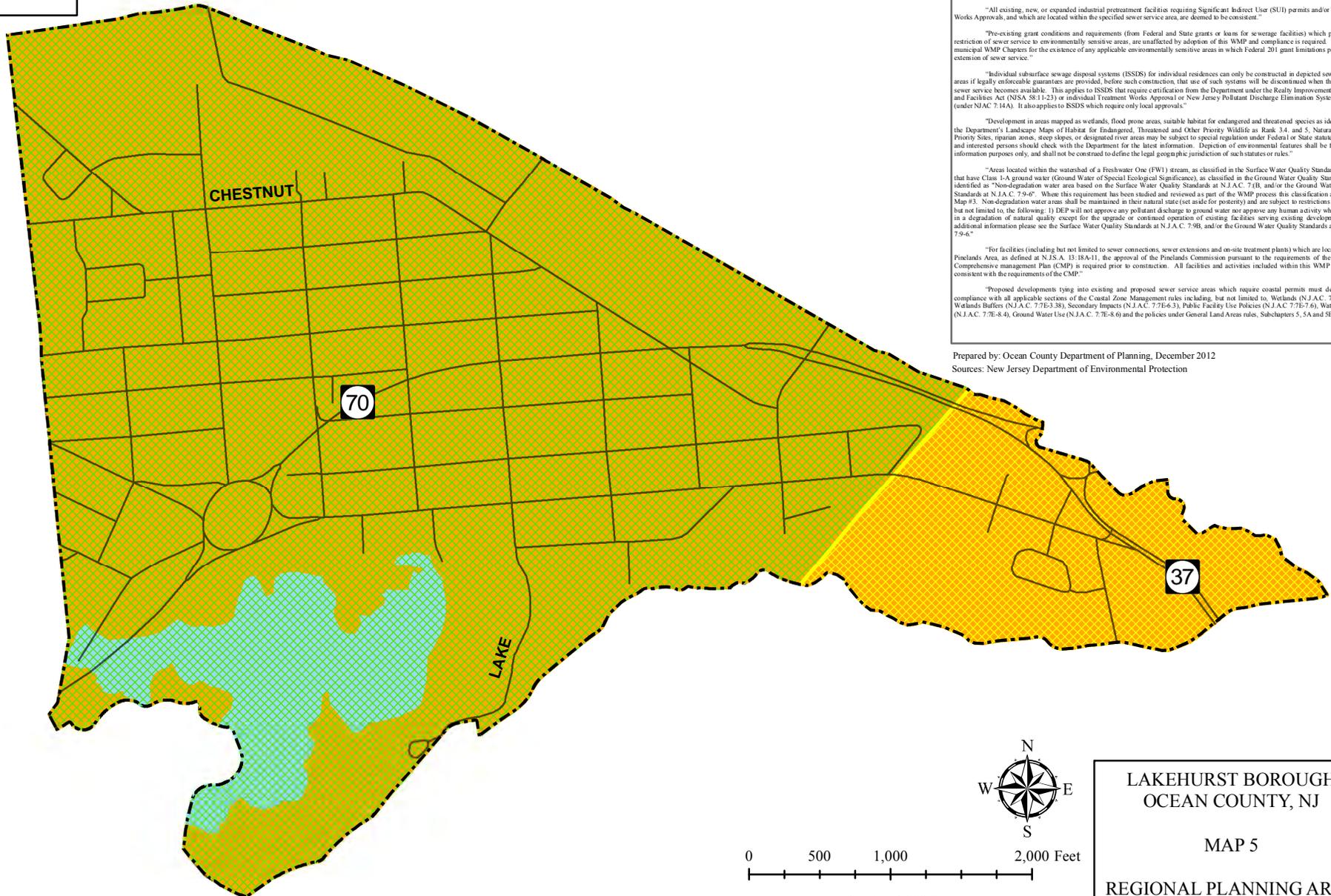
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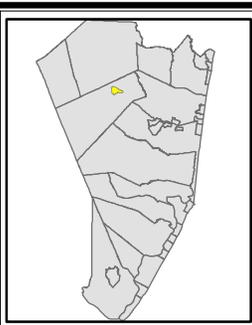
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,000 feet

LAKEHURST BOROUGH
OCEAN COUNTY, NJ
MAP 5
REGIONAL PLANNING AREA



PWSID	PURVEYOR NAME
1513001	LAKEHURST WATER DEPARTMENT

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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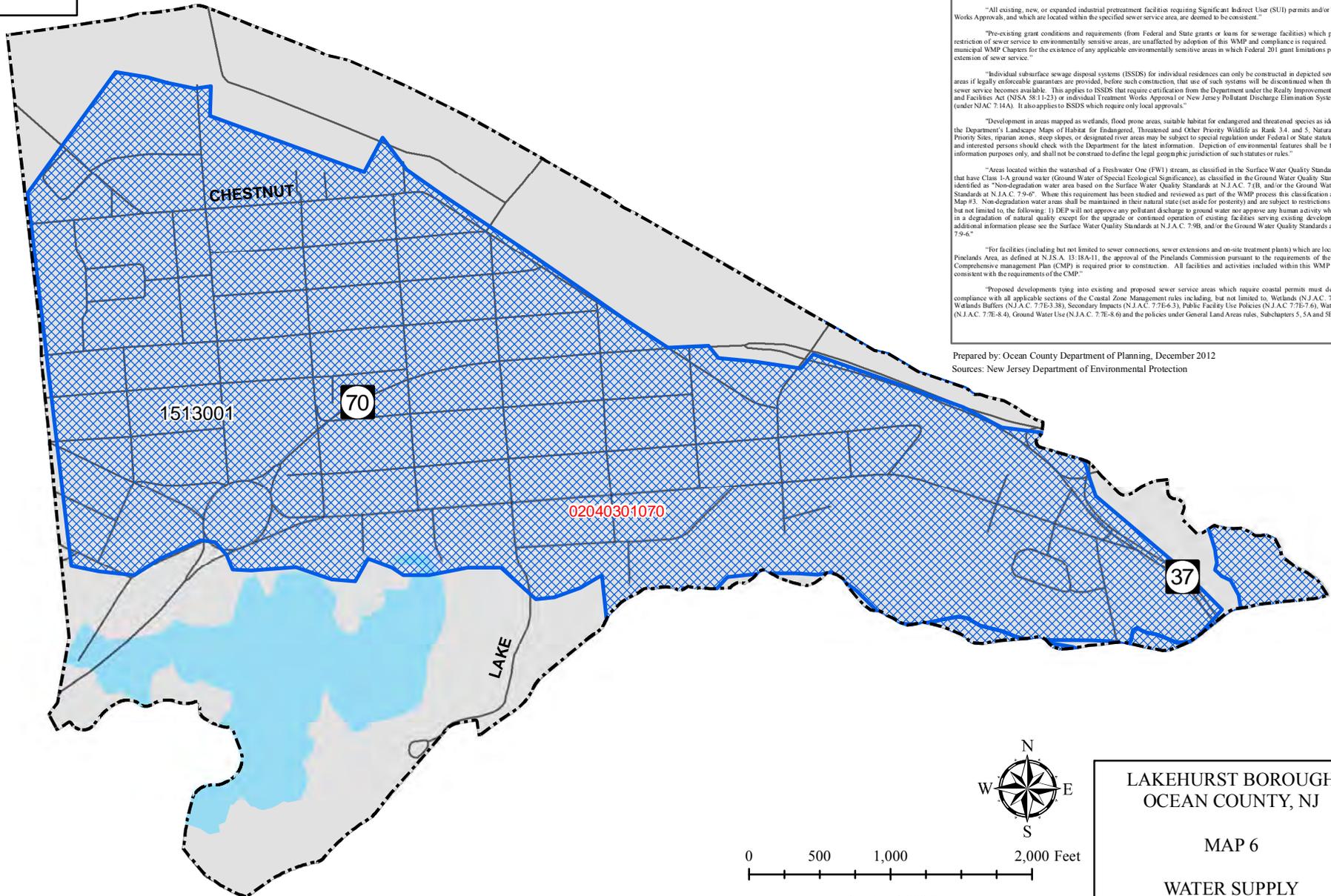
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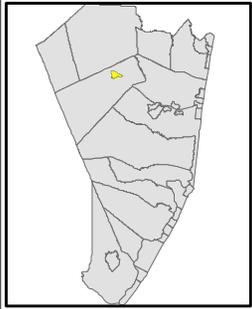
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



LAKEHURST BOROUGH
OCEAN COUNTY, NJ
MAP 6
WATER SUPPLY



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap

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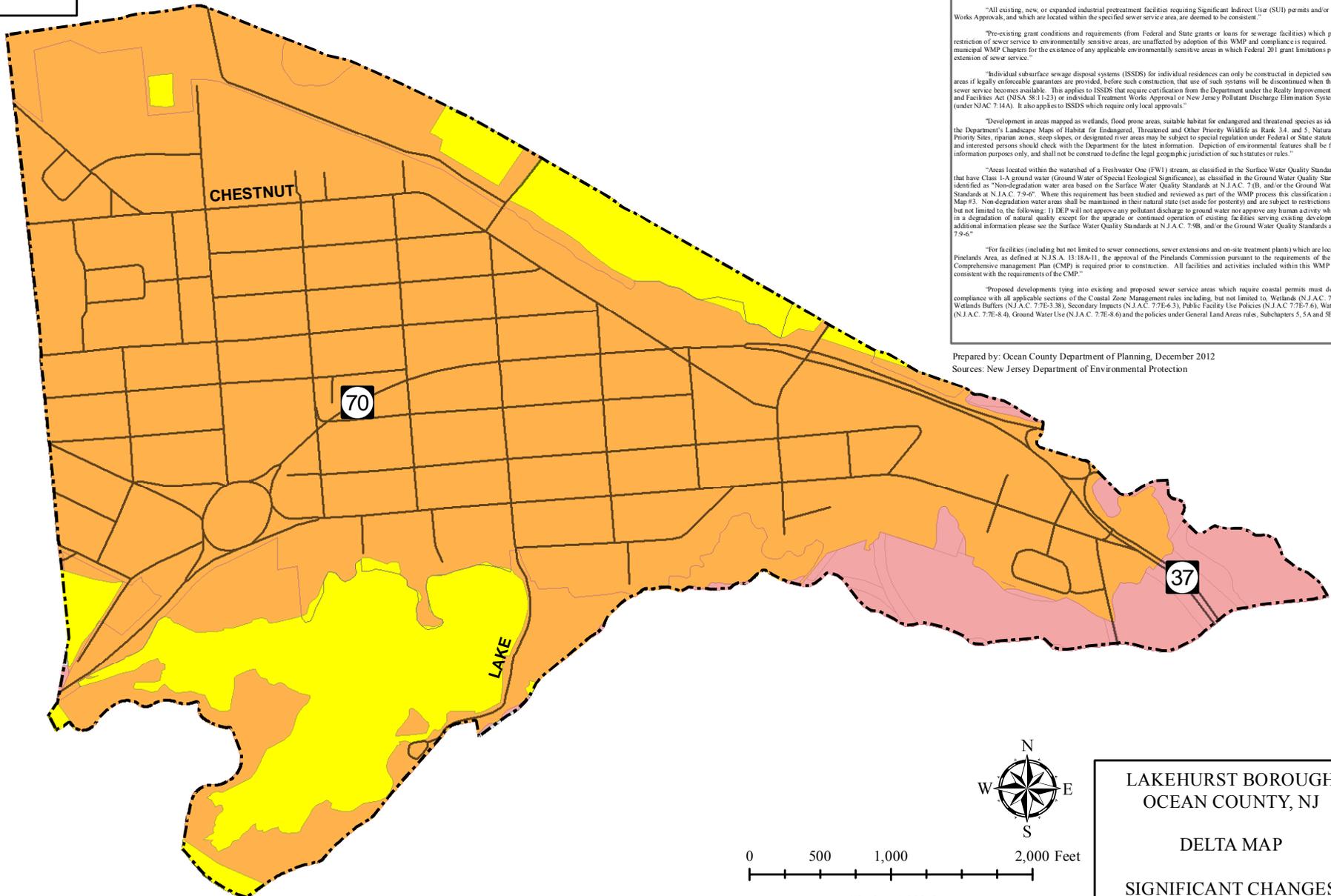
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,000 feet

LAKEHURST BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

14. LAKEWOOD TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Lakewood is located in northern central Ocean County. Incorporated in 1892, the municipality is bordered by Monmouth County to the north, Jackson Township to the west, Toms River Township to the south, and Brick Township to the east. With 25.50 square miles of land area, approximately two thirds of Lakewood lies within the CAFRA region.

The historic town center of Lakewood is located west of the Garden State Parkway, along the Route 9 corridor. Once a seasonal retreat for some of New York City’s most prominent families, Georgian Court University and Ocean County Park now stand on the former estates of the Goulds and the Rockefellers, respectively.

In 2010, there were a total of 26,337 housing units located in Lakewood Township, 562 of which were found to be vacant in that year’s U.S. Census. Of these 562 vacant units, 360 were counted as seasonal units. As such, seasonal population change is not a significant factor in Lakewood for wastewater treatment and other planning purposes.

Recent population growth has seen Lakewood become one of the ten largest municipalities in New Jersey. As of the 2010 U.S. Census, Lakewood had a total population of 92,843, making it the most populous municipality in Ocean County. At present, the growth occurring in Lakewood Township is unique to the remainder of the County. While sufficient vacant land exists to classify Lakewood as a non-urban municipality, redevelopment is affecting more growth than development of open land. Throughout the Township, single-family homes are being replaced by multi-family and high-density development. To accommodate the demand for higher densities of development, Lakewood Township adopted a Smart Growth Plan in June 2013 which calls for targeted redevelopment in several key areas, including the Cedarbridge Town Center.

Utilizing GIS software to digitize the changes proposed by the Lakewood Smart Growth Plan, as well as current land use patterns and zoning regulations, the Ocean County Department of Planning projects that the Township’s population will grow to 108,282 people by the year 2035—a 16.63% increase since 2010. This projection is based on several assumptions. First, it is assumed that the redevelopment of newly created zoning districts within the Cedarbridge Town Center will mimic the development prescribed by regulations in similar existing districts throughout the municipality. For example, the Cedarbridge Town Center’s “Multifamily Residential” district is assumed to be redeveloped at a density comparable to Lakewood’s R-M (Multifamily Residential) district. Second, this projection assumes that future residential development will occur in vacant areas where both the prevailing land use of neighboring parcels is residential, and the zoning district’s regulations allow for residential development as a permitted use. Such considerations were made for the HD-7 (Highway Development) zone in the vicinity of River Avenue and Oak Street, and for a portion of the M-1 (Industrial) zone on Cross Street which has already been subdivided for single family residential development. Third, for all other areas of the municipality, this projection assumes maximum build out—including clustering options—allowed by current municipal zoning regulations. This projection does not factor the rezoning proposals introduced in the 2007 Master Plan Reexamination Report which have not yet taken effect.

Presently, Lakewood Township is petitioning for plan endorsement. The Township’s current proposal through the New Jersey State Planning Commission calls for far more growth than is permitted by current zoning. The County projections are only based on the zoning in place at the time this chapter was prepared. As with any municipality, future revisions and amendments to the Ocean County WMP may be necessary due to changing land use regulations and the associated growth projections.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

As seen in Map 1, Lakewood is sparsely covered with freshwater wetlands along several inland stream corridors and lakes. Bald eagle foraging grounds are also located along the northern and southern branches of the Metedeconk River. Located in the vicinity of the divergence of these two branches—in the northeastern portion of the Township—is Lakewood’s single but relatively large tract of preserved farmland. Nearly all of Lakewood’s forests are located to the south of the Metedeconk River’s southern branch. There are no beaches or Natural Heritage Priority Sites.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	1,840.08	11.46%
Public Open Space/Recreational Areas	786.09	4.89%
Habitat T&E	6,481.05	40.36%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	495.66	3.09%
Preserved Agriculture	61.80	0.38%
Surface Water	211.51	1.32%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Unified Development Ordinance, Chapter 18-901	2005
Master Plan		3/13/2007
Stormwater [County - MSWMP]	Unified Development Ordinance, Chapter 32	1/2012 [12/14/2006]
Riparian Zone	N/A	N/A
Septic System Maintenance	Board of Health Ordinances, Chapter XI	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A
Source: Municipal Clerk, http://www.lakewoodnj.gov/udo.php		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

Nearly all existing development in Lakewood is connected to the existing sewer system, with the exception of two large tracts in the western portion of the municipality. Wastewater is collected through the Township’s lateral lines. The majority of the municipal system connects to an OCUA interceptor that enters as two lines in the northwest corner of the municipality at Lakewood’s boundary with Jackson Township. The two lines converge at the western end of Carasaljo Park, and as one, this interceptor transports wastewater southeast along the course of the South Branch of the Metedeconk River. This line ultimately crosses into Brick Township near the Garden State Parkway’s Exit 90 interchange. From there, wastewater is conveyed to OCUA’s NWPCF in Brick Township.

Two other interceptors are also present in Lakewood. The first of these interceptors enters the Township from Monmouth County near Ridge Avenue. This line flows south along the North Branch of the Metedeconk River and converges with the aforementioned interceptor just west of Lanes Mill Road (Route 549). A second line originates within Lakewood close to Lake Waddill in the southern central portion of the Township. It then proceeds eastward, south of Route 70, and enters Brick Township directly. From there, the



wastewater is conveyed to OCUA’s NWPCF in Brick Township. There are no lift or pump stations in the Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. In Lakewood there are 272.23 acres of developable land, of which 203.40 acres are zoned as residential and 68.83 acres are zoned as commercial. There is no significant developable land zoned for industrial uses in Lakewood.

The new sewer service area boundaries adopted in 2013 contained two primary additions to Lakewood’s sewer service areas: One is the Lakewood Country Club, which is situated in the northwest corner of the Township. The second is comprised of approximately 130 residential lots centered on Cross Street (Route 626) at the municipal boundary with Jackson Township. Several smaller expansions of sewer service have also occurred in the central and southeastern portions of the Township. Areas removed from the sewer service area include Ocean County Park, as well as several tracts of vacant land owned by the Township of Lakewood and by the County of Ocean.

Local zoning is presented in Map 4, while Map 5 displays the boundaries of the CAFRA region. The Delta Map displays the changes to Lakewood’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Nearly all of the developed and developable land in the Township is included in the designated sewer service area. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Lakewood is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Lakewood’s drinking water is derived from twenty wells, eleven which draw from the Kirkwood-Cohansey Aquifer, six which draw from the Englishtown Aquifer, and three which draws from the Potomac-Raritan-Magothy Aquifer. The Lakewood Township MUA also purchases potable surface water from outside sources. The western portion of the Township is served by the New Jersey American Water Company, while the southeastern portion is operated by the Lakewood Township MUA, which is capable of pumping 5.566 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There is one development located in the Township that is served by an NJPDES permitted facility with discharge to ground water greater than 2,000 GPD. The Facility Table for this system is provided in Table 3:



Table 3: NJPDES - Lakewood Rest Home

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0089788	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Tzivia Nyer	
7. Operator of Facility:			
8. Co-Permittee of Facility:			
9. Location of Facility:			
a. Municipality & County:		Lakewood Township, Ocean County	
b. Street Address:		1143 Central Avenue	
c. Block(s) and Lot(s):		Block 12.04, Lot 72	
10. Location of discharge:			
a. Longitude:		74 deg. 13 min. 52.00 sec. west	
b. Latitude:		40 deg. 5 min. 22.89 sec. north	
11. Present Permitted Flow:		0.002 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 20	Approximately 20
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Lakewood Township	Residential	0.002 MGD*	0.002 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.002 MGD	0.002 MGD

*Estimate assumes 14 occupied beds, each with a quota of 150 gpd

V. Future Wastewater and Water Demand

Municipal Zoning

Table 4: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
A-1	Agricultural - Rural	281.50	36.39
B-1	Neighborhood Business	9.84	0.52
B-2	Central Business	85.19	0.00
B-3	Highway Business	111.96	5.94
B-4	Wholesale Business	490.22	35.99
B-5	Highway Development	428.91	96.59
B-5A	Highway Development	63.05	17.50
B-6	Corporate Campus/Stadium Support	59.06	27.18
CLP	Crystal Lake Preservation Area	215.32	26.99
DA-1	Cedar Bridge Redevelopment Area	428.76	149.52
HD-6	Highway Development	32.95	0.31
HD-7	Highway Development	363.57	50.22
LP	Industrial Park Limited Professional	128.52	33.69
M-1	Industrial	2,107.16	422.97
M-2	Industrial	52.74	42.94
O-S	Open Space	1,248.63	195.31
OT	Office Transitional	41.07	3.48
PH-1	Public Housing	14.82	0.00
PS	Industrial Park Professional Service	115.98	47.80
R-10	Single Family Residential	483.76	0.78
R-12	Single Family Residential	2,569.09	38.27
R-12A	Single Family Residential	156.49	3.66
R-15	Single Family Residential	1,401.85	208.18
R-15/10	Cluster	36.52	30.94
R-20	Single Family Residential	2,006.04	317.99
R-20/12	Cluster	454.69	124.78
R-40	Single Family Residential	1,456.71	260.11
R-40/20	Cluster	350.19	209.27
R-7.5	Single Family Residential	253.38	6.50
R-LM	Multi-Family Limited Residential	90.77	0.00
R-M	Multi-Family Residential	329.12	49.34
ROP	Residential Office Park	139.70	0.00



“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 5: Wastewater Flow Directed to OCUA Facilities	
CWPCF	
Source	(MGD)
Existing Flow	5.085
Projected Residential	1.227
Projected Commercial	1.106
Total Future Planning Flow	7.418

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Lakewood Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 6 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 6: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Northern	1,912.70	1,205.35	4,090.70	30,812,192.87

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under

N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. At present, Lakewood Township does not have a municipal ordinance applicable to septic connection.

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 7: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301020	55.00	157.13	8.85	24.09	63.85	181.22
02040301030	16.73	46.74	0.94	2.56	17.67	49.30
02040301040	0.00	0.00	0.00	0.00	0.00	0.00
02040301050	13.23	18.01	1.59	5.18	14.82	23.19
02040301060	0.00	0.00	0.00	0.00	0.00	0.00
Totals	84.96	221.88	11.38	31.83	96.34	253.71

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Because wetlands and surface waters within these open/public space areas are presumed to provide no recharge credit, these acres were removed from the total acres of “recharge credit.” Factors such as marginal soils, topography, and precipitation rates, for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used the NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP.

The initial results of this nitrate dilution analysis indicate that one HUC11, 02040301020, would exceed the nitrate-nitrogen target if built out under current zoning regulations. Similar results have been produced for other HUC11s in Ocean County where, in some cases, projected nitrate discharges from non-residential zones are several times greater than that from residential zones. This could be due to the application of the commercial-based Equivalent Dwelling Unit (EDU) formula to exceedingly large tracts of non-residential land, which may have resulted in a higher number of projected gallons per day than the building code for that non-residential zone would otherwise typically indicate. However, without specific development parameters such as type of non-residential development, square footage of floor space, number of floors, etc., the NJDEP has no other meaningful way to estimate non-residential development potential in the necessary increment of gpd. The NJDEP notes that the above situation predicated the development of the EDU formula, and having been established as a useful and reasonable tool, the NJDEP indicates it will continue to utilize it as such.



Concurrently, however, the NJDEP acknowledges that under some circumstances in Ocean County, the model may overestimate septic area flows from some commercially zoned areas. Therefore, at the time of this writing, and with no site-specific information currently available for potential projects or activities on these non-residential lands, the NJDEP has advised the County to not include septic dilution projections for those municipalities that cannot meet the applicable septic densities with the submission of this WMP. The septic analysis for these municipalities will be submitted separately in the future and according to those mechanisms the County may choose to incorporate.

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 8: Public Water Purveyor Capacity								
Lakewood Township MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
7.212	6.036	1.176	198.140	191.124	7.016	1,653.500	1,434.159	219.341
NJ American Water Company – Coastal Northern								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	N/A	N/A	2,539.580	2,116.800	422.780	N/A	N/A	N/A

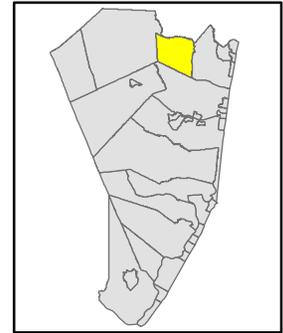
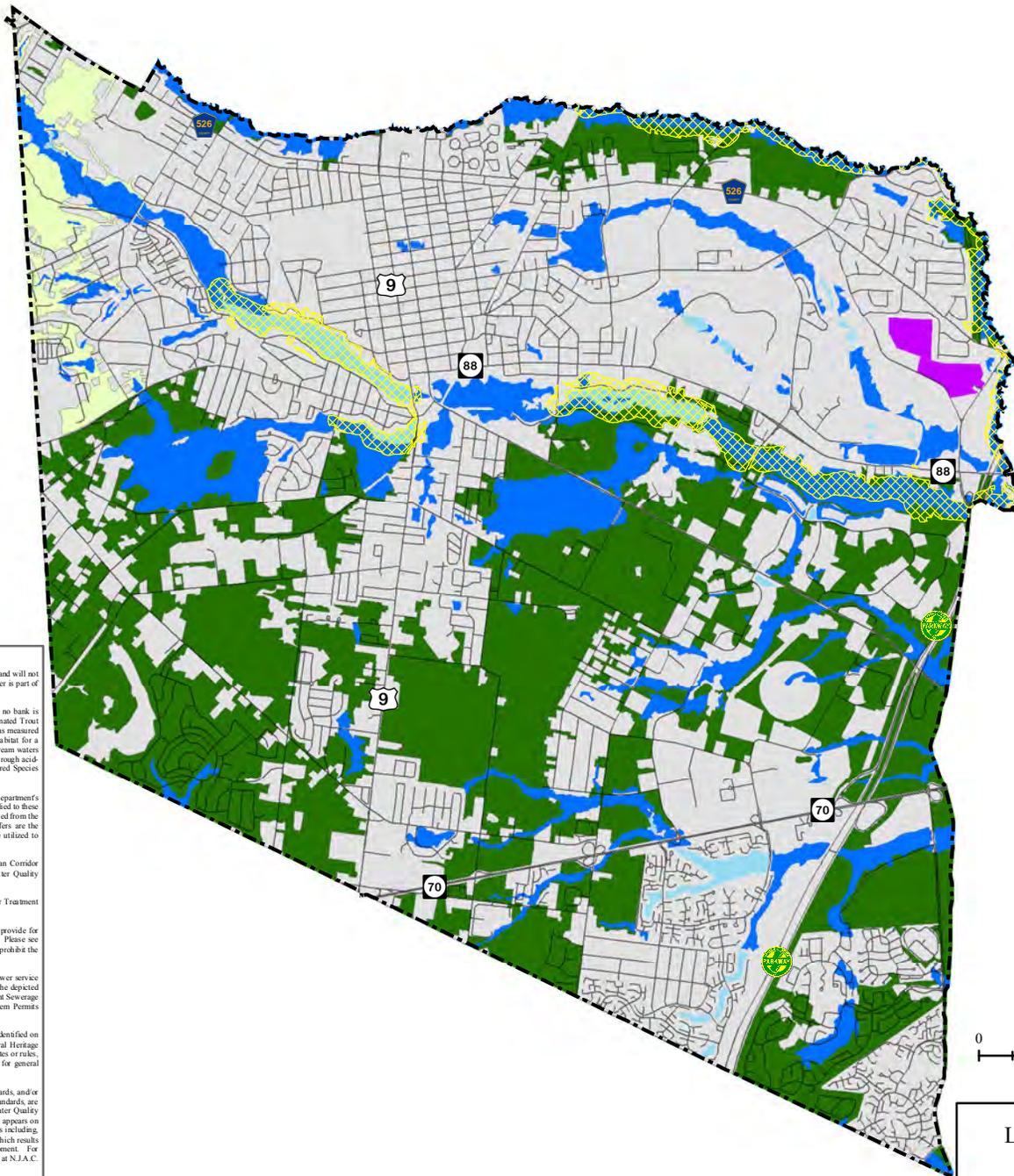
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Bald Eagle Foraging
-  Roads
-  Wetlands
-  Preserved Agriculture
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 13:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

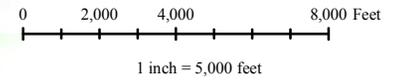
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 1,4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance) as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (not aside for protection) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection

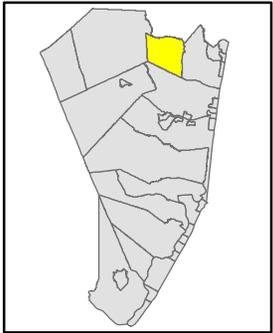
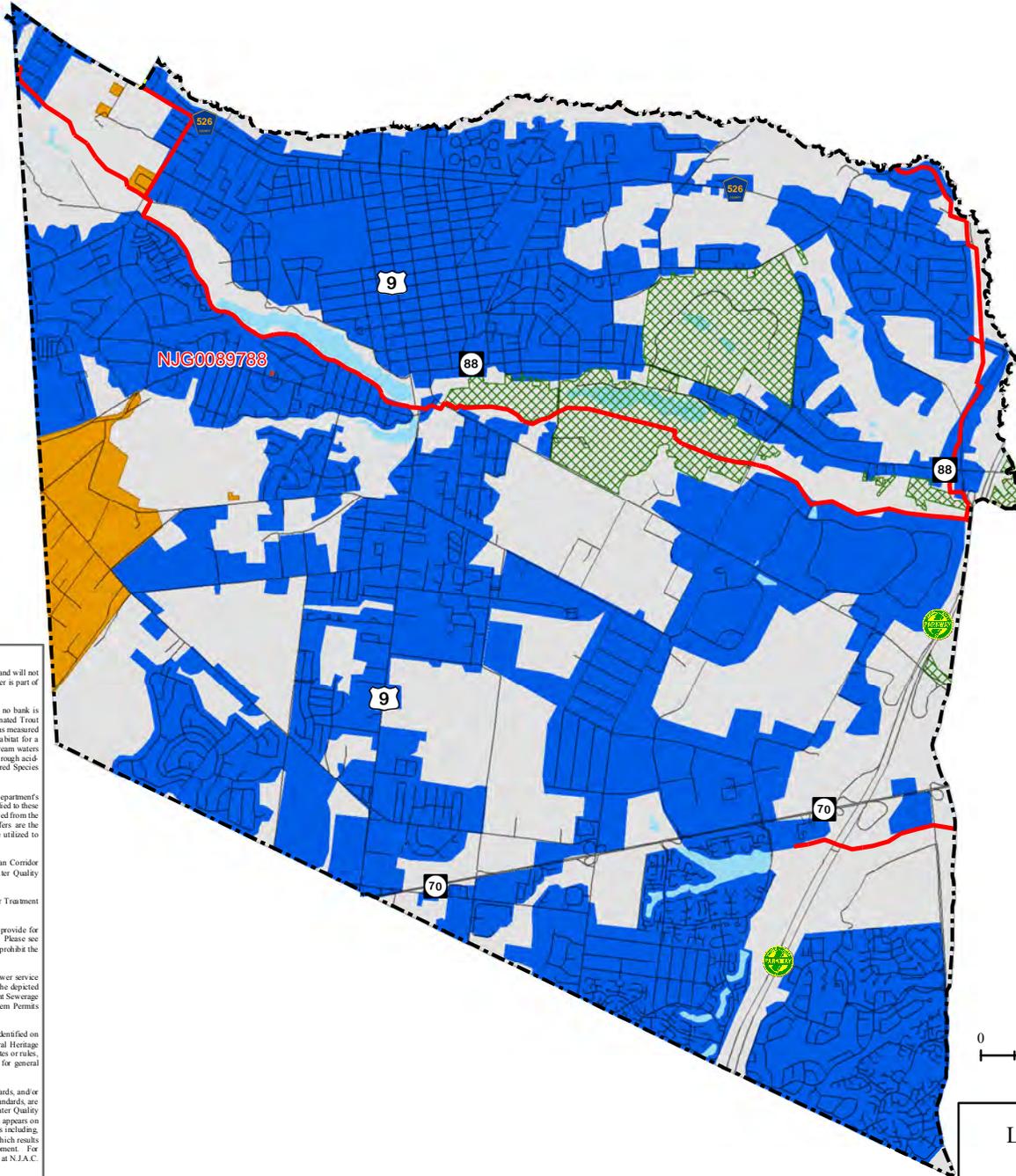


LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 1
ENVIRONMENTAL FEATURES

Legend

- Interceptor
- ForceMain
- Roads
- Service Area of Wastewater Facilities With Planning Flows Less Than 2,000 GPD Which Discharge to Ground Water
- DGW/Sanitary Subsurface Disposal
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Northern DSW (NJ0028142)



LAKEWOOD REST HOME NJG0089788

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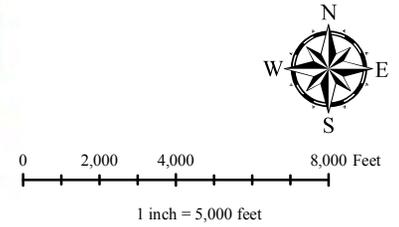
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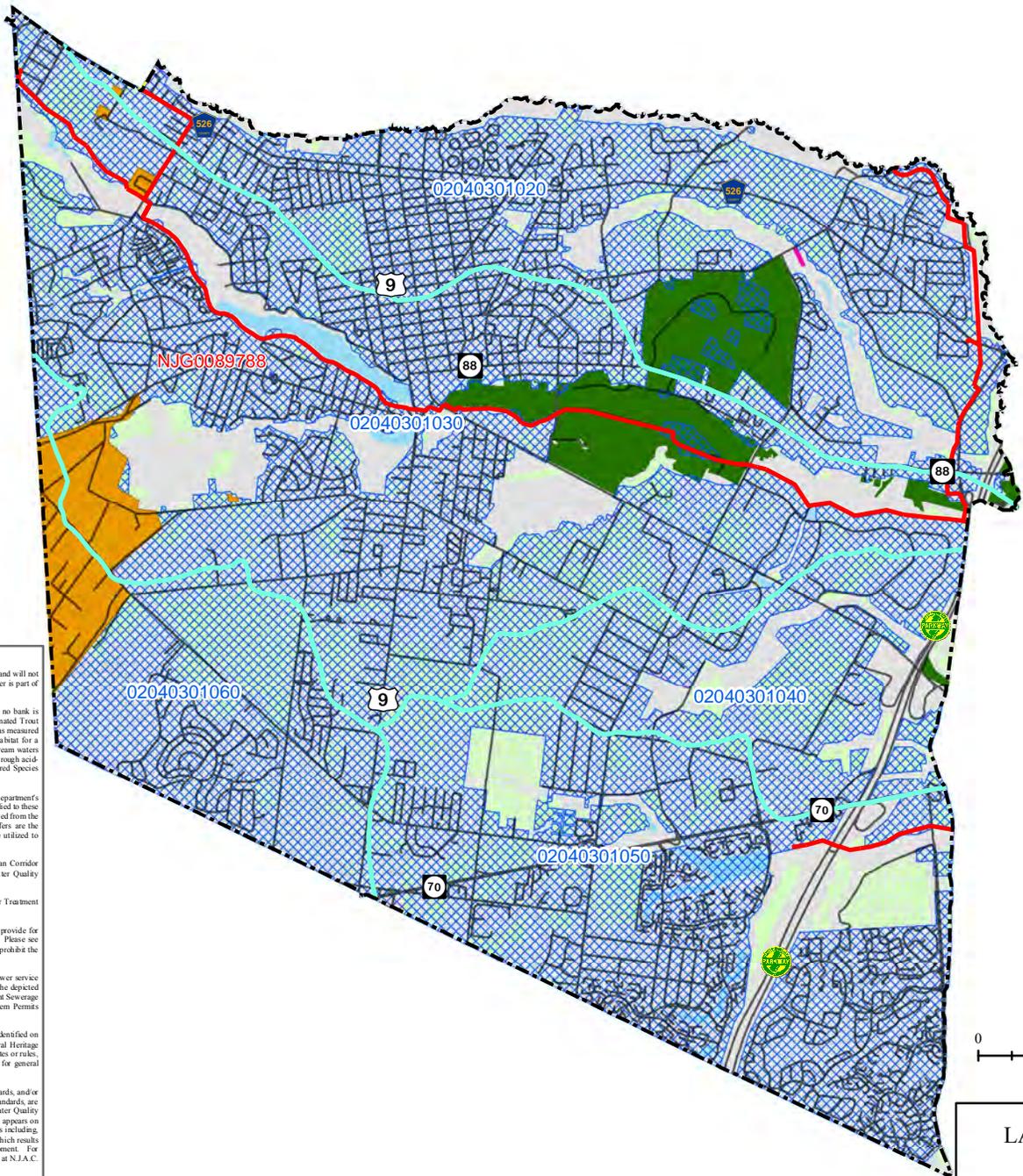
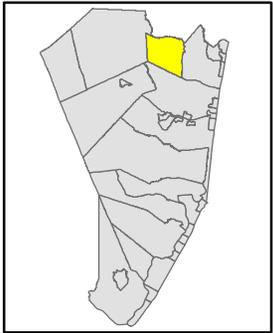
Prepared by: Ocean County Department of Planning, September 2012
 Sources: New Jersey Department of Environmental Protection
 Ocean County Utilities Authority



LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ
 MAP 2
EXISTING SEWERED AREA

Legend

- HUC 11
- Interceptor
- ForceMain
- Roads
- Service Area of Wastewater Facilities With Planning Flows Less Than 2,000 GPD Which Discharge to Ground Water
- OCUA Northern DSW (NJ0028142)
- DGW/Sanitary Subsurface Disposal
- Non Discharge Areas
- Public Open Space & Recreation Areas
- Undeveloped Parcels
- Surface Water



LAKEWOOD REST HOME NJG0089788

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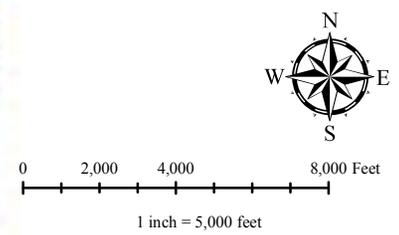
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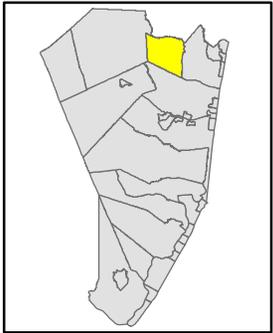
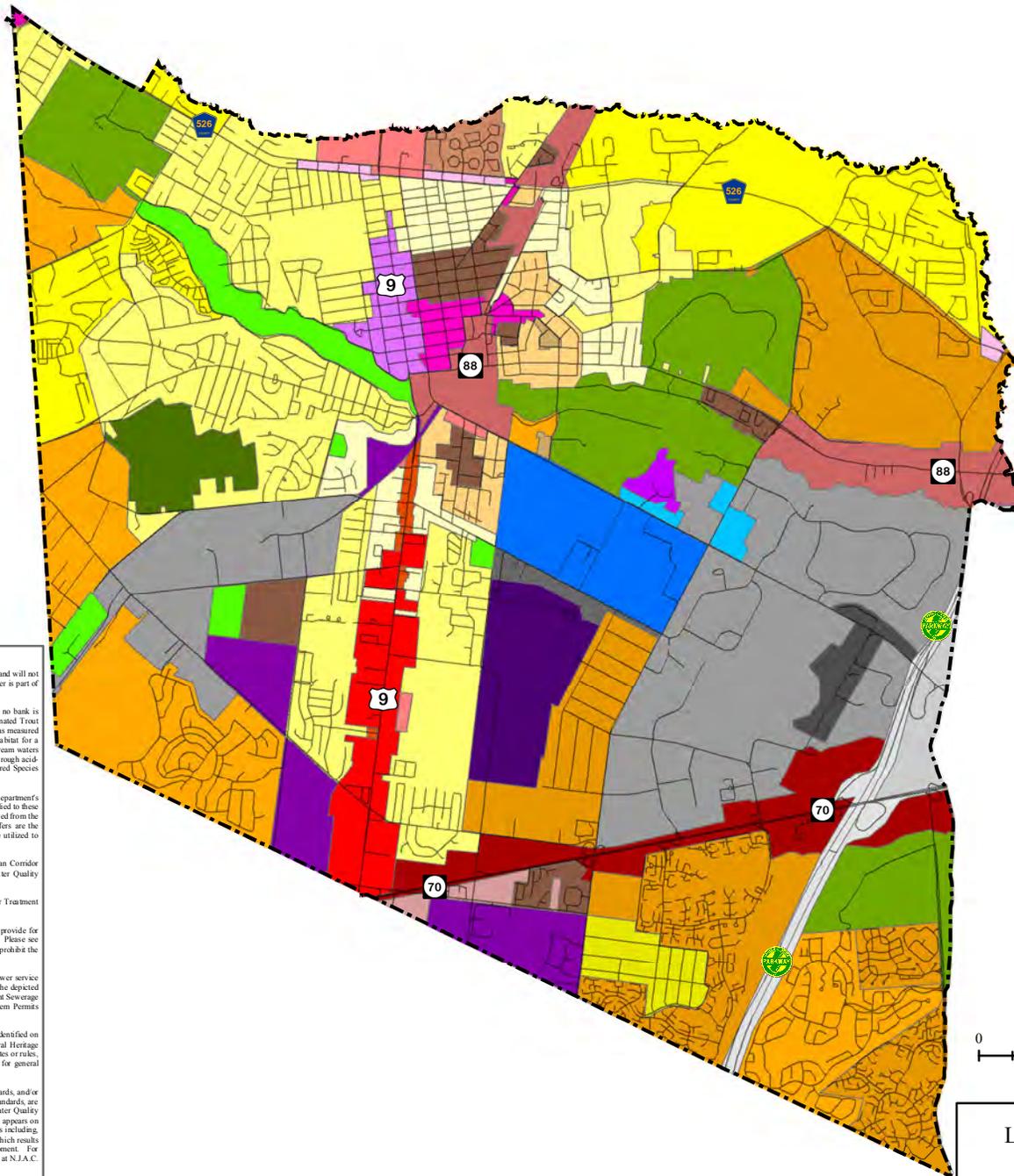
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Prepared by: Ocean County Department of Planning, September 2012
 Sources: New Jersey Department of Environmental Protection
 Ocean County Utilities Authority



LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

- Legend**
- A-1 (Agricultural - Rural)
 - B-1 (Neighborhood Business)
 - B-2 (Central Business)
 - B-3 (Highway Business)
 - B-4 (Wholesale Business)
 - B-5 (Highway Development)
 - B-5A (Highway Development)
 - B-6 (Corporate Campus/Stadium Support)
 - CLP (Crystal Lake Preservation Area)
 - DA-1 (Cedar Bridge Redevelopment Area)
 - HD-6 (Highway Development)
 - HD-7 (Highway Development)
 - LP (Industrial Park Limited Professional)
 - M-1 (Industrial)
 - M-2 (Industrial)
 - O-S (Open Space)
 - OT (Office Transitional)
 - PH-1 (Public Housing)
 - PS (Industrial Park Professional Service)
 - R-10 (Single Family Residential)
 - R-12 (Single Family Residential)
 - R-12A (Single Family Residential)
 - R-15 (Single Family Residential)
 - R-15/10 (Cluster)
 - R-20 (Single Family Residential)
 - R-20/12 (Cluster)
 - R-40 (Single Family Residential)
 - R-40/20 (Cluster)
 - R-7.5 (Single Family Residential)
 - R-LM (Multi-Family Limited Residential)
 - R-M (Multi-Family Residential)
 - ROP (Residential Office Park)



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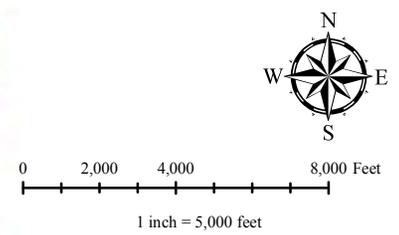
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Prepared by: Ocean County Department of Planning, September 2012
Sources: Township of Lakewood; Ocean County Tax Board



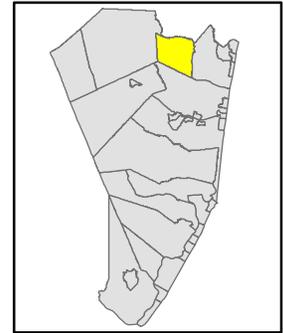
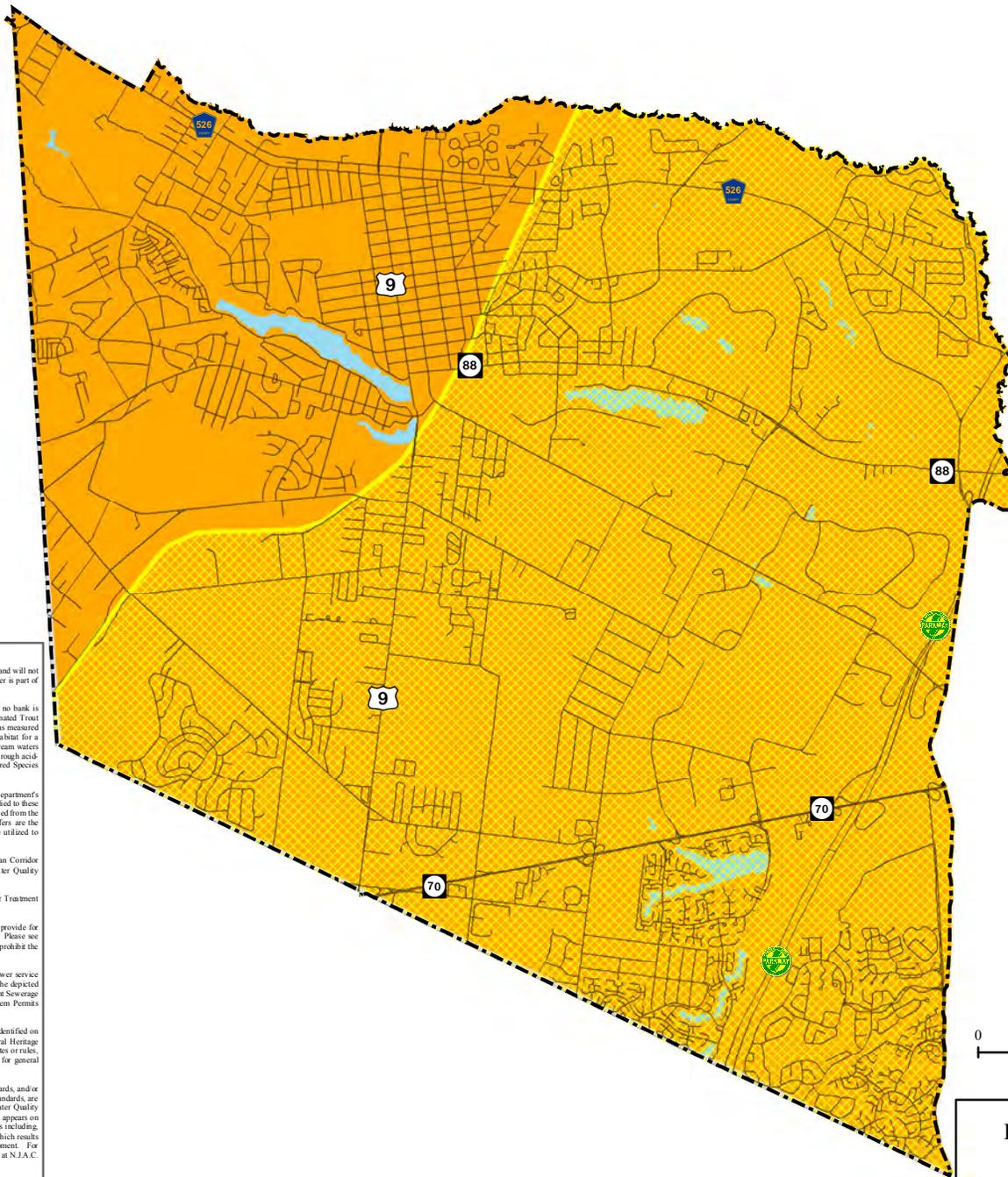
LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Northern Planning Area



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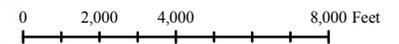
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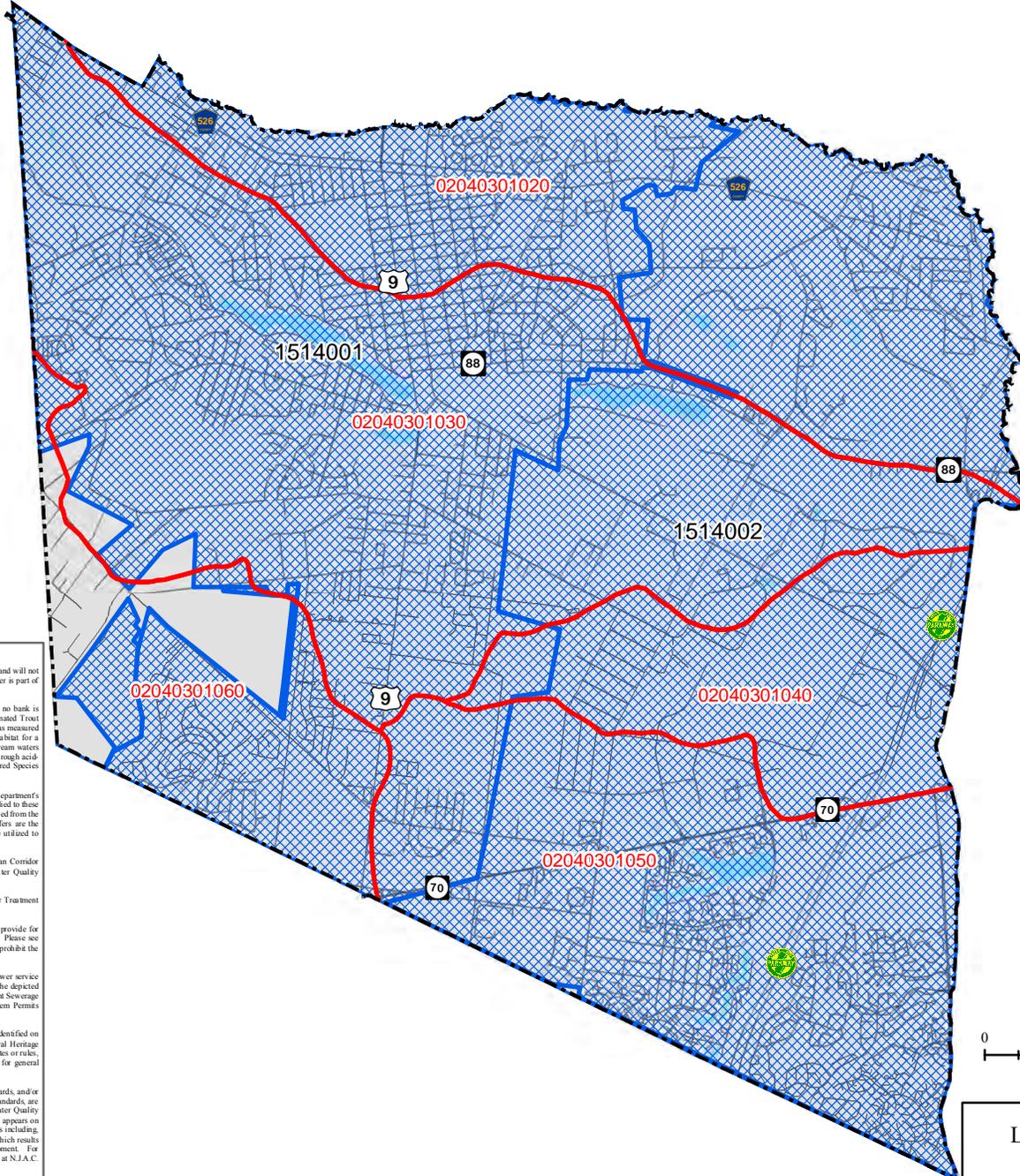
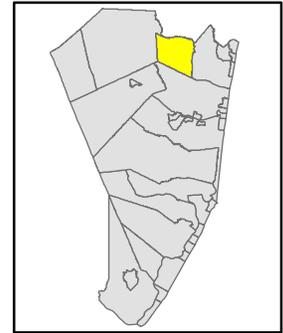


1 inch = 5,000 feet

LAKESWOOD TOWNSHIP
OCEAN COUNTY, NJ
MAP 5
REGIONAL PLANNING AREA

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



PWSID	PURVEYOR NAME
1514001	NJ AMERICAN WATER COMPANY - LAKEWOOD
1514002	LAKEWOOD TOWNSHIP MUA

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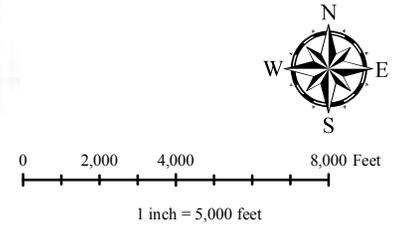
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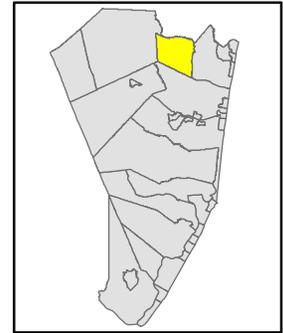
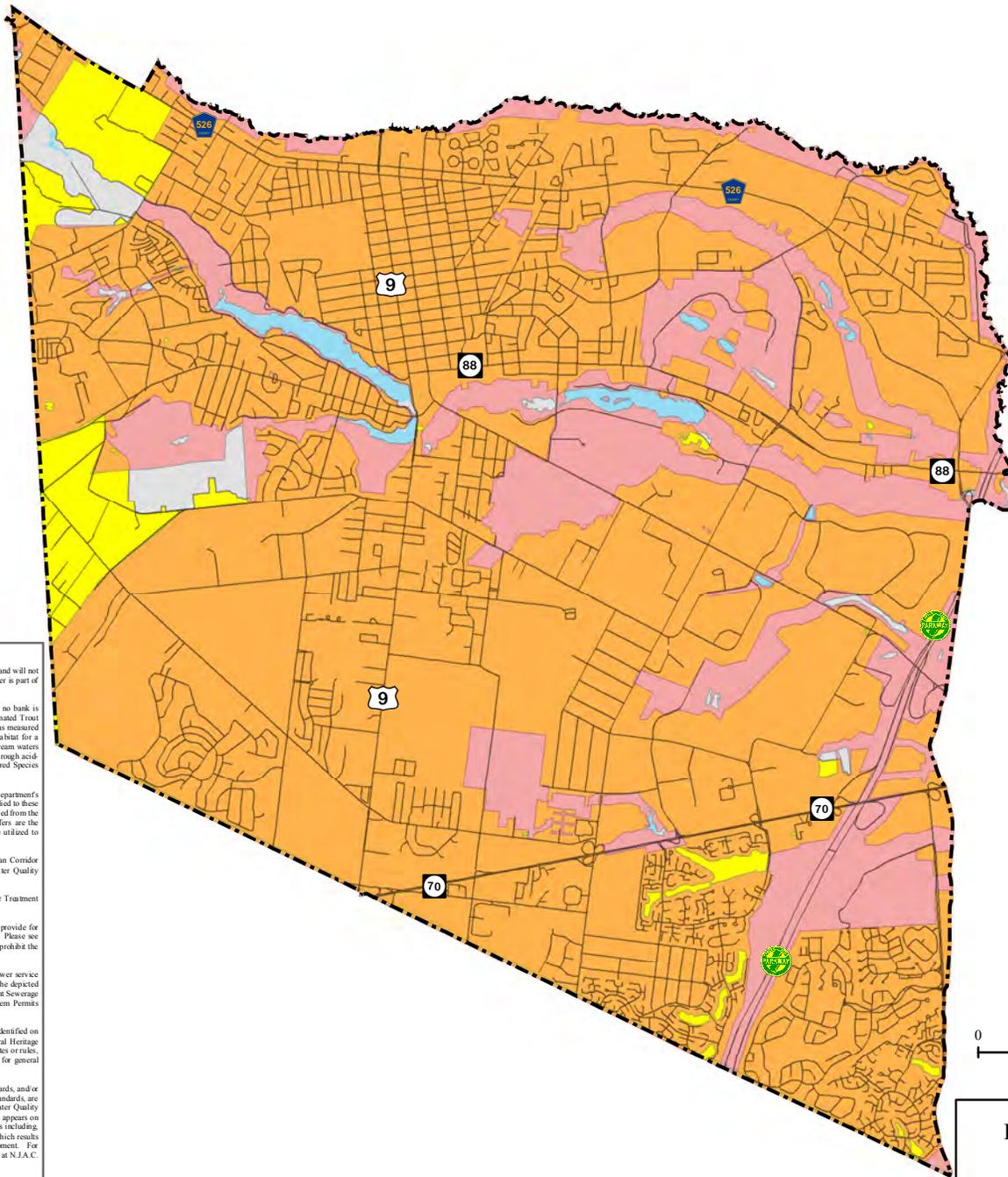
LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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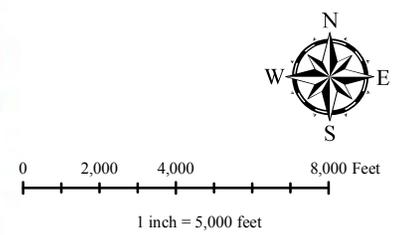
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Prepared by: Ocean County Department of Planning, September 2012
Sources: New Jersey Department of Environmental Protection



LAKEWOOD TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

15. LAVALLETTE BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Lavallette was incorporated in 1887. A small coastal community of 0.72 square miles on land (462.55 acres), the Borough is situated on Barnegat Peninsula, which fronts on the Atlantic Ocean to the east and the Barnegat Bay to the west. On land, it is bordered by sections of Toms River Township to the north and south. The entirety of the Borough is in the CAFRA region.

According to the 2010 U.S. Census, Lavallette had a total population of 1,875. Also that year, the U.S. Census counted 3,207 housing units, of which 2,262 were found to be vacant, and nearly all of these vacant units (2,068) were seasonal vacancies. NJTPA projects that the Borough's population will increase only marginally by the year 2035, to a new total of 1,906. While the seasonal fluctuations in population are significant, Lavallette's wastewater conveyance infrastructure is able to accommodate these changes.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Fronting on the Atlantic Ocean, Lavallette's eastern boundary is lined with beaches. Additional beaches are located on the Borough's bayside. Emergent wetlands are present in the northeastern portion of Lavallette, along the ocean side beaches. There are no Natural Heritage Priority Sites, riparian zones, or preserved farms in the municipality.

Table 1 provides a breakdown of the Borough's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	0.00	0.00%
Public Open Space/Recreational Areas	86.08	13.04%
Habitat T&E	52.43	7.94%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.00	0.00%
Preserved Agriculture	0.00	0.00%
Surface Water	125.76	19.06%

Ordinance	Code	Date Adopted
Zoning	Chapter 90	3/2/1979
Master Plan		12/13/2006
Stormwater [County - MSWMP]	Chapter 55B	8/21/2006 [11/3/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A
Source: http://ecode360.com/LA0248?needHash=true		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Lavallette is connected to the existing sewer system. Wastewater is collected through the Borough's lateral lines. The municipal system connects to an OCUA line which flow from

north to south between the Borough’s municipal boundaries with Toms River Township. This interceptor roughly tracks the route of Bay Boulevard as it travels south, converting to a force main near Washington Avenue. Upon exiting the Borough, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Lavallette.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 5.72 acres of developable land, of which 5.51 acres are zoned as residential and 0.21 acres are zoned as commercial. There is no developable land zoned for industrial uses in Lavallette. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Lavallette’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Lavallette. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Lavallette’s drinking water is derived from four wells, two which draw from the Englishtown Aquifer, and two which draw from the Potomac-Raritan-Magothy Aquifer. The system is operated by the Lavallette Water Department, and is capable of pumping 1.440 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B-1	Business	22.47	0.00
B-2	Downtown Business	2.70	0.21
R-A	Residential	185.45	1.82
R-B	Residential	67.49	3.14
R-C	Residential	31.32	0.55

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Lavallette Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Lavallette is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 31 people by 2035. This equates to a 0.002 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Lavallette. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.469	0.060	0.529	0.531	0.000	0.531

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Lavallette Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.440	0.910	0.530	30.000	28.210	1.790	175.000	137.568	37.432

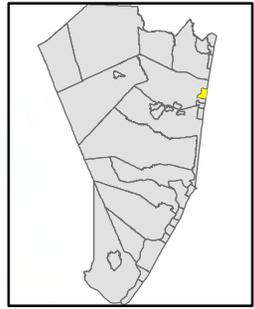
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 4)
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival; and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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1 inch = 1,300 feet

LAVALLETTE BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Force Main
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)

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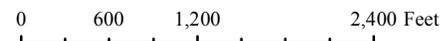
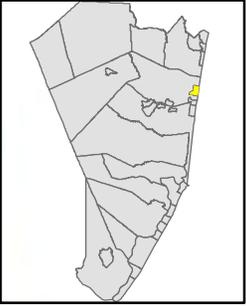
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LAVALLETTE BOROUGH
OCEAN COUNTY, NJ

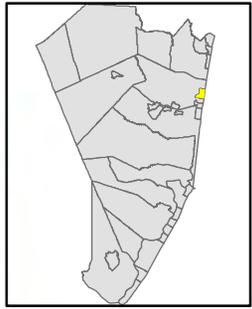
MAP 2

EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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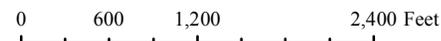
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

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1 inch = 1,300 feet

**LAVALLETTE BOROUGH
OCEAN COUNTY, NJ**

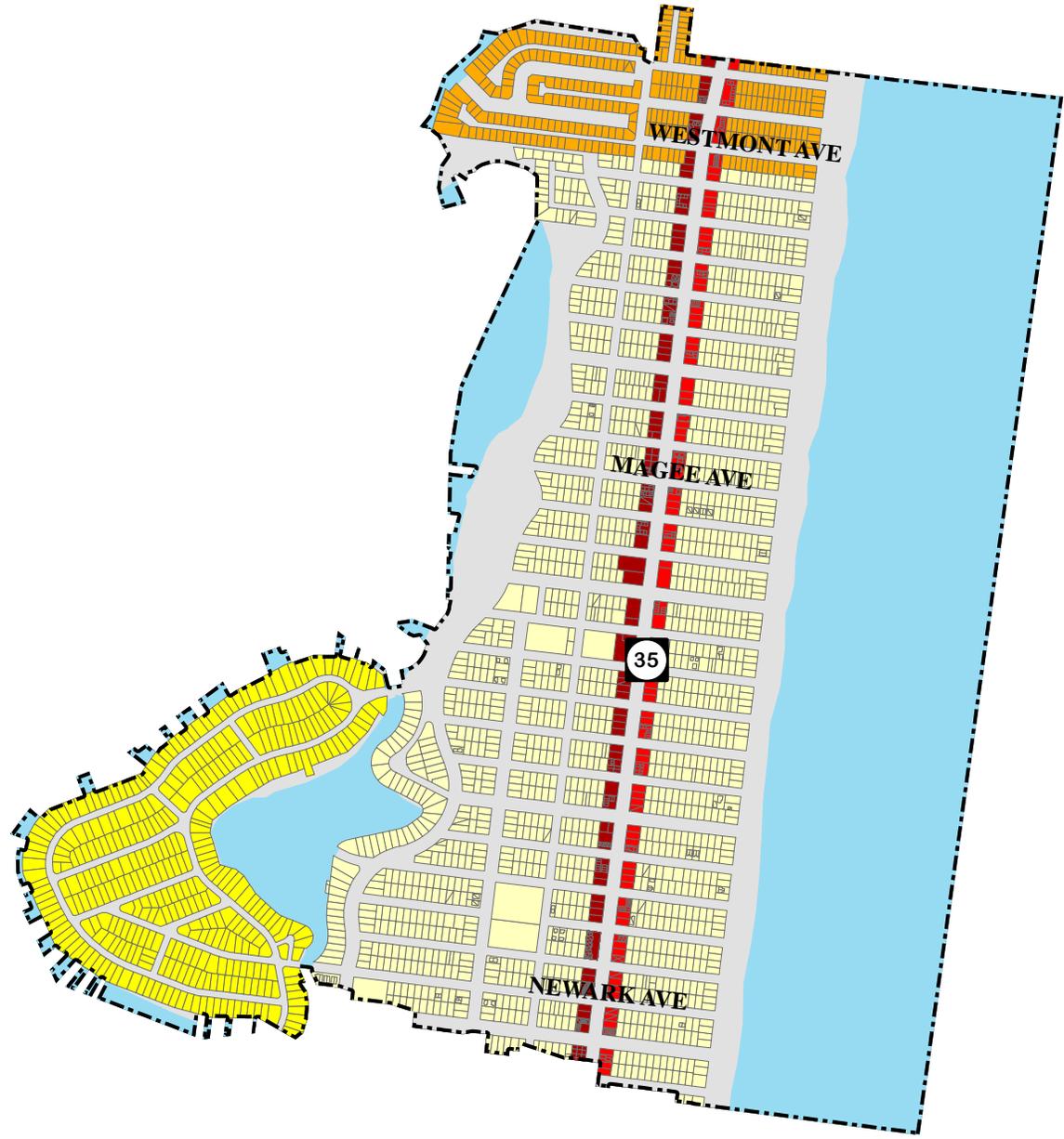
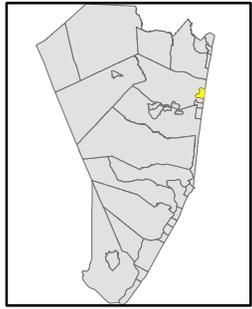
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- B-1 (Business District)
- B-2 (Business District)
- RA (Residential)
- RB (Residential)
- RC (Residential)
- Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waters and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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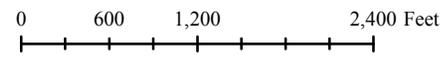
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

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LAVALLETTE BOROUGH
OCEAN COUNTY, NJ

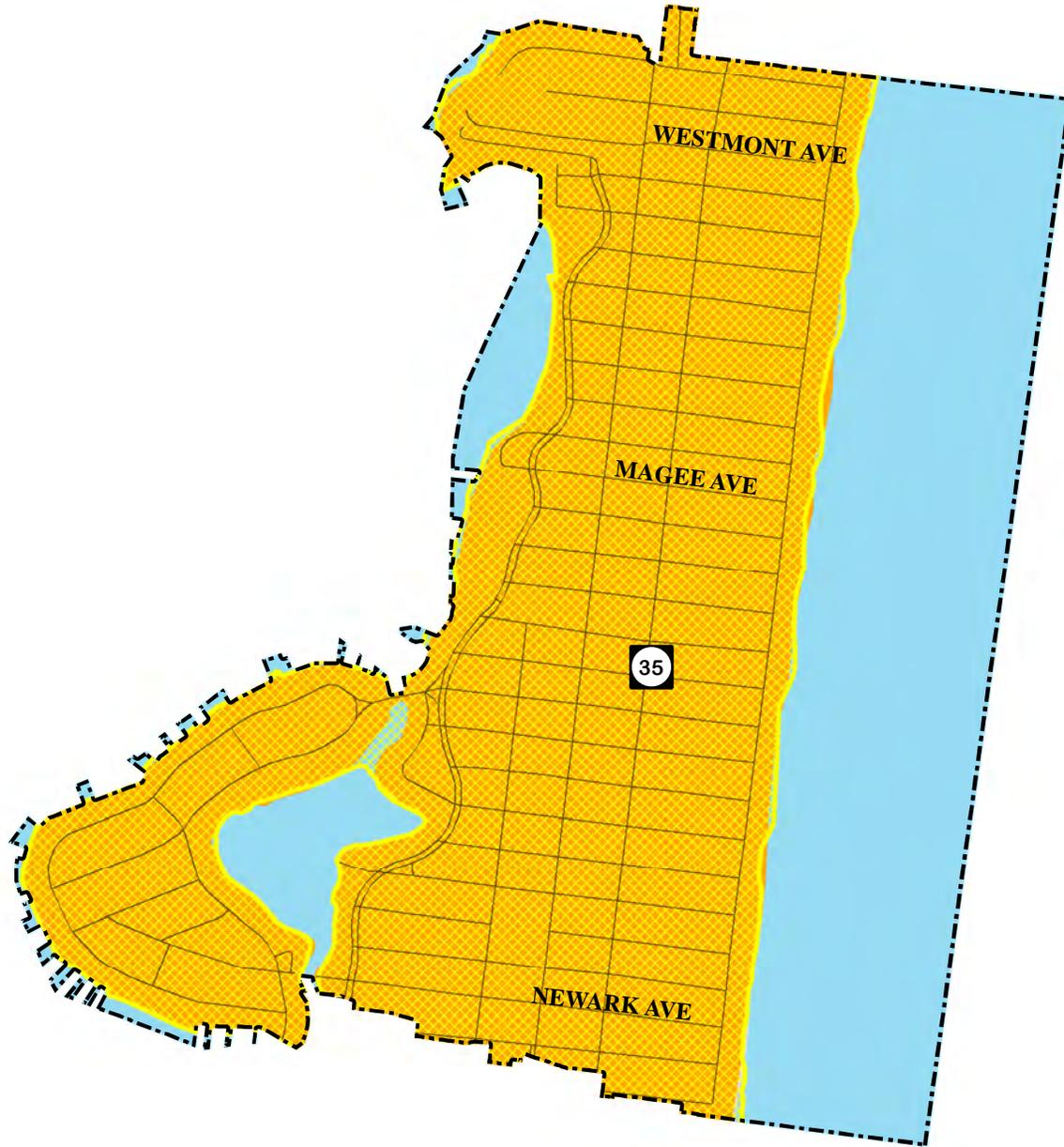
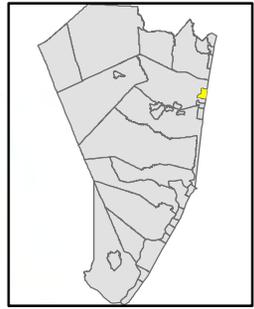
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Lavallette, Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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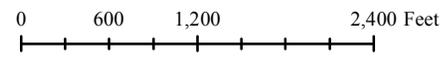
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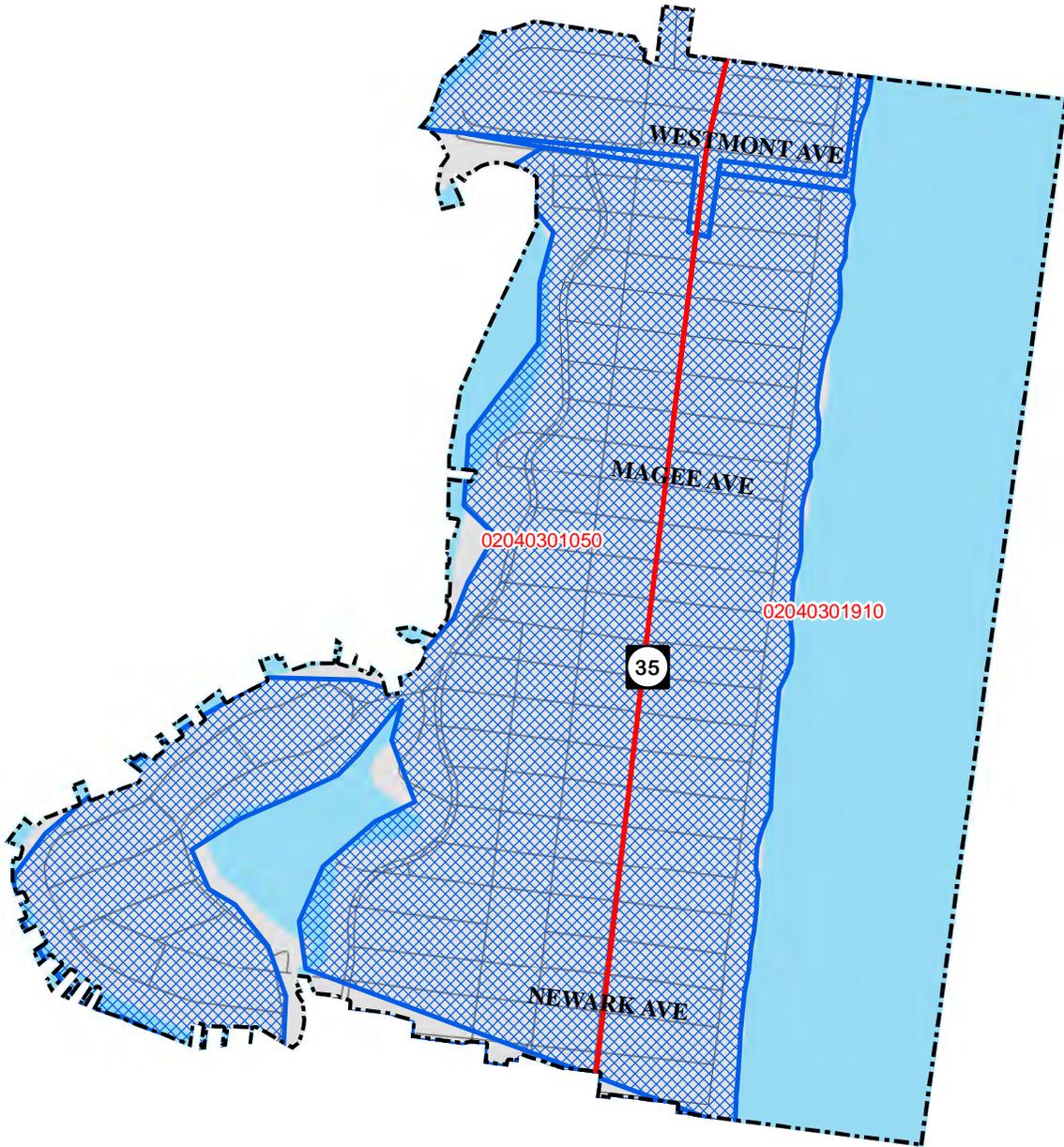
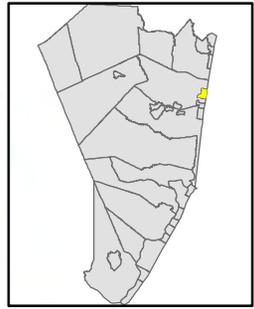
LAVALLETTE BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1515001	LAVALLETT WATER DEPARTMENT

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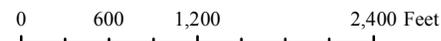
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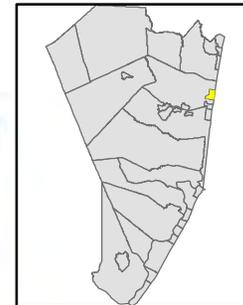
LAVALLETT BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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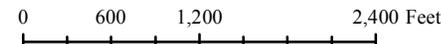
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"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.8), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Lavallette, Ocean County Tax Board



1 inch = 1,300 feet

LAVALLETTE BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

16. LITTLE EGG HARBOR TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Little Egg Harbor is the southernmost mainland municipality in Ocean County. Once a part of Burlington County, Little Egg Harbor was first incorporated in 1798 and became a part of Ocean County in 1891. To the east, Little Egg Harbor Township fronts on the Barnegat Bay. Atlantic County lies across the Great Bay to the south. On land, the Township is bordered by Eagleswood and Stafford Townships to the northeast and by Burlington County to the west. Little Egg Harbor also completely surrounds Tuckerton Borough, which is situated close to the center of the Township’s municipal area.

With a total land area of 49.50 square miles, much of Little Egg Harbor consists of state and federally protected lands. These include Bass River State Forest and the Edwin B. Forsythe National Wildlife Refuge. The majority of the Township’s developed land—including a number of age-restricted communities—is located to the south of the Route 9 corridor. The roughly 24.34% of the Township which is north of the Garden State Parkway is within the Pinelands Comprehensive Management Plan Area. The remainder of the Township is within the CAFRA region.

In 2010, the U.S. Census recorded Little Egg Harbor’s population as 20,065 people. The Census of that year also counted a total of 10,324 housing units, of which 2,264 were vacant. 1,701 of these vacant units were seasonal vacancies. NJTPA projects that Little Egg Harbor’s population will grow to 26,554 people by 2035—a 24.44% increase. While these changes in seasonal and base population will be substantial, the Township’s wastewater infrastructure is capable of accommodating them.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Most of Little Egg Harbor Township’s land to the south of Route 9 is covered by wetlands. Several beaches are also located along the Township’s shores and small islands. Much of this portion of the municipality has been incorporated into either the Great Bay Wildlife Management Area or the Edwin B. Forsythe National Wildlife Refuge. The land to the north of Route 9 is mostly forested, with freshwater wetlands along the Township’s numerous streams. Much of these inland forests lie within Natural Heritage Priority Sites, including the East Plains Fireshed Natural Heritage Priority Site. A bald eagle foraging area is located in the northernmost tip of the municipality. No preserved agriculture is present in the Township.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	11,721.56	24.76%
Public Open Space/Recreational Areas	19,537.90	41.27%
Habitat T&E	26,217.25	55.38%
Natural Heritage Priority Sites	7,267.64	15.35%
Riparian Zones	1,266.90	2.68%
Preserved Agriculture	0.00	0.00%
Surface Water	16,322.47	34.48%

**Table 2: Status of Municipal Ordinances**

Ordinance	Code	Date Adopted
Zoning	Chapter 212	N/A
Master Plan		8/2/2007
Stormwater [County - MSWMP]	Chapter 296	N/A [6/7/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 282	N/A

Source: <http://www.ecode360.com/L12070?needHash=true>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

The majority of existing development in Little Egg Harbor south of the Garden State Parkway is connected to the existing sewer system, with the exception of the area just north of Route 9 near the municipal boundary with Eagleswood Township, and along the Route 539 corridor. Wastewater is collected through the Township’s lateral lines. The municipal system connects to an OCUA line which originates as an interceptor in the Mystic Island lagoon sub-development, near the intersection of Sail Drive East and Radio Road (Route 601). Beginning at the Little Egg-Radio Road Pump Station (SPS-4), the interceptor carries wastewater north along Radio Road, converting to a force main between Cala Breeze Way and Mathistown Road. It turns east at Oak Lane, and enters Tuckerton Borough just north of Holly Lake. The line reemerges as a force main on the north side of Tuckerton Borough along Railroad Avenue. It converts back to an interceptor near Elmwood Drive, and continues to follow Railroad Avenue to the border with Eagleswood Township. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 1572.51 acres of developable land, of which 1035.61 acres are zoned as residential, 386.82 acres are zoned as commercial, and 23.47 acres are zoned as industrial. An additional 126.62 acres of developable land lies to the west of the Garden State Parkway, and is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Little Egg Harbor’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Most of the developed and developable land located east of the Pinelands boundary is included in the designated sewer service area. To the west of this boundary, smaller scale large lot development is usually served by septic systems. These developments proceed under the jurisdiction of the Pinelands Commission in accordance with their regulations. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Little Egg Harbor’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via eight wells. The system is operated by the Little Egg Harbor MUA, and is capable of pumping 5.400 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.



IV. On-Site, Non-Industrial Wastewater Facility Tables

There is one development located in the Township that is served by an NJPDES permitted facility with discharge to ground water greater than 2,000 GPD. The Facility Table for this system is provided in Table 3:

Table 3: NJPDES - Baker's Acres Campground		
1. Existing or Proposed facility:	Existing	
2. NJPDES Permit Number:	NJG0085286	
3. Discharge Type:	Discharge to groundwater	
4. Receiving Water or Aquifer:	Kirkwood Formation	
5. Classification of Receiving Water:	N/A	
6. Owner of Facility:	Jack Baker	
7. Operator of Facility:	Jack and Maureen Baker	
8. Co-Permittee of Facility:	N/A	
9. Location of Facility:		
a. Municipality & County:	Little Egg Harbor Township, Ocean County	
b. Street Address:	230 Willets Avenue	
c. Block(s) and Lot(s):	Block 126, Lots 28, 28.01, 39.01	
10. Location of discharge:		
a. Longitude:	74 deg. 18 min. 59.13 sec. west	
b. Latitude:	39 deg. 38 min. 7.68 sec. north	
11. Present Permitted Flow:	0.033 MGD	
12. Summary of Population Served:	Present (2010) Population Served	Build Out (2035) Population Served
Total	Approximately 450*	Approximately 450
13. Summary of Wastewater Flows:	Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Little Egg Harbor Township	Residential	0.030 MGD**
	Commercial	
	Industrial	
	Inflow/Infiltration	
Total	0.030 MGD	0.030 MGD
*There are approximately 300 sites, which vary in occupancy.		
**Estimate based on 300 sites using 100 gpd		

V. Future Wastewater and Water Demand

Municipal Zoning

Table 4: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
FA	Forest Area	1575.33	16.27
FAC	Forest Area Cluster	83.16	0.32
GB	General Business	1316.66	348.63
HB	Highway Business	255.38	27.64
LI	Light Industrial	105.99	23.47
MC	Marine Commercial	99.63	0.00
MF	Multi Family Residential	168.20	1.55
NB	Neighborhood Business	16.05	0.00
PA	Preservation Area	9180.70	110.03
PRC	Planned Retirement Community	408.39	11.04
PRD	Planned Residential Development	397.99	54.18
PV	Pinelands Village	81.22	16.07
R-1A	Residential	9788.39	261.32
R-100	Residential	566.56	75.89
R-150	Residential	276.33	26.40
R-200	Residential	429.62	87.33
R-3A	Residential	995.42	191.18
R-400	Residential	147.88	50.67
R-5A	Residential	1898.17	209.59
R-50	Residential	778.08	20.56
R-75	Residential	242.18	12.19
R-75A	Residential	325.54	17.65
SC/GB	Senior Citizen/General Business	2.46	0.00
WFD	Waterfront Development	159.00	10.55

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Little Egg Harbor Township was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Township.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Township will increase by 6,489 people by 2035, which equates to an increase of 0.487 MGD. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to

produce a projected flow in MGD. Additionally, the cumulative square footage of select municipalities' large scale commercial site plans and subdivisions approved by the Ocean County Planning Board between the years of 2008 and 2011 was multiplied by 0.125 gallons per day, so as to account for significant non-residential development not captured by the NJDEP's population-based projection formula (see "Additional Approved Commercial Flow" in Table 5). In Little Egg Harbor Township, this amounts to 0.021 MGD above the projected flow directed to the CWPCF.

Summing projected flow and additional approved commercial flow equates to a 0.508 MGD increase in wastewater flow being directed to OCUA's SWPCF. While this is a moderately significant amount of additional flow, it alone will not have a significant impact on the SWPCF. The flow projections are presented in Table 5. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA's SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 5: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
1.184	0.072	1.256	1.743	0.021	1.764

Public Water Supply Availability

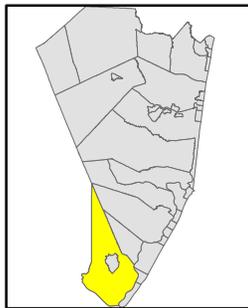
Public water purveyance infrastructure is presently capable of providing potable water to the Township's residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 6: Public Water Purveyor Capacity								
Little Egg Harbor MUA								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
4.003	3.317	0.686	112.700	92.399	20.301	867.000	650.457	216.543

Source: NJDEP Division of Water Supply & Geoscience

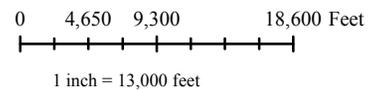
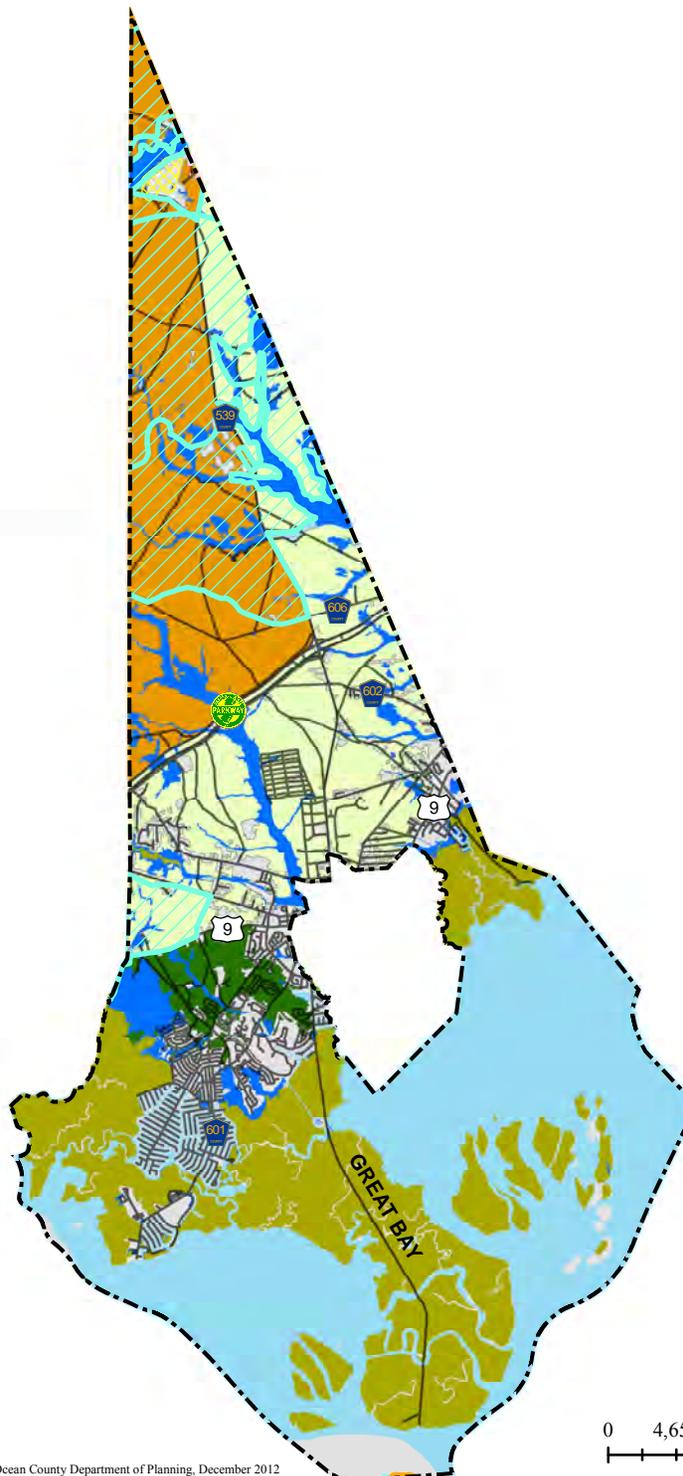
VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

-  Natural Heritage Priority Sites
-  Bald Eagle Foraging
-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Forest (Rank 5)
-  Surface Water



LITTLE EGG HARBOR TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC. 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals."

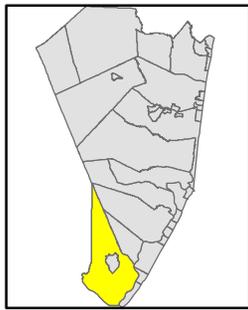
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



BAKER'S ACRES CAMPGROUND NJG0085286

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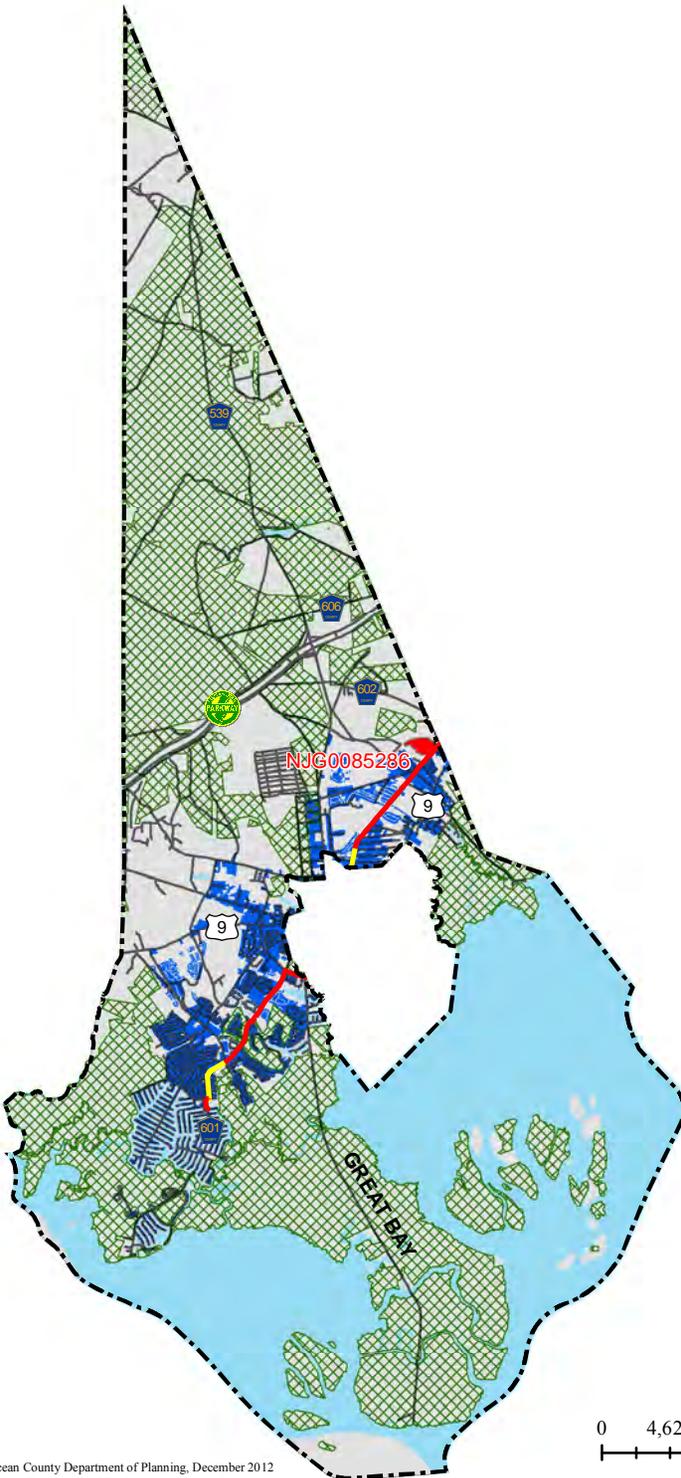
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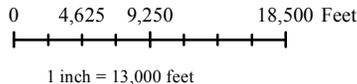
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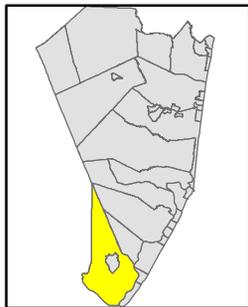
Legend

-  Interceptor
-  ForceMain
-  Roads
-  DGW/Sanitary Subsurface Disposal
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Southern DSW (NJ0026018)



LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 2
 EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

BAKER'S ACRES CAMPGROUND NJG0085286

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

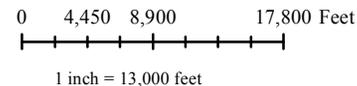
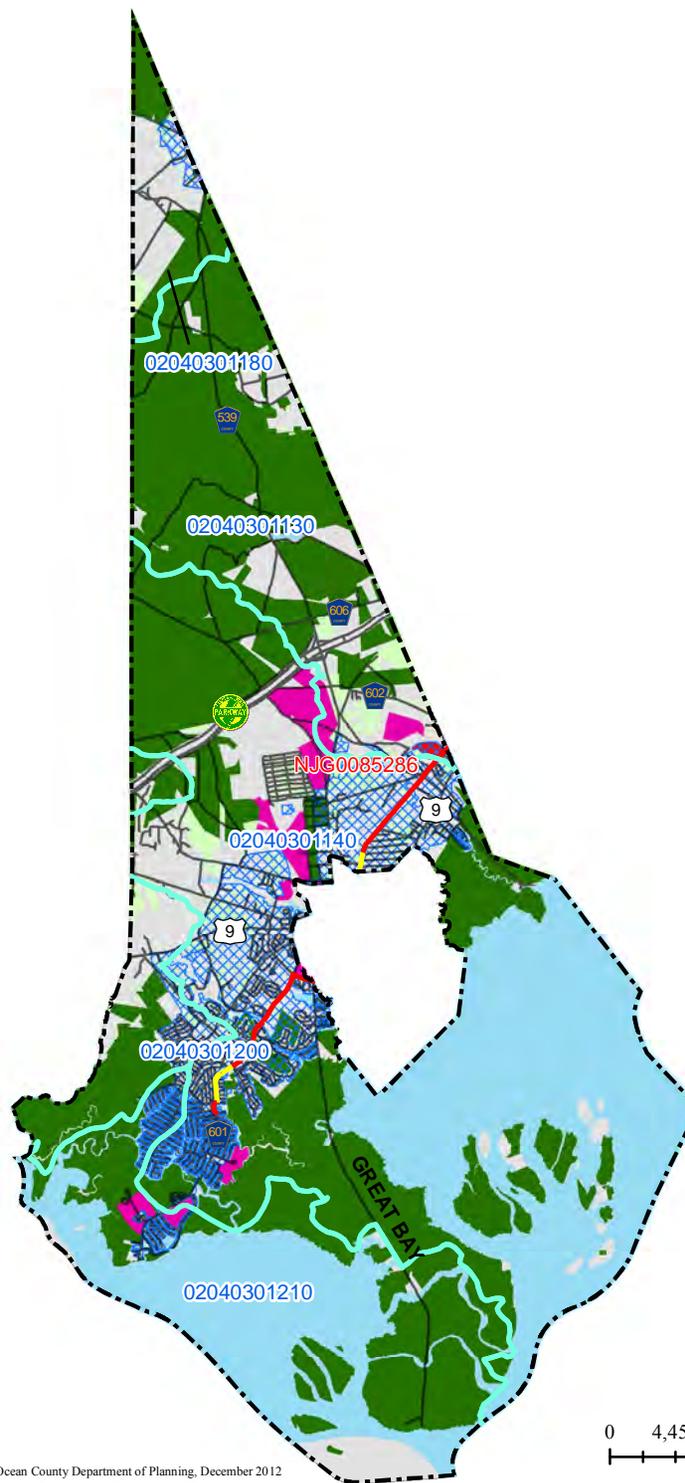
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:10, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

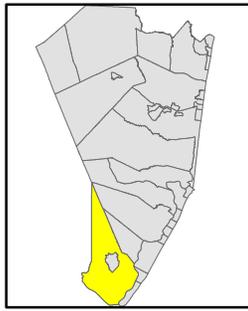
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LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



Legend

- FA (Forest Area)
- FAC (Forest Area Cluster)
- GB (General Business)
- HB (Highway Business)
- LI (Light Industrial)
- MC (Marine Commercial)
- MF (Multi Family Residential)
- NB (Neighborhood Business)
- PA (Preservation Area)
- PRC (Planned Retirement Community)
- PRD (Planned Residential Development)
- PV (Pinelands Village)
- R-1A (Residential)
- R-3A (Residential)
- R-50 (Residential)
- R-5A (Residential)
- R-75 (Residential)
- R-75A (Residential)
- R-100 (Residential)
- R-150 (Residential)
- R-200 (Residential)
- R-400 (Residential)
- SC/GB (Senior Citizen/General Business)
- WFD (Waterfront Development)

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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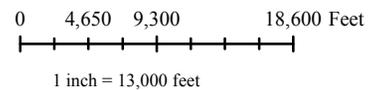
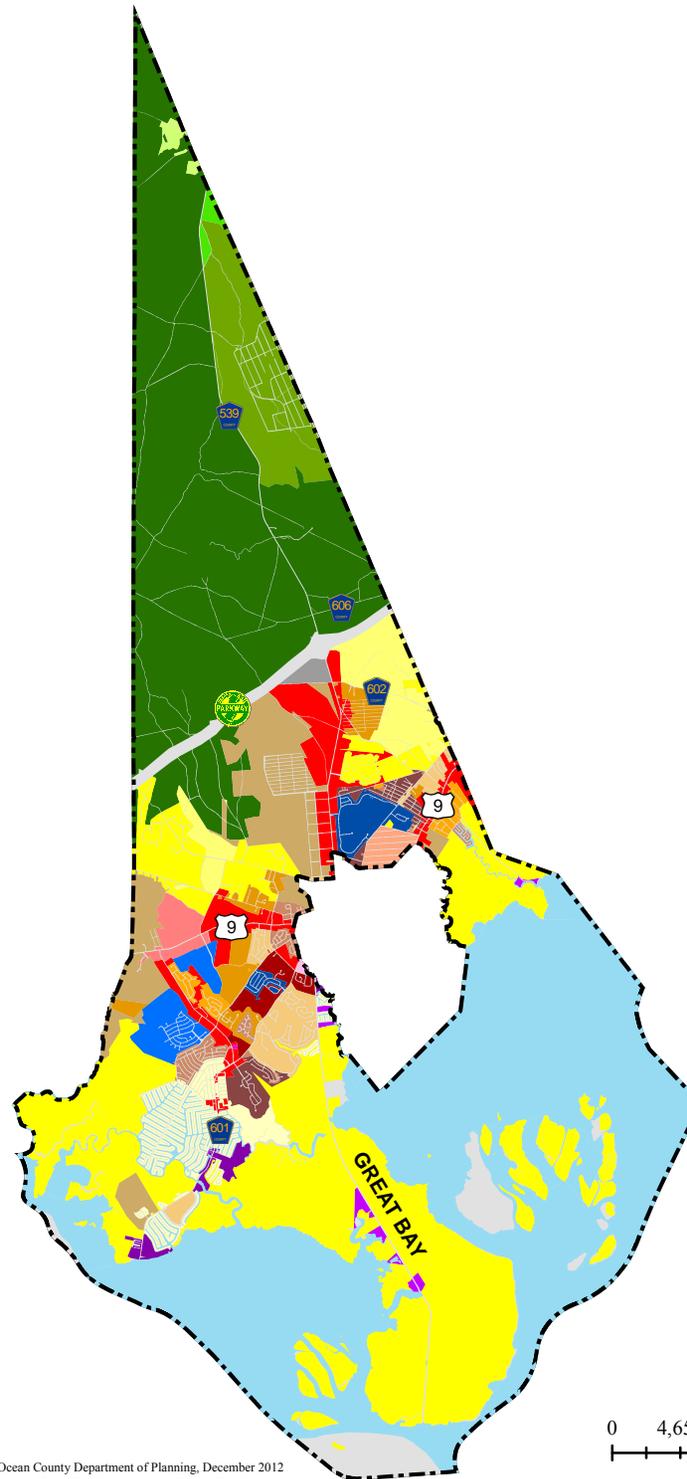
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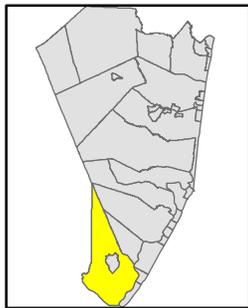
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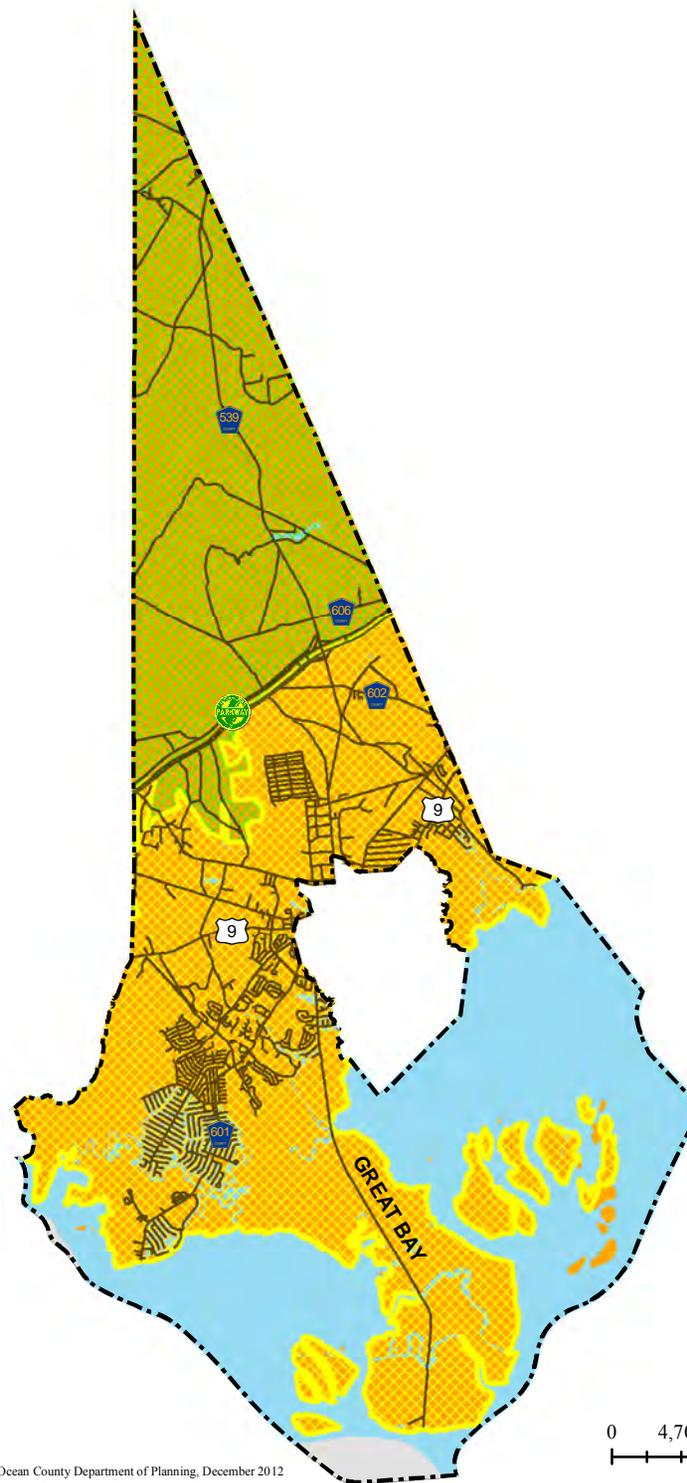
LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 4
 MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
 Sources: Township of Little Egg Harbor, Ocean County Tax Board



Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Southern Planning Area



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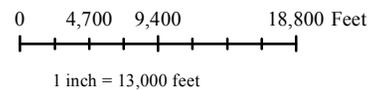
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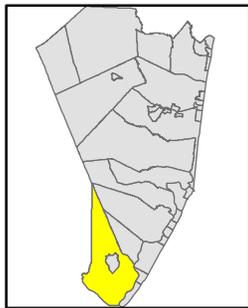
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LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 5
 REGIONAL PLANNING AREA



Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1516001	LITTLE EGG HARBOR MUA

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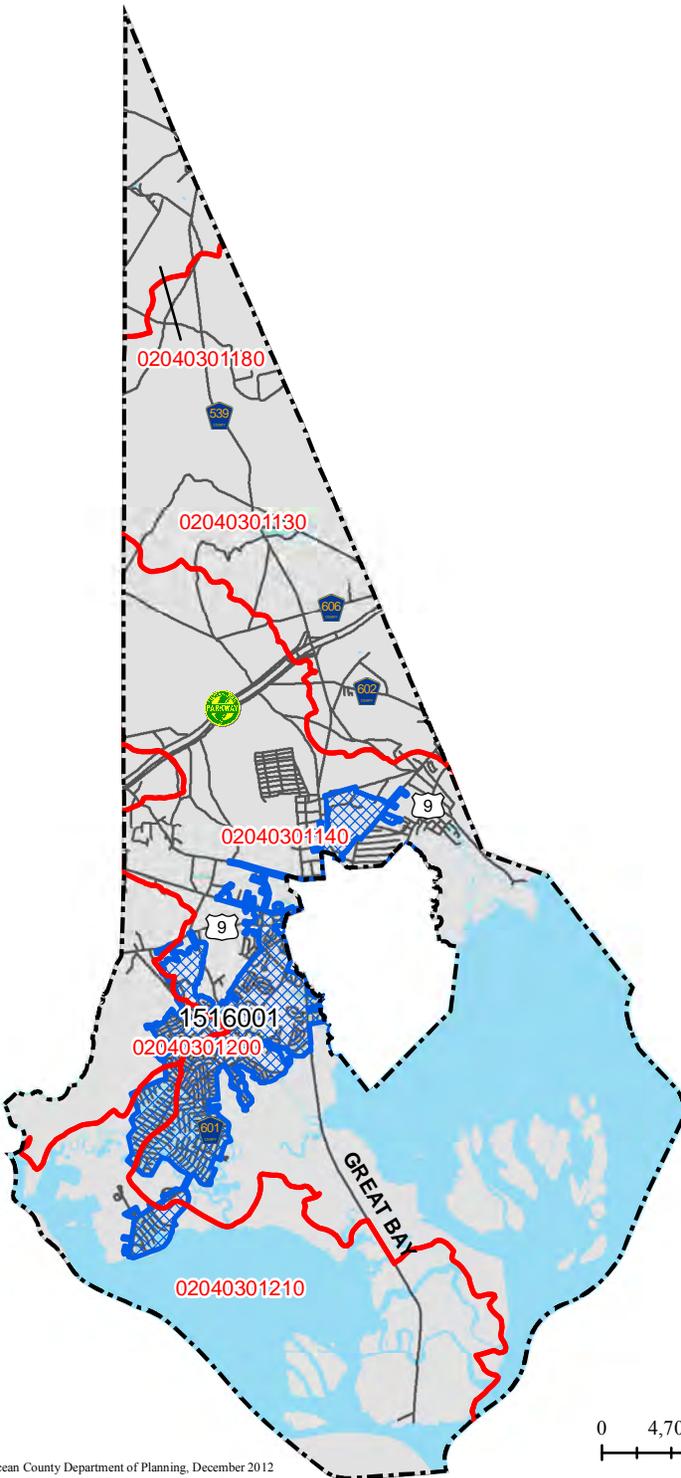
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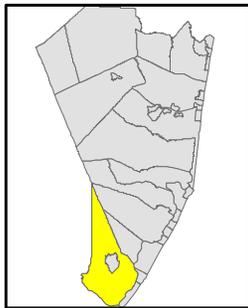
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Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 6
 WATER SUPPLY



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap

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"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC; 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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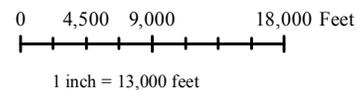
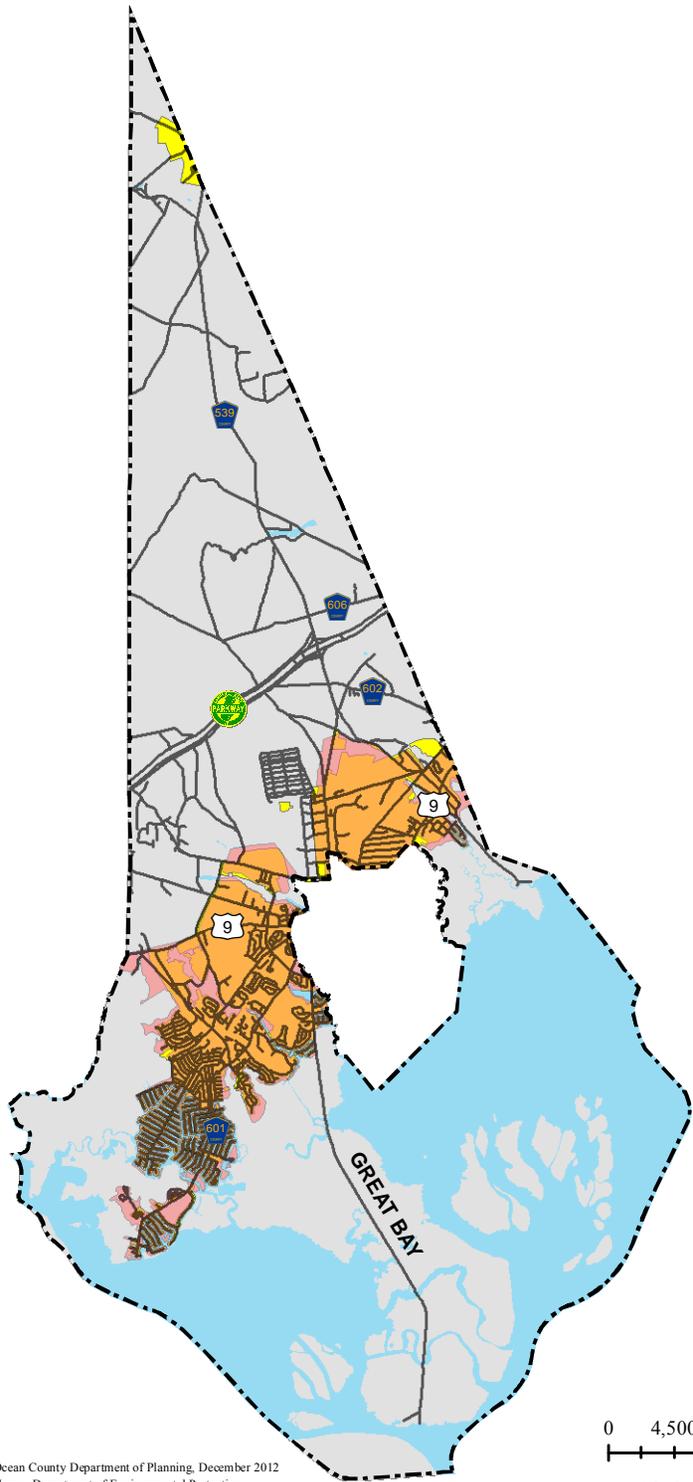
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"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:15, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

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LITTLE EGG HARBOR TOWNSHIP
 OCEAN COUNTY, NJ
 DELTA MAP
 SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

17. LONG BEACH TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Long Beach was incorporated in 1899, and is located in the southeastern section of Ocean County. Fronting on the Atlantic Ocean to the east and Barnegat Bay, Manahawkin Bay, and Little Egg Harbor to the west, the Township is comprised of four segments of the barrier island Long Beach Island, and has a cumulative land area of 4.30 square miles. The northernmost segment is bordered by Barnegat Light Borough to the north and Harvey Cedars Borough to the south, and includes the communities of High Bar Harbor and Loveladies. Moving southward, the next segment is bordered by Harvey Cedars Borough to the north and Surf City Borough to the south, and includes the community of North Beach. The largest segment of the Township is bordered by Ship Bottom Borough to the north and Beach Haven Borough to the south, and is composed of approximately one dozen communities, including Brant Beach, Peahala Park, and Spray Beach. The southernmost segment extends to the southern tip of Long Beach Island, is bordered by Beach Haven Borough to the north, and includes such communities as Holgate and South Beach Haven. All of Long Beach Township lies within the CAFRA region.

The 2010 U.S. Census found that Long Beach Township had a total population of 3,051. Also that year, the Census recorded 9,216 housing units, of which 7,677 were vacant. The vast majority of these vacant housing units—6,965—were seasonal vacancies. The NJTPA projects that the Township’s year-round population will grow to 4,790 by the year 2035, an increase of 62.9%. While these changes in seasonal and base population are significant, the Long Beach Township’s wastewater infrastructure is capable of accommodating such short and long term fluctuations.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Consisting of four stretches of Long Beach Island, nearly all of Long Beach Township’s eastern edge is lined by beaches and wetlands. Numerous emergent wetlands are present on Long Beach Island’s low-lying areas on the bayside, northern end, and southern end, as well as on the many small islands which dot the Barnegat Bay. Natural Heritage Priority Sites can be found at the northern and southern ends of the Township. There are no preserved farms in the municipality.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	1,549.73	10.28%
Public Open Space/Recreational Areas	1,743.49	11.57%
Habitat T&E	1,579.20	10.48%
Natural Heritage Priority Sites	2,018.71	13.39%
Riparian Zones	145.89	0.97%
Preserved Agriculture	0.00	0.00%
Surface Water	11,669.47	77.43%

**Table 2: Status of Municipal Ordinances**

Ordinance	Code	Date Adopted
Zoning	Chapter 205	10/5/1979
Master Plan		11/26/2007
Stormwater [County - MSWMP]	Chapter 178	9/1/2006 [2/1/2007]
Riparian Zone	Chapter 205-16	12/18/1992
Septic System Maintenance	N/A	N/A
Dry Conveyance	Chapter 197-2	8/2/1974
Septic Connections	Chapter 197-1	8/2/1974
Source: http://www.ecode360.com/LO1479		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in the four segments of Long Beach Township is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines. The municipal system connects to one OCUA interceptor which runs along Long Beach Boulevard and serves all municipalities on Long Beach Island. In the two northernmost segments, wastewater flows from north to south, passing through the Long Beach-North Loveladies Lift Station (SPS-8) just south of Barnegat Light Borough and the Long Beach-South Loveladies Lift Station (SPS-11) just north of Harvey Cedars Borough. In the two southernmost segments, wastewater flows from south to north, passing through the Long Beach Boulevard-30th Street Lift Station (SPS-12) just north of Beach Haven Borough, the Long Beach-Massachusetts Avenue Lift Station (SPS-6) in Brighton Beach, and the Long Beach Boulevard-41st Street Lift Station (SPS-13) just south of Ship Bottom Borough. The north and south branches of this interceptor converge in Surf City Borough, and from there, proceed to OCUA’s SWPCF in Stafford Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 33.22 acres of developable land, of which 29.06 acres are zoned as residential and 4.16 acres are zoned as commercial. There is no developable land zoned for industrial uses in Long Beach. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Long Beach Township’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Township is included in the designated sewer service area. There are no septic systems in Long Beach. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Long Beach’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via seven wells. The majority of the system is operated by the Long Beach Township Water Department—which is capable of pumping more than 6.005 MGD—and purchases additional potable groundwater from outside sources. The northernmost segment of the Township is served by both the Harvey Cedars Borough Water Department and the Barnegat Light Water Department. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C	General Commercial	73.39	2.34
MC	Marine Commercial	48.73	1.82
R-10	Single-Family Residential	506.14	9.07
R-10E	Single-Family Residential	214.73	4.62
R-35	General Residential	127.94	3.05
R-36	General Residential	30.35	0.00
R-50	General Residential	1333.25	10.15
R-50A	Single-Family Residential	66.40	0.26
R-6	Single-Family Residential	51.63	0.19
R-75	Single-Family Residential	593.67	1.72
SC	Special Commercial	10.10	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Long Beach Township was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Township.

As noted in the County Document of this WMP, Long Beach is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Township’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Township will increase by 451 people by 2035. This equates to a 0.034 MGD increase in wastewater flow being directed to OCUA’s SWPCF. This is not a significant amount of additional flow, and will not have a great impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently



directed to OCUA facilities to produce a projected flow in MGD. These flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Long Beach. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
2.744	0.116	2.860	2.894	0.000	2.894

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

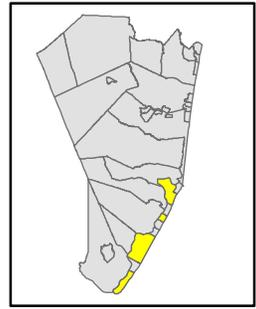
Table 5: Public Water Purveyor Capacity								
Long Beach Township – Brant Beach								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
4.342	2.285	2.057	72.100	70.832	1.268	495.000	351.142	143.858
Long Beach Township – High Bar Harbor								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.152	N/A	N/A	4.701	N/A	N/A	22.600	N/A
Long Beach Township – Holgate								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.037	0.403	0.634	14.700	12.493	2.207	100.000	67.926	32.074
Long Beach Township – Loveladies North								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.365	N/A	N/A	11.323	N/A	N/A	56.054	N/A
Long Beach Township – Loveladies South								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.411	N/A	N/A	12.752	N/A	N/A	59.971	N/A
Long Beach Township – North Beach								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.285	N/A	N/A	8.827	N/A	N/A	48.121	N/A
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
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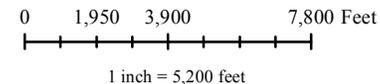
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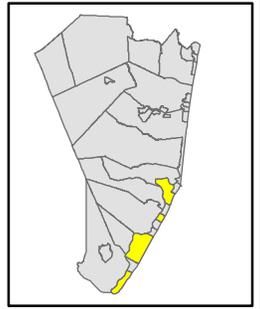
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 1A

ENVIRONMENTAL FEATURES

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 13:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Township of Long Beach municipal code Chapter 197."

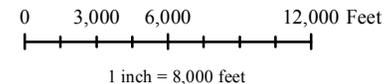
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3A, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2-7), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, October 2012
Sources: New Jersey Department of Environmental Protection



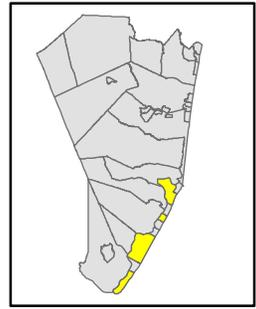
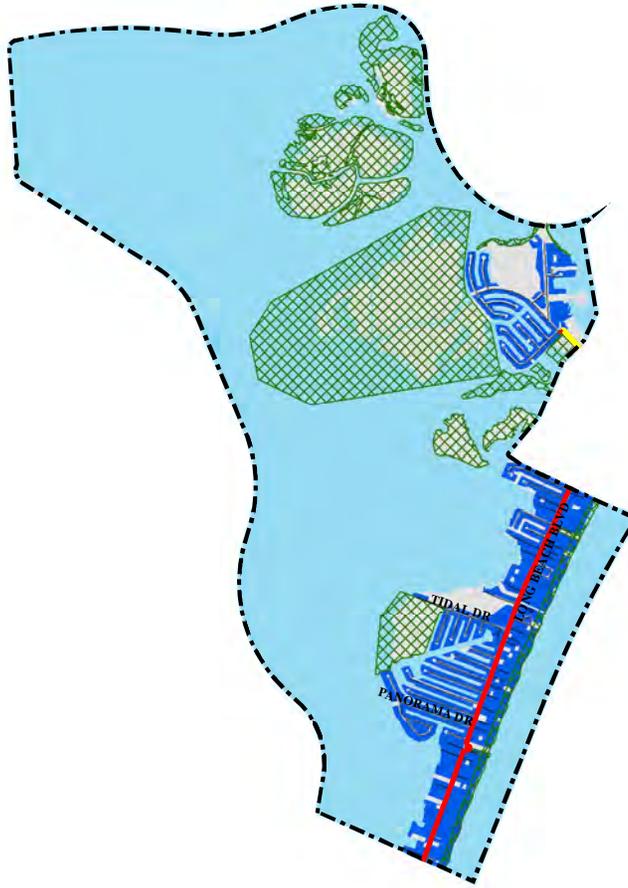
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 1B

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
 -  Force Main
 -  Roads
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Southern DSW (NJ0026018)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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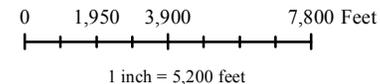
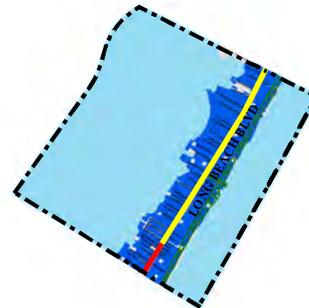
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules"

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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13-18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP must be consistent with the requirements of the CMP."

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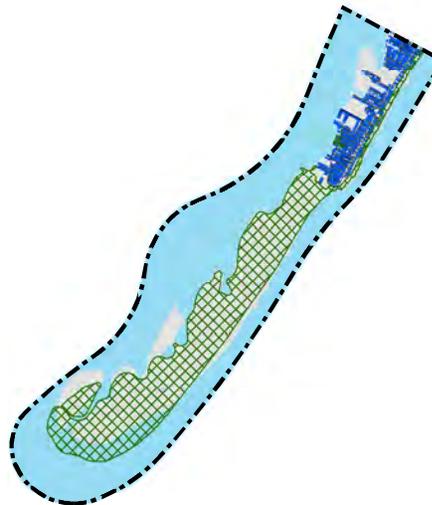
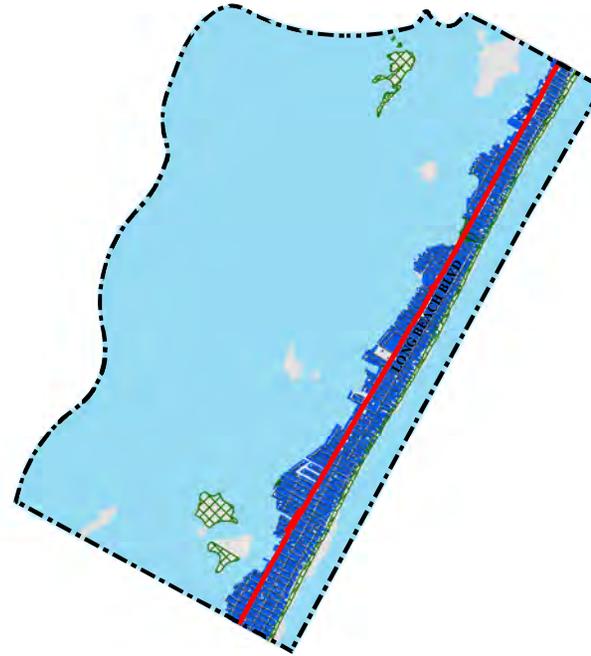
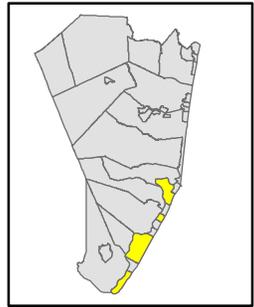
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 2A

EXISTING SEWERED AREA

Legend

-  Interceptor
 -  Force Main
 -  Roads
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Southern DSW (NJ0026018)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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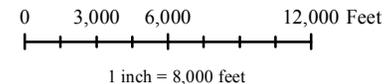
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Prepared by: Ocean County Department of Planning, October 2012
Sources: New Jersey Department of Environmental Protection



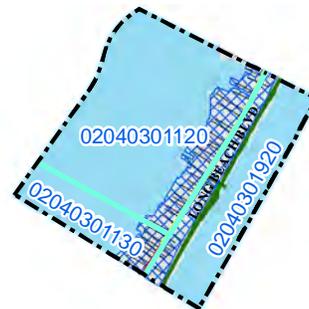
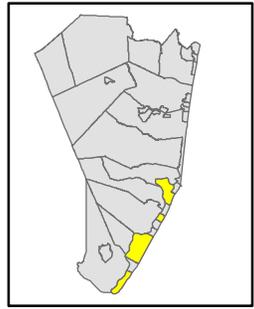
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 2B

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

*Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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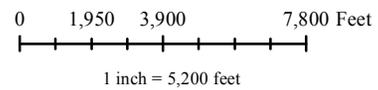
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LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

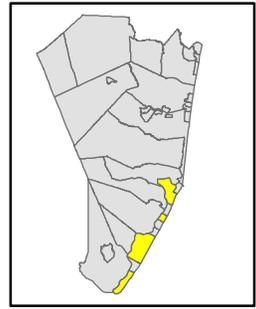
MAP 3A

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, October 2012
Sources: New Jersey Department of Environmental Protection
Ocean County Utilities Authority

Legend

- HUC 11
- Interceptor
- Force Main
- Roads
- OCUA Southern DSW (NJ0026018)
- Non Discharge Areas
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water



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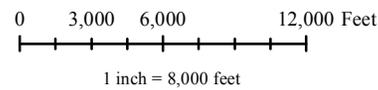
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LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

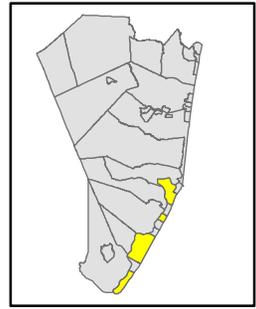
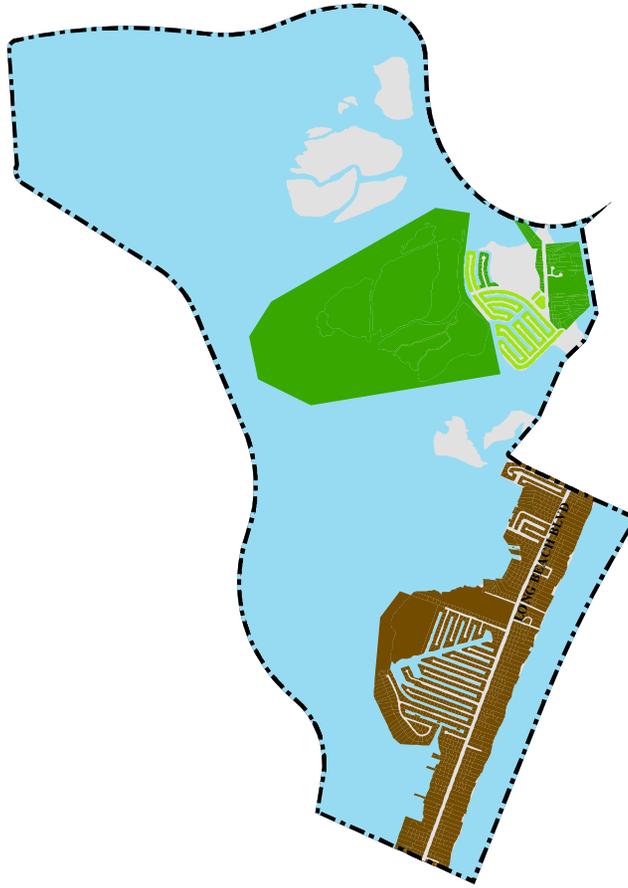
MAP 3B

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, October 2012
 Sources: New Jersey Department of Environmental Protection
 Ocean County Utilities Authority

Legend

- C (General Commercial)
- MC (Marine Commercial)
- R10 (Single-Family Residential)
- R10E (Single-Family Residential)
- R35 (General Residential)
- R36 (General Residential)
- R50 (General Residential)
- R50A (Single-Family Residential)
- R6 (Single-Family Residential)
- R75 (Single-Family Residential)
- SC (Special Commercial)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

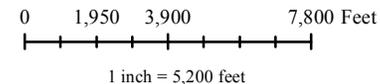
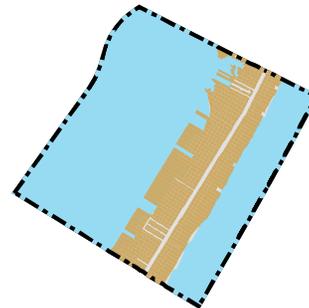
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

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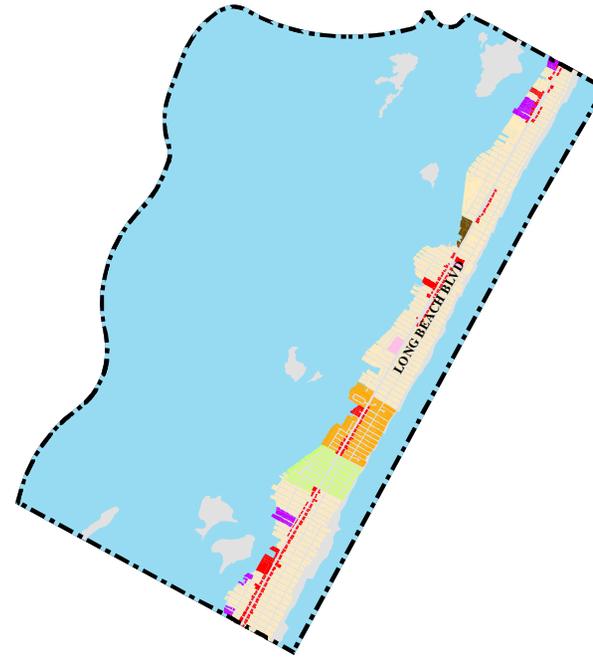
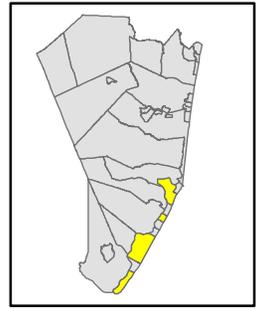
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 4A

MUNICIPAL ZONING

Legend

- C (General Commercial)
- MC (Marine Commercial)
- R10 (Single-Family Residential)
- R10E (Single-Family Residential)
- R35 (General Residential)
- R36 (General Residential)
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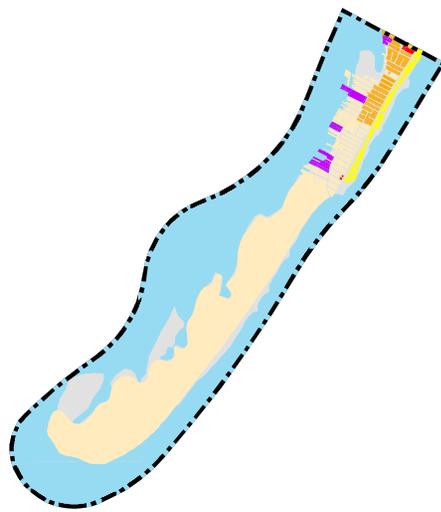
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0 2,950 5,900 11,800 Feet

1 inch = 8,000 feet

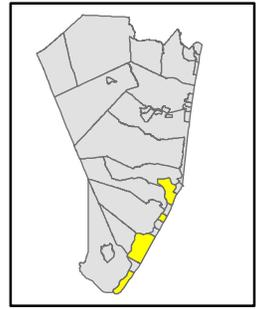
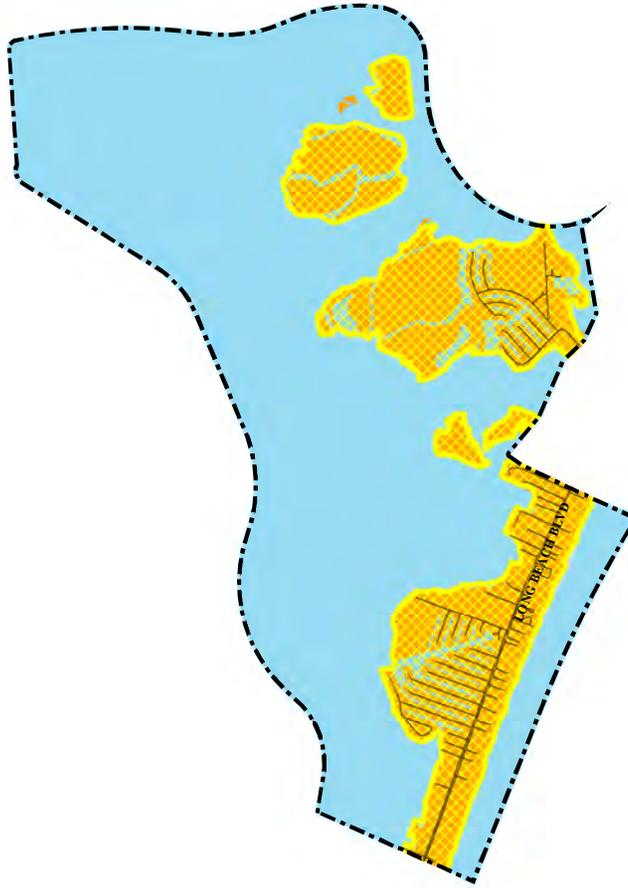
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 4B

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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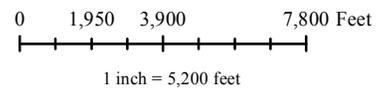
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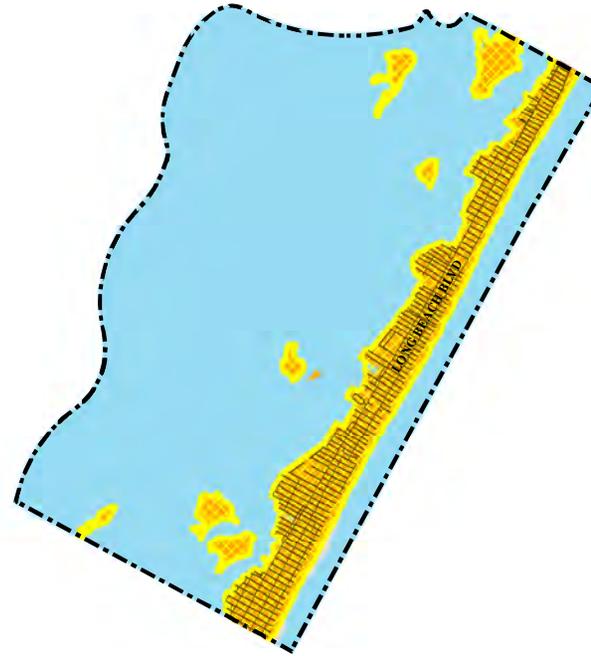
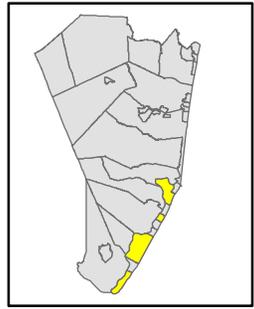
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 5A

REGIONAL PLANNING AREA

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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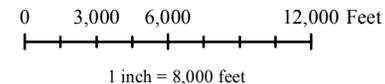
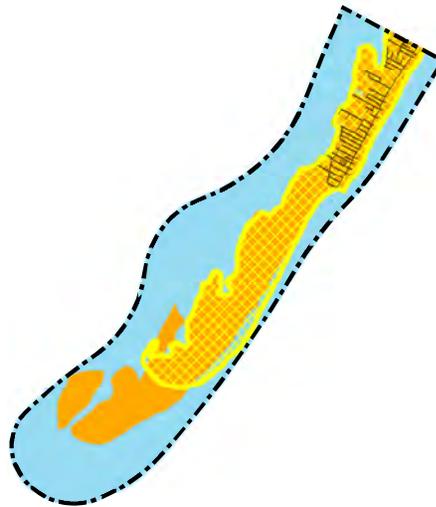
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13-18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP must be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.4) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



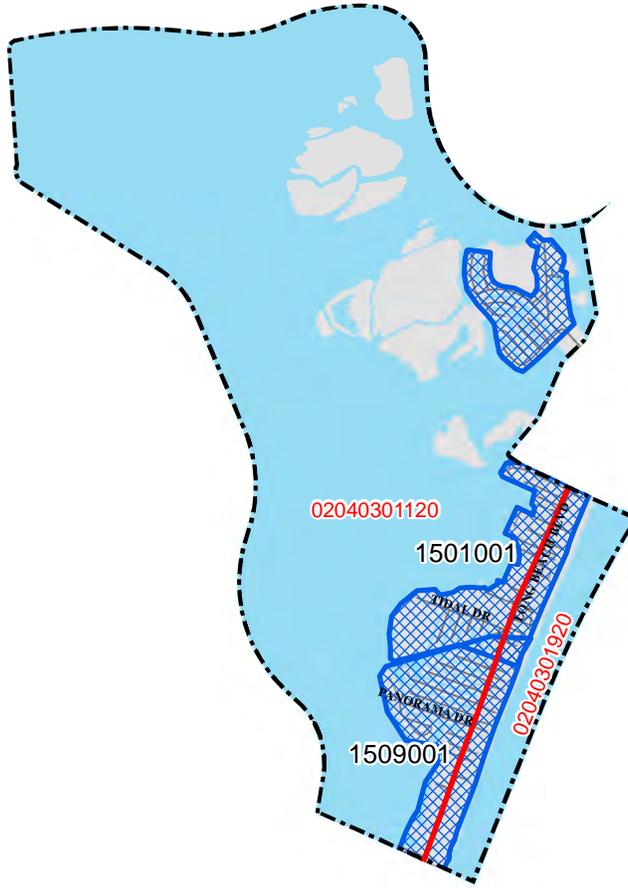
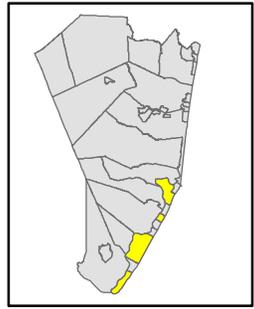
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 5B

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1501001	BARNEGAT LIGHT WATER DEPARTMENT
1509001	HARVEY CEDARS WATER DEPARTMENT
1517003	LONG BEACH TOWNSHIP (NORTH BEACH)

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

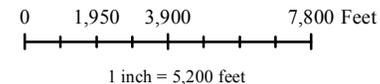
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Really Improved Sewerage and Facilities Act (RISFA, S8:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Township of Long Beach Ordinance (88-33C)."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:1B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process, this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP must be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



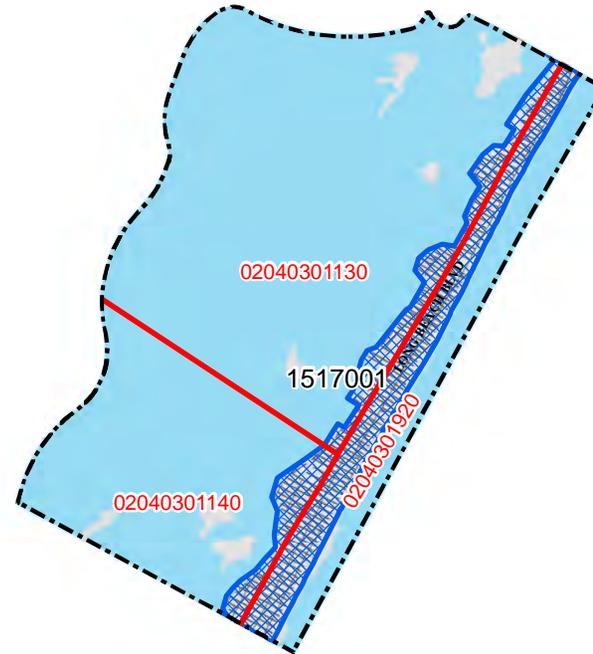
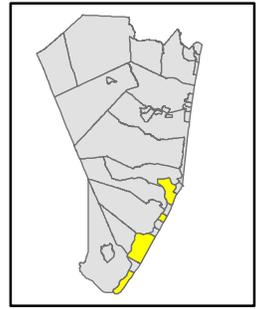
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 6A

WATER SUPPLY

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1517001	LONG BEACH TOWNSHIP - BRANT BEACH
1517002	LONG BEACH TOWNSHIP - HOLGATE

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

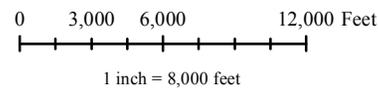
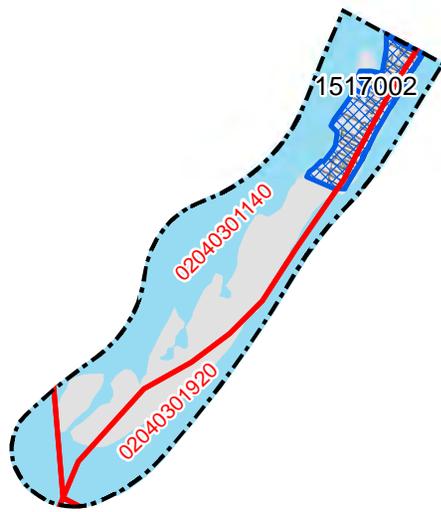
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13-18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP must be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



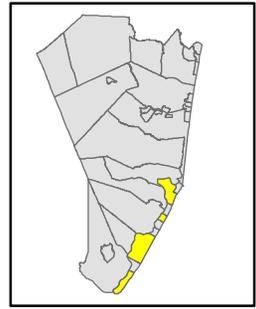
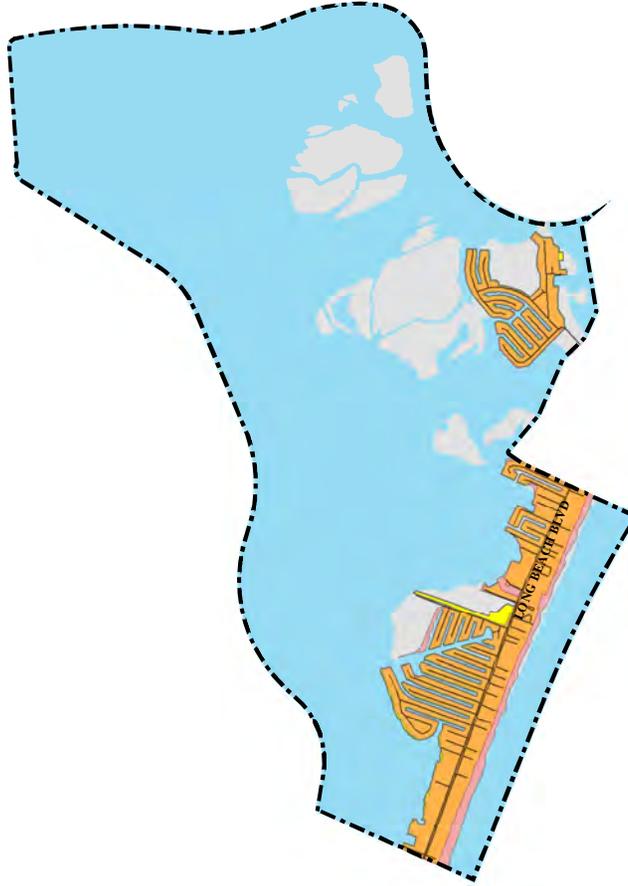
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

MAP 6B

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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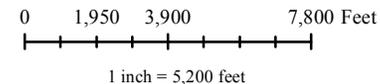
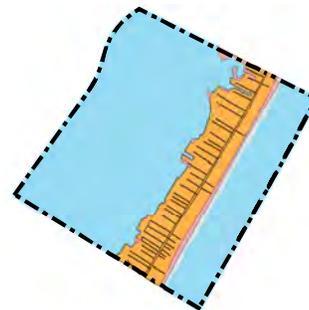
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4 and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules"

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:1B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13-18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP must be consistent with the requirements of the CMP."

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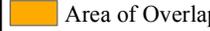


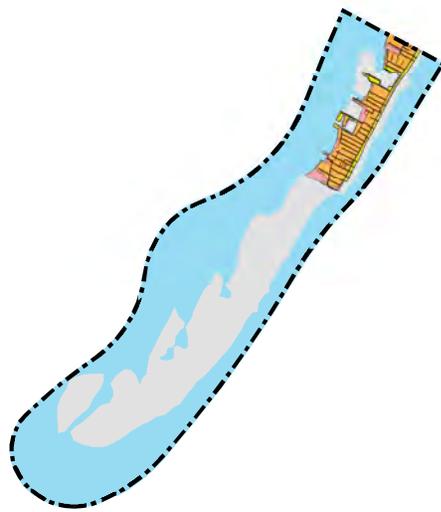
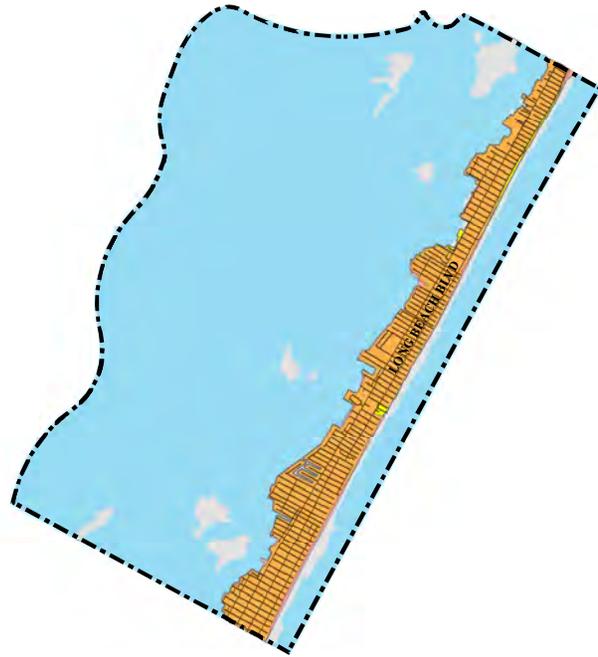
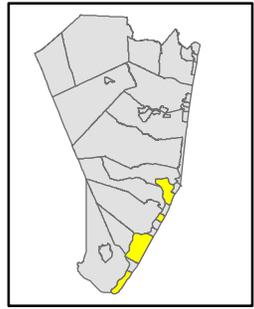
LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP A

SIGNIFICANT CHANGES

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

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*All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent.

*Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service.

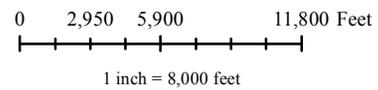
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*Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules.

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LONG BEACH TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP B

SIGNIFICANT CHANGES

18. MANCHESTER TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

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I. Overview of Municipality

The Township of Manchester was incorporated in 1865, and is located in the northwestern section of Ocean County. It is bordered by Jackson and Plumsted Townships to the north, Burlington County to the west, Lacey and Berkeley Townships to the south, and Toms River Township to the east. Manchester also completely surrounds Lakehurst Borough, which is situated in the northeastern portion of the Township.

With a total land area of 82.50 square miles, Manchester is the third largest municipality in the County. 38,589.97 acres, or 73.15% of the Township, is within the Pinelands Comprehensive Management Plan Area. Beginning at Manchester’s municipal boundary with Berkeley Township, the boundary of the Pinelands follows a westerly course along a utilities right-of-way. Near the intersection of Lacey Road and Manchester Boulevard, the Pinelands boundary turns northeast and runs along a disused railroad right-of-way, passes through Lakehurst Borough, and ultimately crosses the Township’s municipal boundary with Toms River Township in Manchester’s northeast corner. The section of Manchester east of this boundary lies within the CAFRA region.

Of all Ocean County municipalities, Manchester is the location of the most age-restricted communities and the most age restricted housing units. Many of these communities—and much of Manchester’s developed land—is found in the northern and eastern portions of the Township, outside of the Pinelands boundary. Much of the Township’s undeveloped land is protected; this includes the Manchester Wildlife Management Area and the Brendan T. Byrne State Forest. Also, two large tracts of the Joint Base McGuire-Dix-Lakehurst are located within Manchester, in the northwestern corner of the Township and in the area just north of Lakehurst Borough.

In 2010, the U.S. Census documented a total population of 43,070 in Manchester Township. This Census also recorded 25,886 housing units, of which 3,046 were vacant, and of these, 789 were seasonal vacancies. As such, summer/winter population fluctuations are negligible. At present, the NJTPA projects that Manchester’s population will grow to 53,678 by the year 2035, representing an increase of 19.76%. The Township’s current wastewater conveyance infrastructure is able to accommodate this forecasted growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Manchester Township is largely forested, and these forested areas are interspersed with streams and low lying freshwater wetlands. Natural Heritage Priority Sites are located about several of these stream corridors, most notably in the southwest portion of the municipality. Bald eagle foraging grounds are also present in Manchester—in the western corner of the Township and to the south and west of Lakehurst Borough. Additionally, small tracts of preserved farmland can be found along the Township’s western boundary with Burlington County.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	9,884.33	18.74%
Public Open Space/Recreational Areas	24,960.49	47.31%
Habitat T&E	40,963.02	77.65%
Natural Heritage Priority Sites	3,807.04	7.22%
Riparian Zones	2,247.10	4.26%
Preserved Agriculture	56.88	0.11%
Surface Water	459.30	0.87%



Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 245, Article IV	5/22/1997
Master Plan		2010
Stormwater [County - MSWMP]	Chapter 365	6/13/2011 [3/31/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 430, Article II	1996
Source: http://ecode360.com/MA0531		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

Most existing development in Manchester is connected to the existing sewer system. Those areas which are presently not served by sewers include developments in the south and western portions of the Township. In the sewered regions, wastewater is collected through the Township’s lateral lines, which connect to one of two OCUA interceptors. The first of these lines enters Manchester from Lakehurst Borough near the intersection of Routes 37 and 70, then proceeds in a roughly eastward course north of Huntington Drive and toward Pine Lake. This interceptor then turns southeast and follows the course of the Toms River into Toms River Township. The second interceptor originates in the Pine Ridge at Crestwood age-restricted community, travels due east for a short distance and crosses into Berkeley Township just north of Kingfisher Way. Wastewater in both of these interceptors is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 11,200.42 acres of developable land, of which 8,906.58 acres are zoned as residential, 539.73 acres are zoned as commercial, and 38.88 acres are as industrial. The remaining 1,715.23 acres are zoned for other uses.

Of the County’s thirty-three municipalities, Manchester has experienced the most extensive changes in its sewer service area. A vast expanse of vacant land—bounded by Route 70 to the south, Lakehurst Borough to the east, and the Joint Base to the north and west—is the largest contiguous area in the County which has been removed from sewer service. Much of this area falls within the Manchester Wildlife Management Area, while the balance is privately owned. The County’s largest contiguous area added to the sewer service area is also located in Manchester Township, and covers much of the Roosevelt City residential subdivision.

All development within the Pinelands Comprehensive Management Plan Area is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Manchester’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Nearly all of the developed and developable land in the Township is included in the designated sewer service area. The largest exception is Pine Lake Park; this development is to remain on septic. Much of the remaining land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or lies within the CAFRA region. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Manchester is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).



Existing Areas Served By Public Water Supply Facilities

Manchester’s drinking water is derived from ten wells, seven which draw from the Kirkwood-Cohansey Aquifer, and three which draw from the Potomac-Raritan-Magothy Aquifer. The system is operated by the Manchester Township Water Utility, and is capable of pumping 10.830 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are five developments located in the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these systems are provided in Tables 3 through 7:

Table 3: NJPDES - Cedar Glen Homes			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0136492	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Cedar Glen Homes, Inc.	
7. Operator of Facility:		Linda Steele, Albert Atchison	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Manchester Township, Ocean County	
b. Street Address:		1848 Ridgeway Road	
c. Block(s) and Lot(s):		Block 2, Lot 43	
10. Location of discharge:			
a. Longitude:		74 deg. 14 min. 9.94 sec. west	
b. Latitude:		40 deg. 0 min. 16.68 sec. north	
11. Present Permitted Flow:		0.054 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 1,000*	Approximately 1,000
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Manchester Township	Residential	0.054 MGD**	0.054 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.054 MGD	0.054 MGD
*There are 552 units, which vary in occupancy, as per Linda Steele.			
**Estimate assumes 98% occupancy, with each unit using 100 gpd			



Table 4: NJPDES - Cedar Glen West			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0136387	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Cedar Glen West, Inc.	
7. Operator of Facility:		Earl Sutton	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Manchester Township, Ocean County	
b. Street Address:		Routes 571 & 547	
c. Block(s) and Lot(s):		Block 62, Lot 4	
10. Location of discharge:			
a. Longitude:		74 deg. 17 min. 38.87 sec. west	
b. Latitude:		40 deg. 2 min. 9.35 sec. north	
11. Present Permitted Flow:		0.165 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 1,600*	Approximately 1,600
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Manchester Township	Residential	0.165 MGD**	0.165 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.165 MGD	0.165 MGD
*There are 826 units, which vary in occupancy, as per Cedar Glen West, Inc.			
**Estimate assumes maximum occupancy, with each unit using 200 gpd			

Table 5: NJPDES - Manchester Village			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0141933	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Beckerville Urban Renewal	
7. Operator of Facility:		Liz Orbin	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Manchester Township, Ocean County	
b. Street Address:		202 Manor Drive	
c. Block(s) and Lot(s):		Block 79, Lot 31	
10. Location of discharge:			
a. Longitude:		74 deg. 22 min. 31.32 sec. west	
b. Latitude:		40 deg. 0 min. 1.72 sec. north	
11. Present Permitted Flow:		0.007 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		200*	200
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Manchester Township	Residential	0.007 MGD**	0.007 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.007 MGD	0.007 MGD
*Estimate provided by Liz Orbin			
**Estimate assumes maximum occupancy of 56 units, each using 125 gpd			



Table 6: NJPDES - Ridgeway Industrial Park

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0168181	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Ridgeway Industrial Park, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Manchester Township, Ocean County	
b. Street Address:		3200 Ridgeway Boulevard	
c. Block(s) and Lot(s):		Block 72.01, Lot 14.01	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 28.92 sec. west	
b. Latitude:		40 deg. 1 min. 3.84 sec. north	
11. Present Permitted Flow:		0.008 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		various	various
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Manchester Township	Residential		
	Commercial		
	Industrial	0.008 MGD*	0.008 MGD
	Inflow/Infiltration		
Total		0.008 MGD	0.008 MGD

*Estimate based on approximately 70,000 square feet multiplied by 0.125 gpd

Table 7: NJPDES - Ridgeway Manufactured Housing Community

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0085014	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Garden Homes Management	
7. Operator of Facility:		Eva & John Hurley	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Manchester Township, Ocean County	
b. Street Address:		3614 Ridgeway Road	
c. Block(s) and Lot(s):		Block 62, Lots 11, 12	
10. Location of discharge:			
a. Longitude:		74 deg. 17 min. 30.34 sec. west	
b. Latitude:		40 deg. 2 min. 7.18 sec. north	
11. Present Permitted Flow:		0.013 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 200*	Approximately 200
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Manchester Township	Residential	0.0128 MGD**	0.0128 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.0128 MGD	0.0128 MGD

*There are 128 units, which vary in occupancy, as per Garden Homes Management.
 **Estimate assumes maximum occupancy, with each unit using 100 gpd



V. Future Wastewater and Water Demand

Municipal Zoning

Table 8: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B-1	Business	20.51	6.16
BVR-40	Beckerville Village Single-Family Residential	170.53	75.52
FA-RAF	Forest Area - Receiving Area	283.16	253.54
FA-S	Forest Area - Sending Area	4818.75	1,769.03
HD-10	Highway Development - 10 acres	95.57	2.12
HD-3	Highway Development - 3 acres	273.22	189.82
HD-3A	Highway Development - 3 acres	39.40	22.17
LI	Light Industrial	463.11	0.00
MF	Multifamily	41.61	5.41
MP	Mobile Home Park	47.68	4.22
O-P	Office Professional	110.29	38.99
OR-LI	Office, Research, and Light Industrial	110.65	0.00
PB-1	Pinelands Business	90.38	61.16
PED-1	Pinelands Environmental Development	230.85	223.42
PED-9	Pinelands Environmental Development	142.19	135.70
PFA-R	Pinelands Forest Area - Receiving	1179.97	854.23
PFA-S	Pinelands Forest Area - Sending	7748.47	3,366.60
POR-LI	Pinelands Office, Research, and Light Industrial	87.40	38.88
PPA	Pinelands Preservation Area	17059.27	1,031.08
PR-15	Pinelands Residential - 15,000 square feet	116.22	28.41
PR-40	Pinelands Single-Family Residential	487.12	254.05
PRA	Pinelands Rural Agriculture	354.74	77.52
PRC-1	Pinelands Retirement Community	225.93	195.91
R-10	Residential - 10,000 square feet	1094.49	182.04
R-10A	Residential - 10,000 square feet	208.82	2.06
R-14	Residential - 14,000 square feet	29.25	3.12
R-14AF	Residential - 14,000 square feet	40.20	6.93
R-15	Residential - 15,000 square feet	215.87	50.63
R-15AF	Residential - 15,000 square feet	42.15	30.25
R-40	Residential - 40,000 square feet	575.02	226.65
R-A	Rural Agriculture	160.49	57.50
RC	Retirement Community	2971.60	112.03
RC-2	Retirement Community - 2	1012.95	748.51
RC-AF	Retirement Community	158.09	59.15
TC	Town Center	202.86	86.29
WTR-40	Whiting Town Residential - 40,000 square feet	1223.92	339.36
WTB-1	Whiting Town Business - 1 acre	73.04	18.93
WTHD	Whiting Town - Highway Development	83.10	39.76
WTO-P	Whiting Town - Office Professional	124.65	74.31
WTR-A	Whiting Town - Rural Agricultural	447.31	190.02
WTRC	Whiting Town - Retirement Community	1600.34	338.93

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no



further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 9: Wastewater Flow Directed to OCUA Facilities	
CWPCF	
Source	(MGD)
Existing Flow	1.948
Projected Residential	1.123
Projected Commercial	0.328
Total Future Planning Flow	3.399

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Manchester Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 10 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 10: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	2,629.39	2,183.91	3,743.28	17,396,919.11

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Manchester Township has adopted municipal ordinance 89-388, which is applicable to septic connection (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area

parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 11: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040202020	73.42	22.94	0.00	0.00	73.42	22.94
02040202030	838.77	59.00	0.00	0.00	838.77	59.00
02040301060	87.82	9.76	0.00	0.00	87.82	9.76
02040301070	950.36	332.53	31.92	57.14	982.28	389.67
02040301080	422.52	294.37	73.44	143.96	495.96	438.33
02040301090	169.74	40.93	0.00	0.00	169.74	40.93
Totals	2,542.63	759.53	105.36	201.10	2,647.99	960.63

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 12: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040202020	5.2	174.35	33.53	22.94
02040202030	4.4	10,739.62	2,440.82	59.00
02040301060	4.6	149.86	32.58	9.76
02040301070	4.6	5,662.06	1,230.88	389.67
02040301080	4.9	4,399.95	897.95	438.33
02040301090	4.5	983.41	218.54	40.93

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.



Table 13: Public Water Purveyor Capacity								
Manchester Township Water Utility								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
4.974	4.173	0.801	145.000	125.880	19.120	1,145.000	908.347	236.653
Manchester Township Water Utility – Lacey Road								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.070	N/A	10.474	2.176	8.298	82.762	20.724	62.038
Manchester Township Water Utility - Western								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
5.184	2.416	2.768	100.000	65.689	34.311	810.000	534.964	275.036
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Bald Eagle Foraging
-  Roads
-  Preserved Agriculture
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Forest (Rank 5)
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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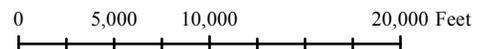
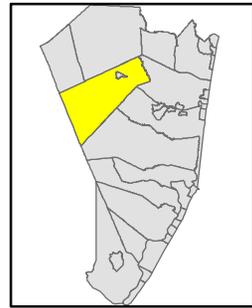
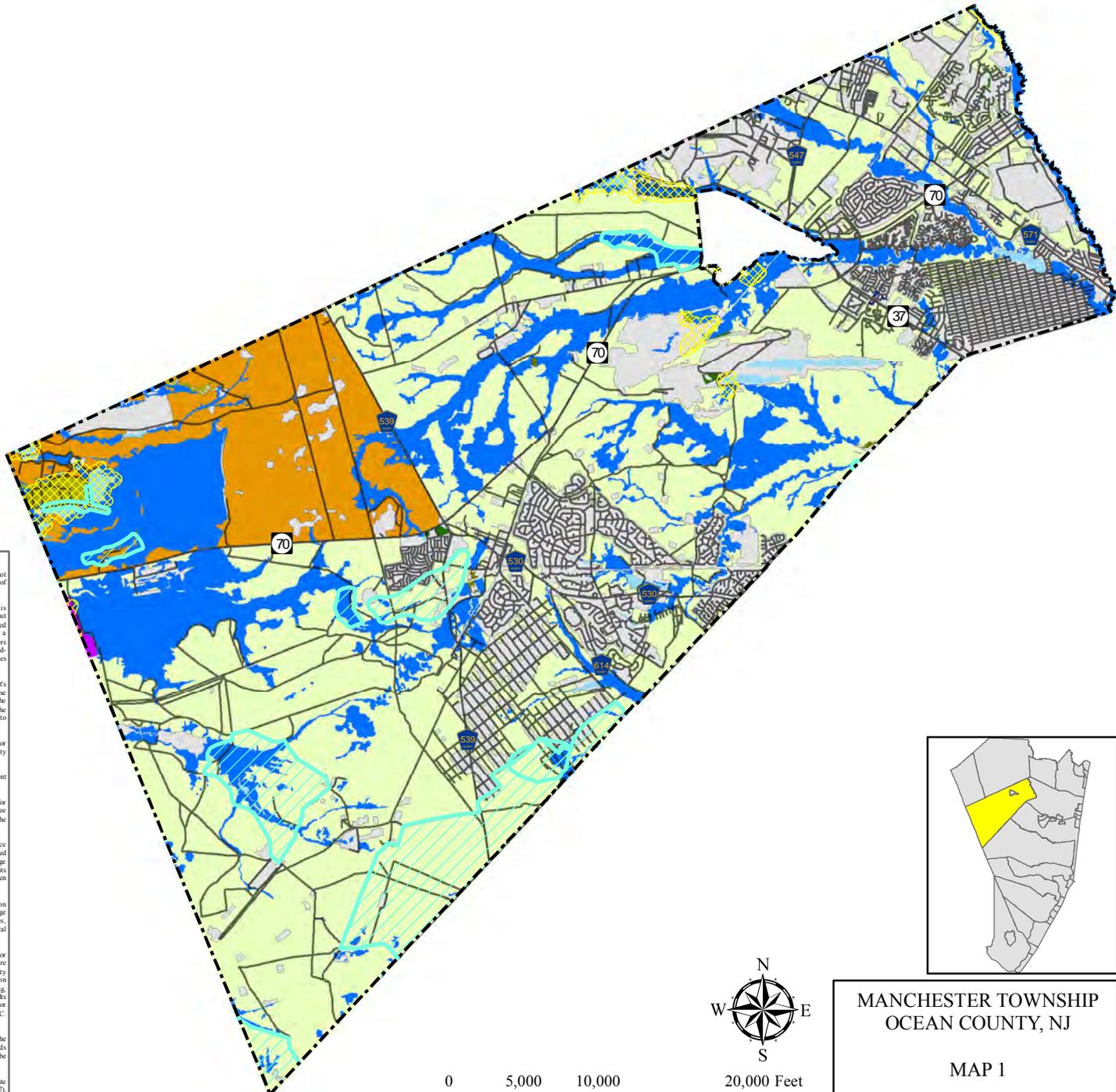
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MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Roads
-  DGW/Sanitary Subsurface Disposal
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)

CEDAR GLEN HOMES	NJG0136492
CEDAR GLEN WEST	NJG0136387
MANCHESTER VILLAGE APARTMENTS	NJG0141933
RIDGEWAY INDUSTRIAL PARK	NJG0168181
RIDGEWAY MANUFACTURED HOUSING COMMUNITY	NJG0085014

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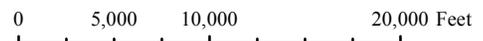
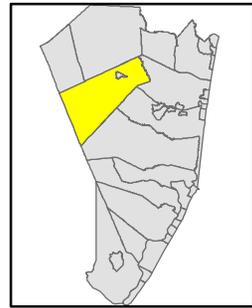
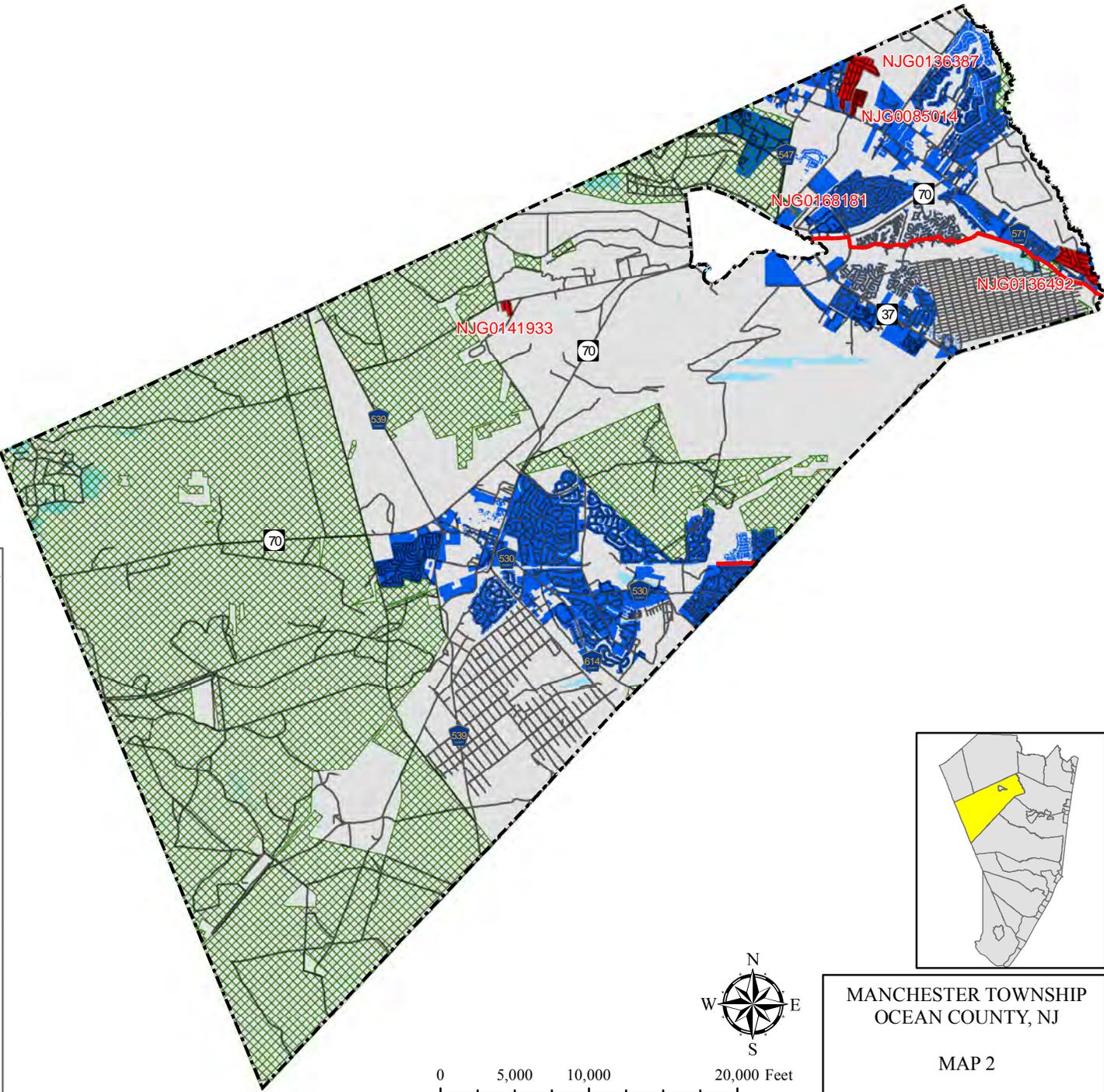
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MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Central DSW (NJ0029408)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water

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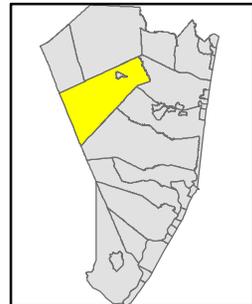
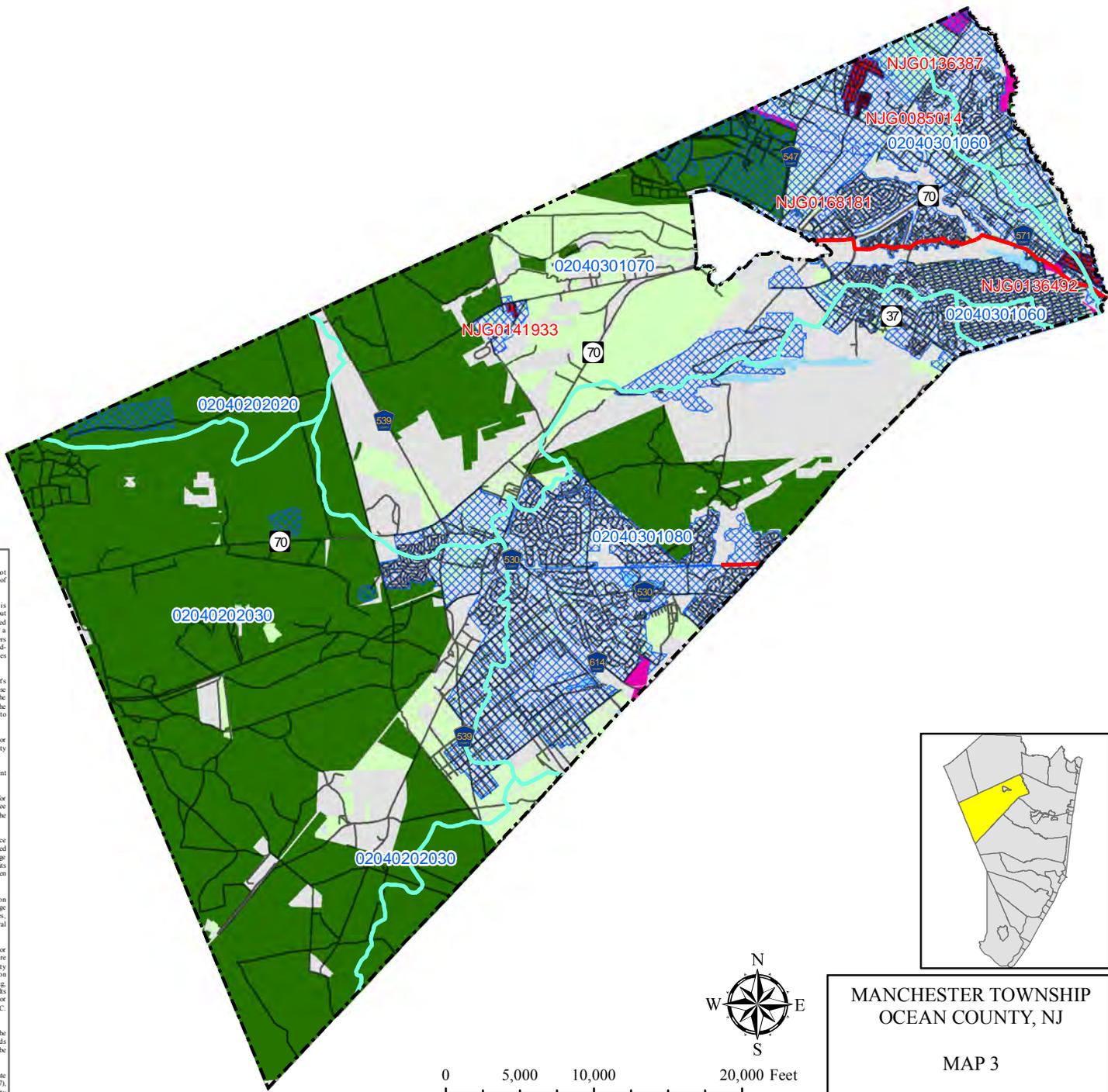
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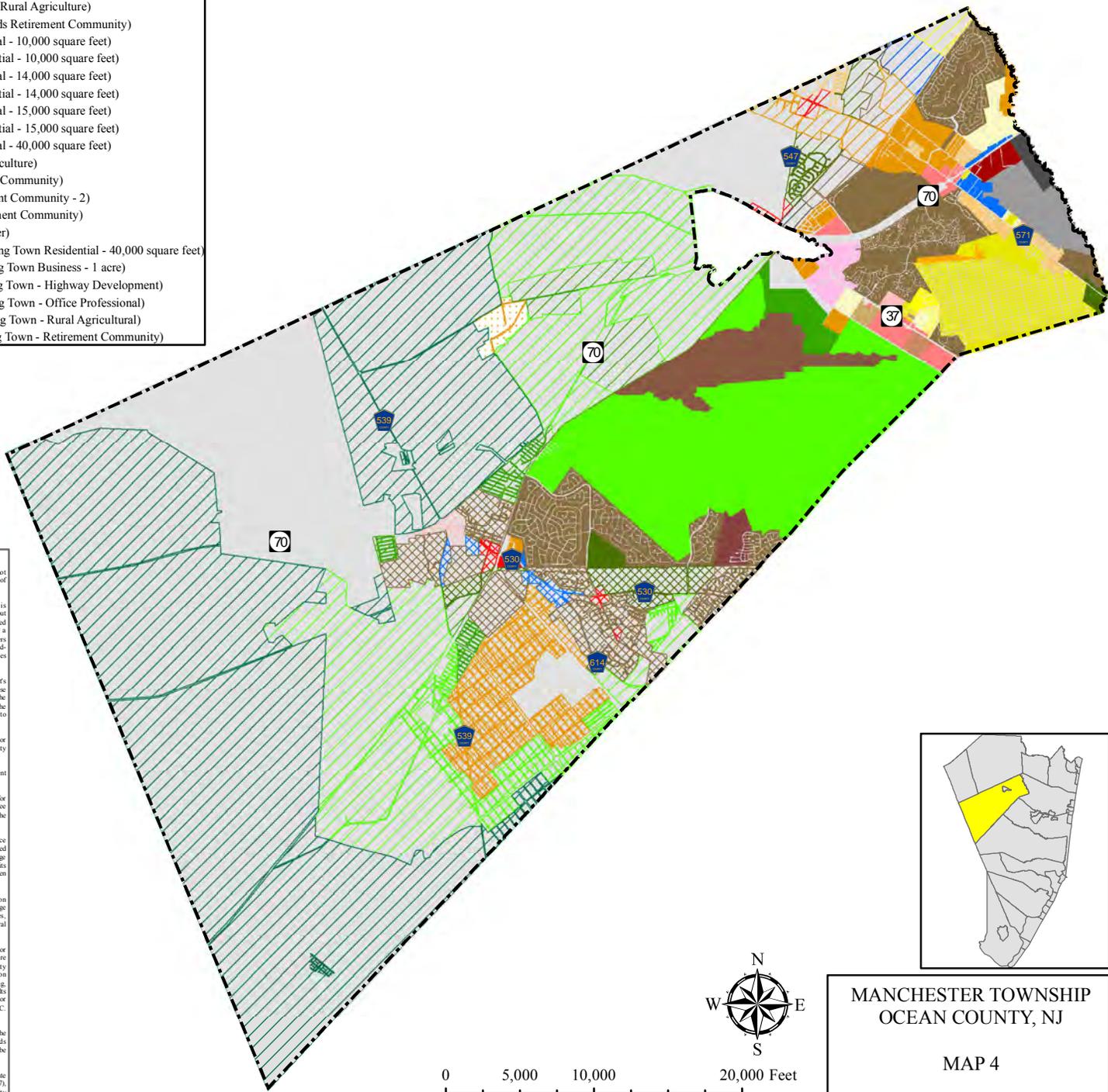
MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- | | |
|---|--|
| ■ Federal Government | ▨ PR-40 (Pinelands Single-Family Residential) |
| ■ B-1 (Business) | ▨ PRA (Pinelands Rural Agriculture) |
| ▨ BVR-40 (Beckerville Village Single-Family Residential) | ▨ PRC-1 (Pinelands Retirement Community) |
| ■ FA-RAF (Forest Area - Receiving Area) | ■ R-10 (Residential - 10,000 square feet) |
| ■ FA-S (Forest Area - Sending Area) | ■ R-10A (Residential - 10,000 square feet) |
| ■ HD-10 (Highway Development - 10 acres) | ■ R-14 (Residential - 14,000 square feet) |
| ■ HD-3 (Highway Development - 3 acres) | ■ R-14A (Residential - 14,000 square feet) |
| ■ HD-3A (Highway Development - 3 acres) | ■ R-15 (Residential - 15,000 square feet) |
| ■ LI (Light Industrial) | ■ R-15A (Residential - 15,000 square feet) |
| ■ MF (Multifamily) | ■ R-40 (Residential - 40,000 square feet) |
| ■ MP (Mobile Home Park) | ■ R-A (Rural Agriculture) |
| ■ O-P (Office Professional) | ■ RC (Retirement Community) |
| ■ OR-LI (Office, Research, and Light Industrial) | ■ RC-2 (Retirement Community - 2) |
| ▨ PB-1 (Pinelands Business) | ■ RC-AF (Retirement Community) |
| ▨ PED-1 (Pinelands Environmental Development) | ■ TC (Town Center) |
| ▨ PED-9 (Pinelands Environmental Development) | ▨ WTR-40 (Whiting Town Residential - 40,000 square feet) |
| ▨ PFA-R (Pinelands Forest Area - Receiving) | ▨ WTB-1 (Whiting Town Business - 1 acre) |
| ▨ PFA-S (Pinelands Forest Area - Sending) | ▨ WTHD (Whiting Town - Highway Development) |
| ▨ POR-LI (Pinelands Office, Research, and Light Industrial) | ▨ WTO-P (Whiting Town - Office Professional) |
| ▨ PPA (Pinelands Preservation Area) | ▨ WTR-A (Whiting Town - Rural Agricultural) |
| ▨ PR-15 (Pinelands Residential - 15,000 square feet) | ▨ WTRC (Whiting Town - Retirement Community) |



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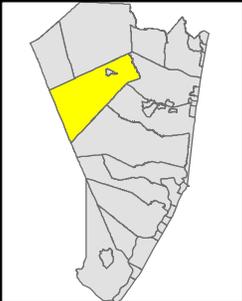
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OCEAN COUNTY, NJ

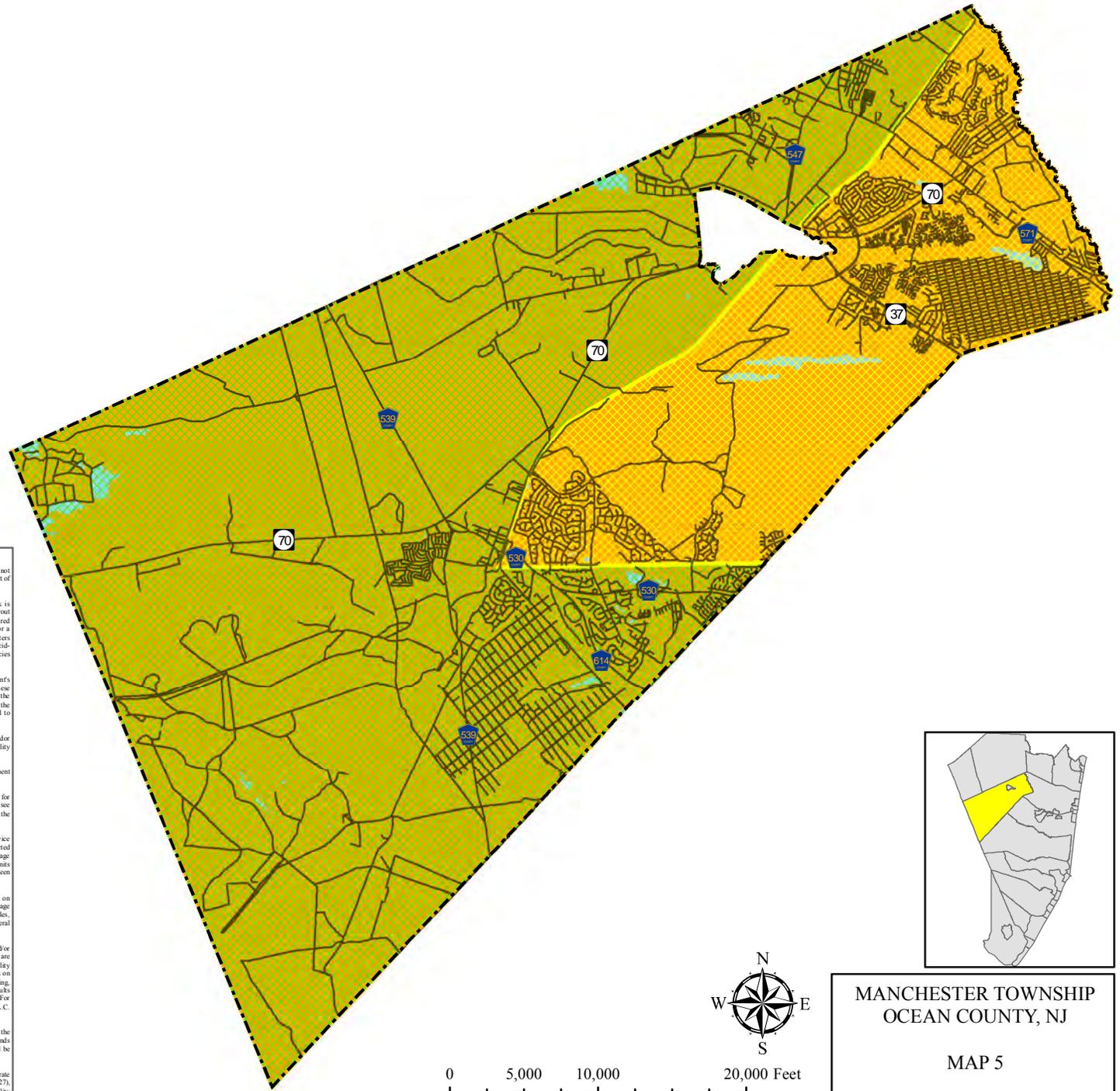
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
Sources: Township of Manchester; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Indirect User (IUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

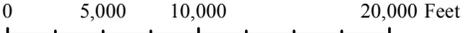
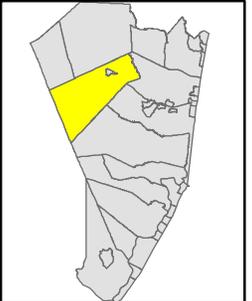
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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1 inch = 10,000 feet

MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1518005	MANCHESTER TOWNSHIP WATER UTILITY

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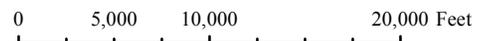
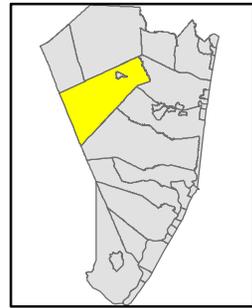
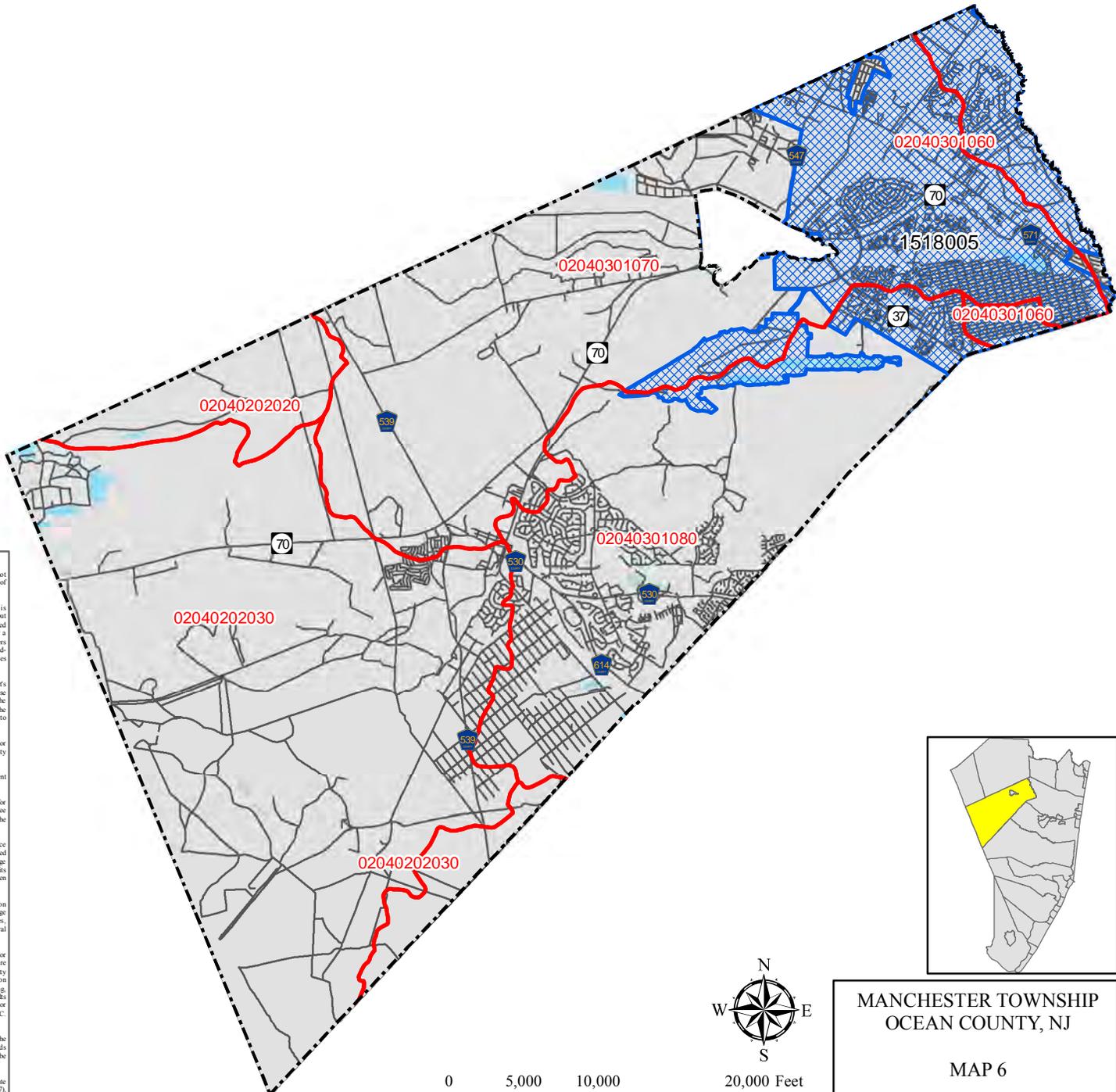
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MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

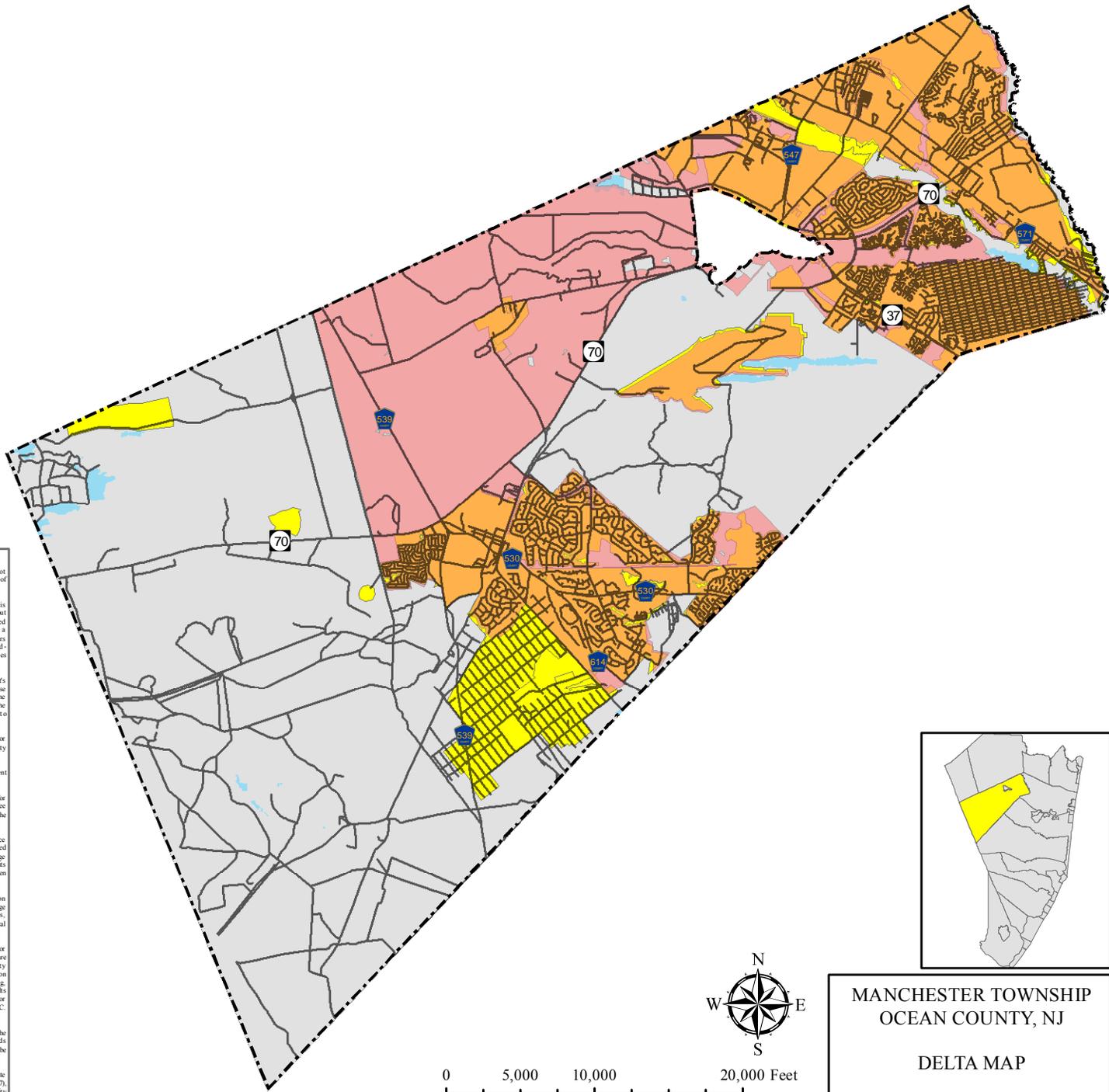
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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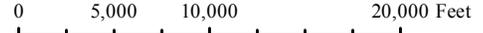
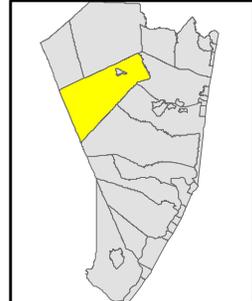
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MANCHESTER TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

19. MANTOLOKING BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Mantoloking was incorporated in 1911, and is located in northeastern Ocean County. It is the smallest municipality in the County in terms of population, and the third smallest in terms of geographic size. The Borough has a total land area of 0.44 square miles (281.6 acres), and is situated on Barnegat Peninsula, which fronts on the Atlantic Ocean to the east and Barnegat Bay to the west. It is bordered by Bay Head Borough to the north and Brick Township to the south. The entire Borough is within the CAFRA region.

A substantial portion of the Borough was damaged by Hurricane Sandy in October 2012, and repairs and replacement of structures will continue for several years. The demographics of the rebuilt areas should remain similar to pre-storm conditions.

According to the 2010 U.S. Census, Mantoloking had a population of 296 people. Of the 535 housing units counted that year, 373 were vacant. Nearly all of these vacant units (362) were seasonal vacancies. While the seasonal fluctuations in Mantoloking’s population are significant when considered as proportions of the base population, they are not sufficient to stress the Borough’s wastewater conveyance infrastructure. NJTPA projects that the Borough’s population will increase marginally by 2035, increasing to a total of 333 residents.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Fronting on the Atlantic Ocean, Mantoloking has a stretch of beaches along its eastern edge. Wetland areas are present on both the ocean side and bay side. There are no preserved farms in the Borough. Due to a significant amount of low-impact landscaping, much of the Borough was designated as a Natural Heritage Priority Site for rare bird species. However, Hurricane Sandy severely altered the landscape in October 2012.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	2.50	0.61%
Public Open Space/Recreational Areas	45.22	11.10%
Habitat T&E	45.22	11.09%
Natural Heritage Priority Sites	183.50	45.03%
Riparian Zones	9.56	2.35%
Preserved Agriculture	0.00	0.00%
Surface Water	138.12	33.89%

Ordinance	Code	Date Adopted
Zoning	Chapter 30-6	8/20/2007
Master Plan		12/6/2007
Stormwater [County - MSWMP]	Chapter 18	8/20/2007 [6/7/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: <http://clerkshq.com/default.aspx?clientsite=Mantoloking-nj>



III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Mantoloking is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor with an origin south of Albertson Street at the south end of the municipality. This interceptor leaves the Borough directly, carrying wastewater south along Route 35. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 6.83 acres of developable land, of which 6.50 acres are zoned as residential and 0.33 acres are zoned as industrial. There is no developable land zoned for commercial uses in Mantoloking. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Mantoloking’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Mantoloking. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Mantoloking’s drinking water is diverted from the Potomac-Raritan-Magothy Aquifer via one well. The system is operated by the New Jersey American Water Company, which is based in the Ortley Beach section of Toms River Township. The New Jersey American Water Company also purchases potable groundwater from outside sources. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.



V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B	Business	1.04	0.00
OS	Open Space	1.40	0.00
PU	Public Use	0.57	0.00
R1	Single Family Residential	40.17	0.00
R2A	Single Family Residential	31.96	0.00
R2B	Single Family Residential	19.99	1.65
R3A	Single Family Residential	41.16	0.80
R3B	Single Family Residential	31.50	0.35
R3C	Single Family Residential	8.66	0.00
R4A	Single Family Residential	50.27	1.33
R4B	Single Family Residential	1.81	0.27
R5A	Single Family Residential	60.28	0.84
R5B	Single Family Residential	12.33	0.17
R6A	Single Family Residential	7.64	0.76
R6B	Single Family Residential	6.65	0.32
U	Utilities	0.33	0.33

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Mantoloking Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is undergoing redevelopment. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Mantoloking is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 37 people by 2035. This equates to a 0.003 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and



subdivisions approved between 2008 and 2011, of which there were none in Mantoloking. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County WMP.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.096	0.006	0.102	0.105	0.000	0.105

Public Water Supply Availability

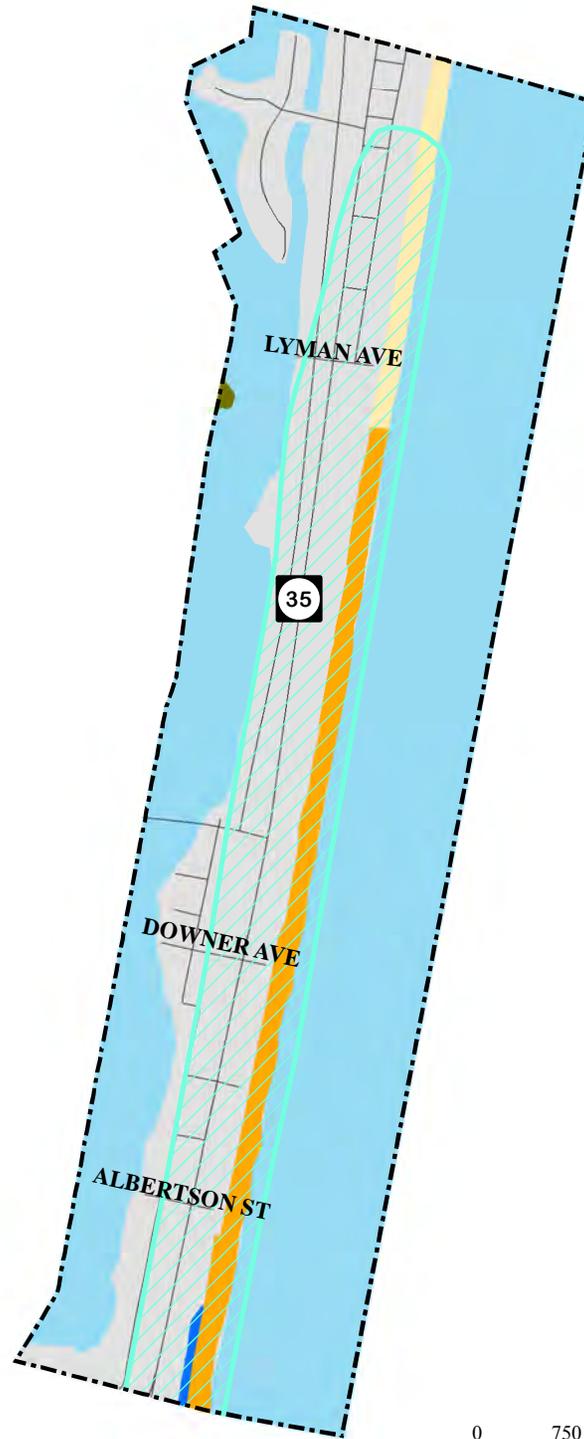
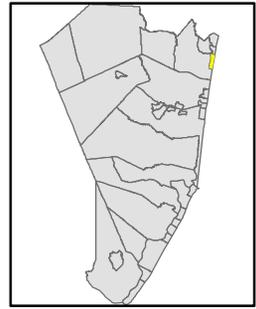
There are no public water utilities in Mantoloking Borough. The New Jersey American Water Company - Ortle Beach System, based in Toms River Township, supplies the municipality with potable water (Source: NJDEP Division of Water Supply & Geoscience).

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 4)
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 3)
-  Wetlands
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or Federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

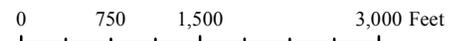
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1 inch = 1,600 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

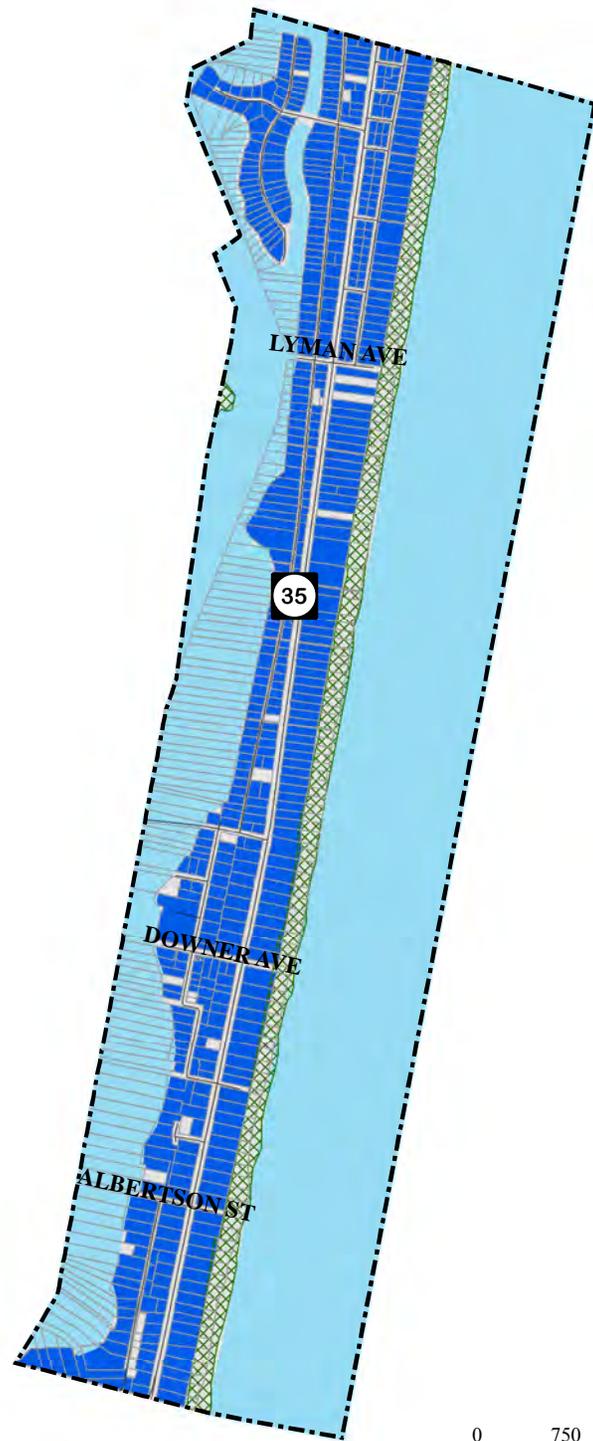
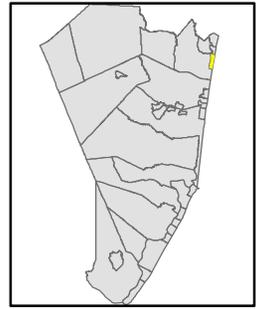
MANTOLOKING BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



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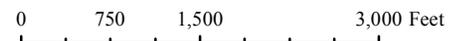
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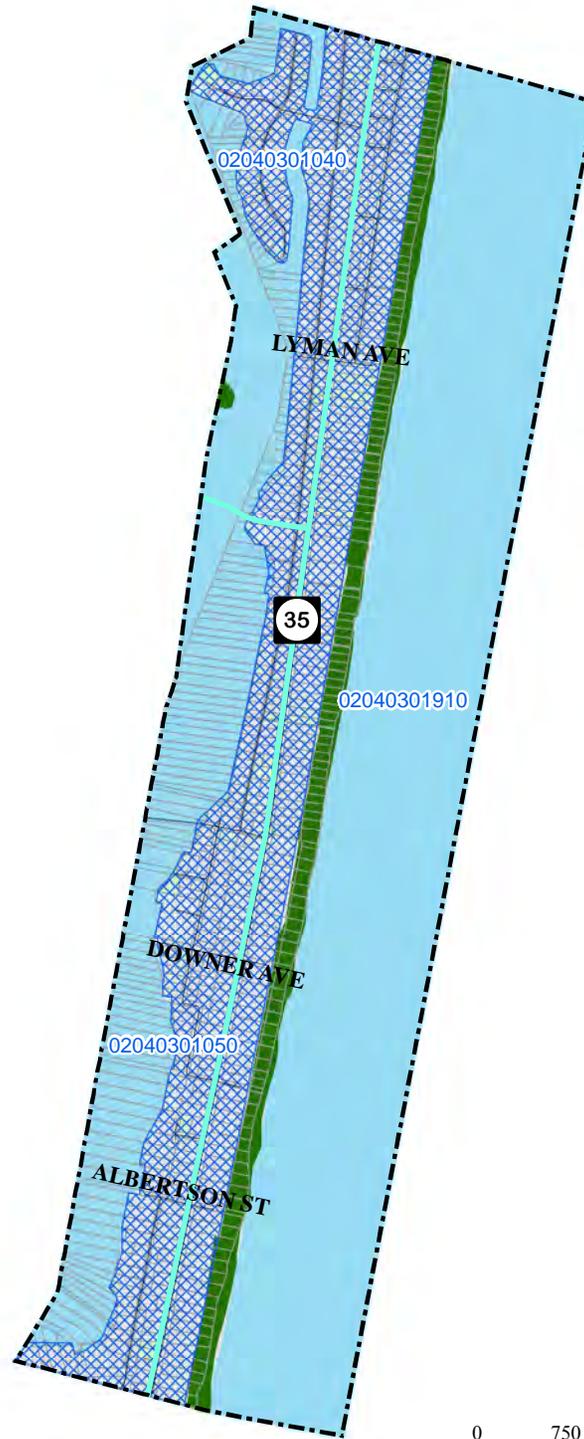
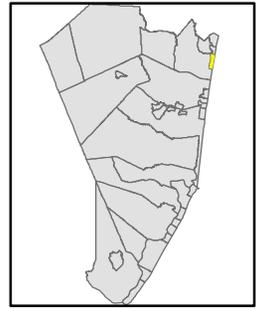
1 inch = 1,600 feet

MANTOLOKING BOROUGH
 OCEAN COUNTY, NJ
 MAP 2
 EXISTING SEWERED AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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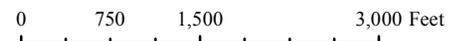
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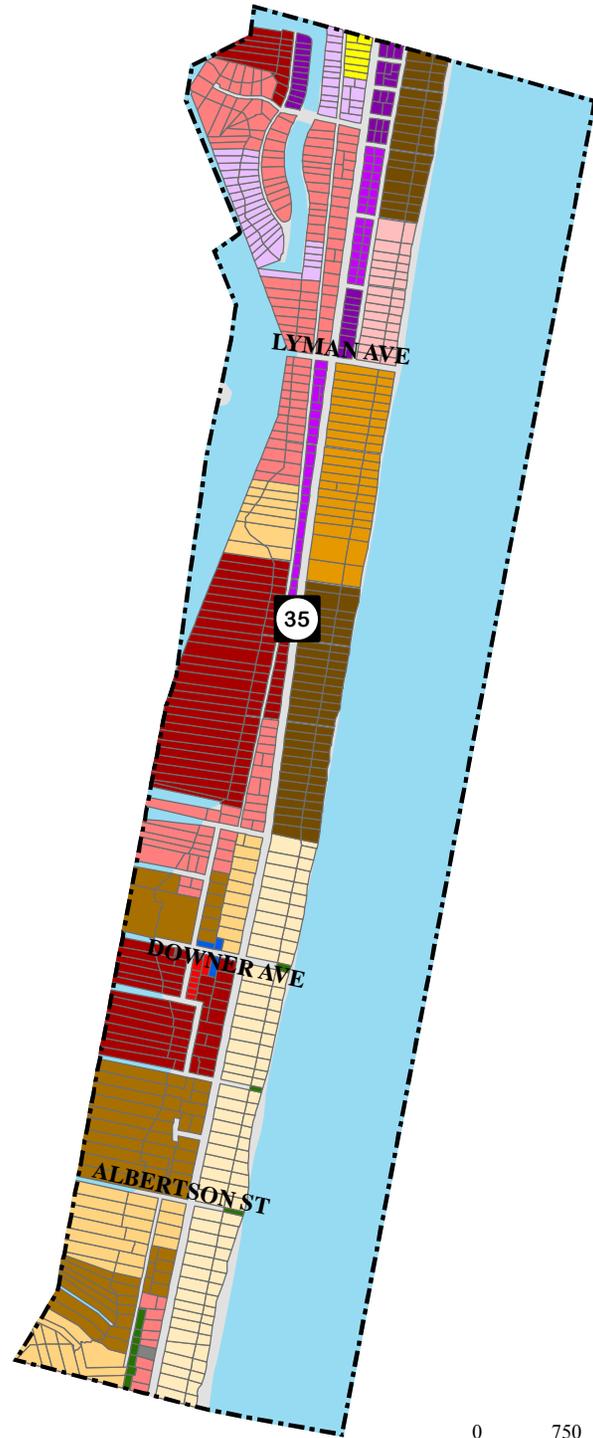
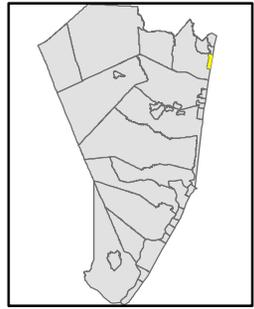
1 inch = 1,600 feet

MANTOLOKING BOROUGH
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- B (Business)
- OS (Open Space)
- PU (Public Use)
- R-1 (Residential)
- R-2A (Residential)
- R-2B (Residential)
- R-3A (Residential)
- R-3B (Residential)
- R-3C (Residential)
- R-4A (Residential)
- R-4B (Residential)
- R-5A (Residential)
- R-5B (Residential)
- R-6A (Residential)
- R-6B (Residential)
- U (Utilities)



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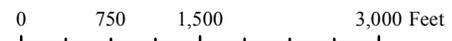
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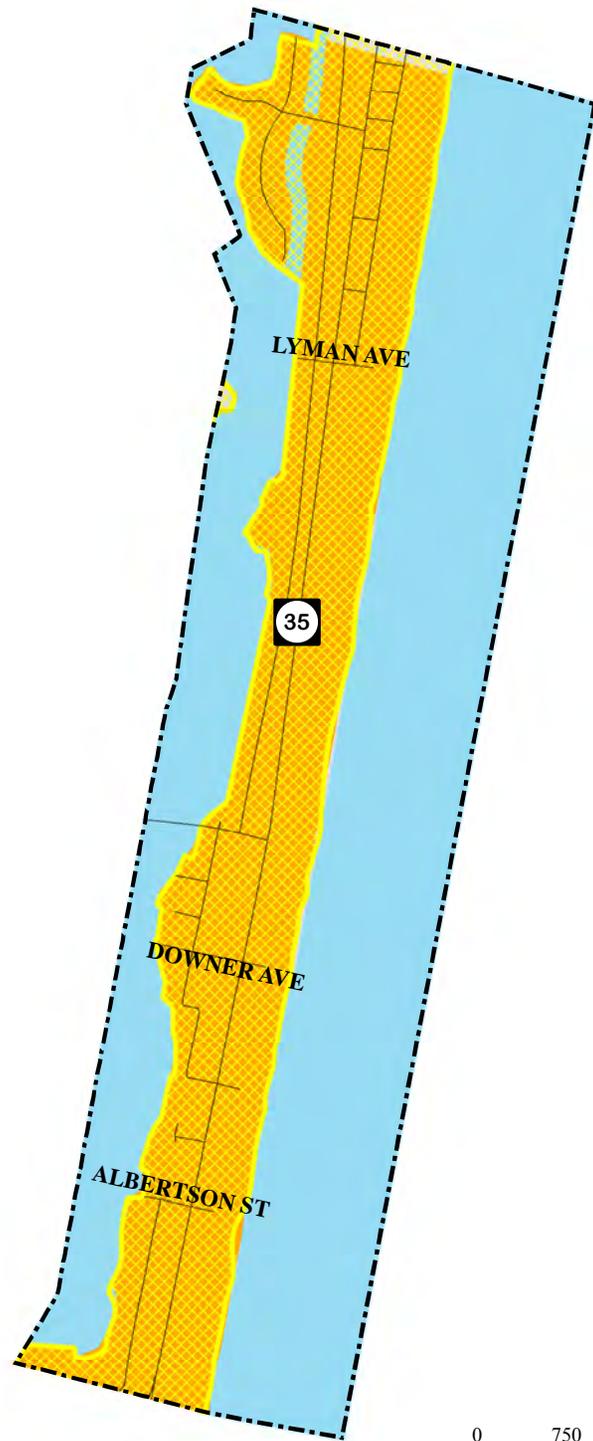
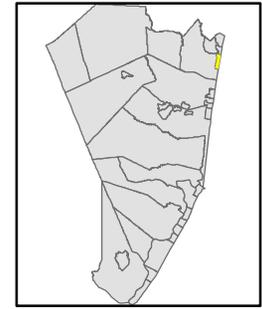


1 inch = 1,600 feet

MANTOLOKING BOROUGH
 OCEAN COUNTY, NJ
 MAP 4
 MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

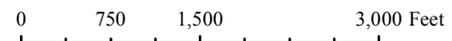
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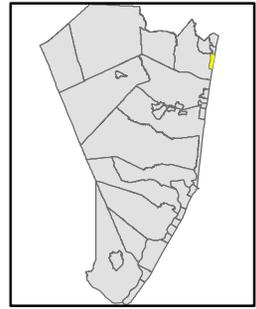
1 inch = 1,600 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

MANTOLOKING BOROUGH
OCEAN COUNTY, NJ
MAP 5
REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1502001	NJ AMERICAN WATER COMPANY

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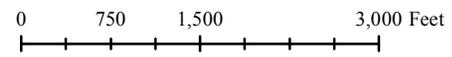
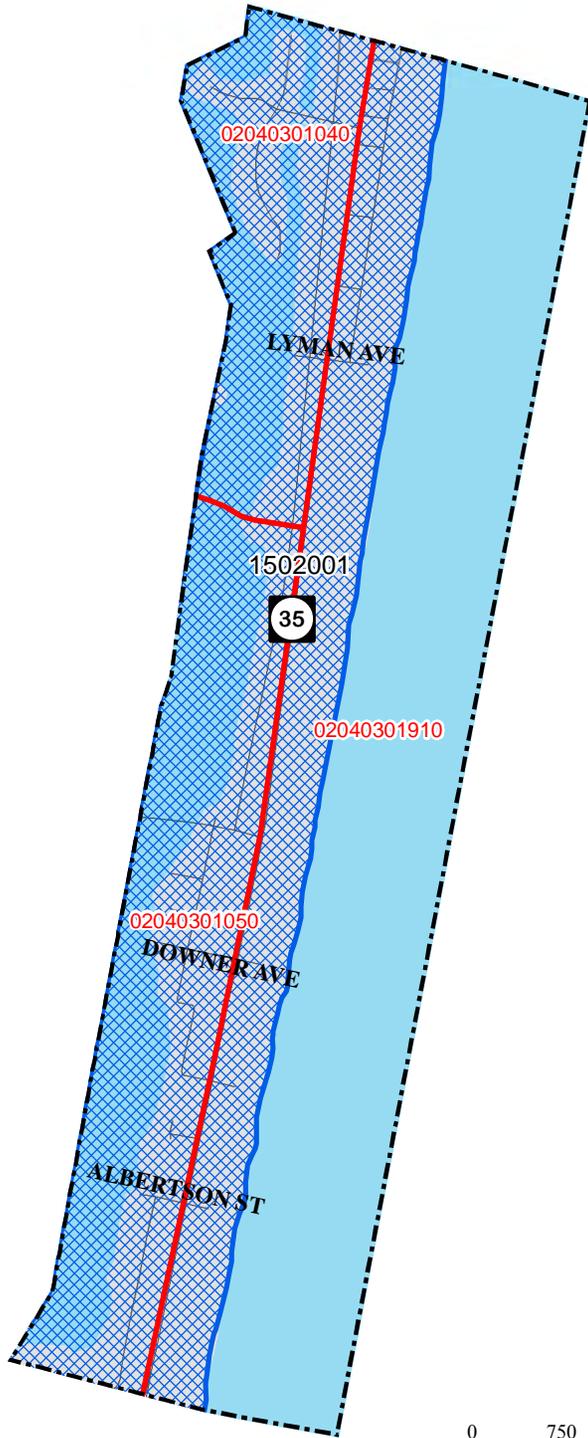
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1 inch = 1,600 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

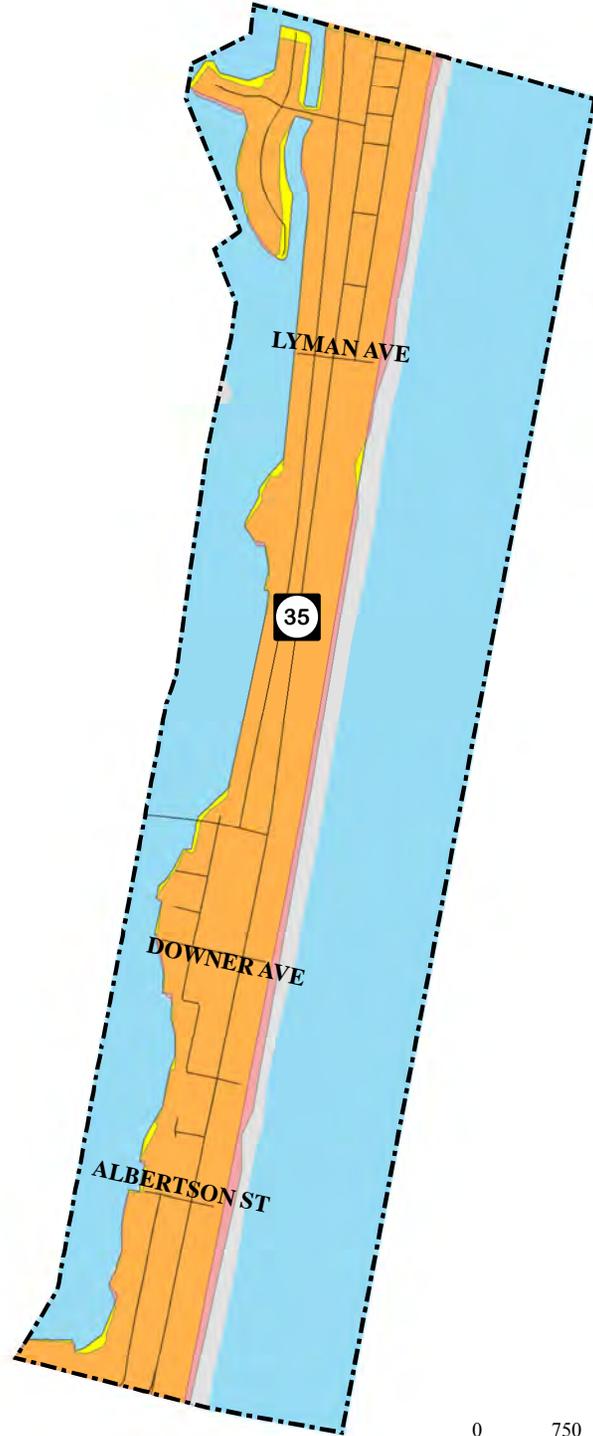
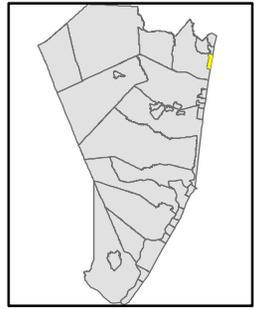
MANTOLOKING BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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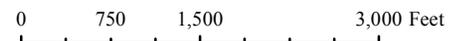
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MANTOLOKING BOROUGH
 OCEAN COUNTY, NJ
 DELTA MAP
 SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



20. OCEAN TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Ocean was incorporated in 1876, and has a land area of 20.62 square miles. It is bordered by Lacey Township to the north and by Barnegat Township to the west and south. To the east, Ocean Township fronts on the Barnegat Bay. Like its municipal neighbors, Ocean is bifurcated by the boundary of the Pinelands Comprehensive Management Plan Area, which passes through the Township along the route of the Garden State Parkway. All land west of the Parkway (8,204.84 acres, or 40.53% of the municipality) lies within the Pinelands. All land east of the Parkway is in the CAFRA region.

Nearly all of Ocean’s development is east of the Parkway, and the majority of development east of the Route 9 corridor is in lagoon communities along the shore of the Barnegat Bay. To the west of the Parkway is Wells Mills County Park, as well as portions of the Forked River Mountain Wildlife Management Area.

In 2010, the U.S. Census recorded Ocean Township’s population as 8,332 people. Also that year, the U.S. Census counted 4,291 housing units, of which 808 were vacant, and 575 of the vacant units were seasonally vacant. NJTPA projects that the Township’s population will increase by 21.85% by 2035, to a total of 10,661 residents. Ocean’s municipal wastewater infrastructure is capable of handling these changes in population brought about by seasonal fluctuations and base population growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Ocean Township’s mainland fronts on the Barnegat Bay, and its shoreline is marked by emergent wetlands, which are interspersed by residential lagoon developments. Freshwater wetlands stretch further inland along stream corridors, most notably along Oyster Creek. Much of the land west of Route 9 is heavily forested, and a natural heritage priority site covers nearly the entire portion of the municipality north of Oyster Creek. Just west of Route 9, in the vicinity of Ocean Township’s town center, is the County’s southernmost tract of preserved farmland. Across the bay to the east, a number of small islands clustered around Barnegat Inlet are covered by freshwater wetlands, emergent wetlands, and beaches. These islands also lie in a Natural Heritage Priority Site.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	3,401.08	16.80%
Public Open Space/Recreational Areas	5,411.74	26.74%
Habitat T&E	11,716.66	57.88%
Natural Heritage Priority Sites	7,738.01	38.23%
Riparian Zones	665.29	3.29%
Preserved Agriculture	11.22	0.06%
Surface Water	6,739.35	33.29%

**Table 2: Status of Municipal Ordinances**

Ordinance	Code	Date Adopted
Zoning	Chapter 410	1994
Master Plan		11/21/2005
Stormwater [County - MSWMP]	Chapter 322	9/11/2008 [3/12/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: <http://www.ecode360.com/OC2941>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Ocean Township east of the Garden State Parkway is connected to the existing sewer system. Wastewater is collected through the Township's lateral lines. The municipal system connects to an OCUA interceptor which enters from Barnegat Township where the municipal boundary is crossed by 11th Street. From here, the interceptor flows northeast along 11th Street, turns northwest to travel along Seneca Boulevard, and turns northeast to run parallel with 7th Street. After this, the line picks up Old Main Shore Road (Route 613) and travels north, converting to a force main, and passing through the Ocean-Birdsall Pump Station (CPS-7). The line continues to follow Old Main Shore Road north to its intersection with Route 9, at which point it converts back to an interceptor and follows Route 9 north to the municipal boundary with Lacey Township at Oyster Creek. From there, wastewater is conveyed to OCUA's CWPCF in Berkeley.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. "Sewered Areas" denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 1157.85 acres of developable land, of which 114.39 acres are zoned as residential and 85.65 acres are zoned as commercial. There is no developable land zoned for industrial uses in Ocean Township. All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission.

Much of Ocean's sewer service area has remained unchanged. One significant addition is the village of Brookville in the southwest corner of the Township. This addition is consistent with the MOU approved by the Pinelands Commission and the NJDEP. Most of the vacant lands east of the Garden State Parkway and west of Ocean's existing development have been removed from sewer service.

Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Ocean's sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Nearly all of the developed and developable land in the Township is included in the designated sewer service area. Most of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or both. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Ocean is a non-urban municipality, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Ocean's drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via five wells. The system is operated by the Ocean Township MUA, and is capable of pumping 2.739 MGD. Map 6 shows the Township's current potable water conveyance system. The area covered by blue cross-hatching denotes that



distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are two developments located in the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these systems are provided in Tables 3, and 4:

Table 3: NJPDES - Joseph A. Citta Scout Reservation			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0101621	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Jersey Shore Council, Boy Scouts of America	
7. Operator of Facility:		Chuck Kraemer	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Ocean Township, Ocean County	
b. Street Address:		229 Brookville Road	
c. Block(s) and Lot(s):		Block 18, Lots 3, 4.02, 11; Block 25, Lot 6.01; Block 26, Lot 1; Block 27, Lot 1.01; Block 30, Lots 1, 2, 3, 4, 5.01, 12, 14; Block 31, Lots 3, 6, 7, 8; Block 32, Lot 11.02	
10. Location of discharge:			
a. Longitude:		74 deg. 18 min. 3.75 sec. west	
b. Latitude:		39 deg. 46 min. 58.60 sec. north	
11. Present Permitted Flow:		0.023 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 400	Approximately 400
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Ocean Township	Residential	0.020 MGD*	0.020 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.020 MGD	0.020 MGD
* Estimate assumes 400 campers and staff, each using 50 gpd			

**Table 4: NJPDES - Ocean County Vo-Tech School—Waretown**

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0134813	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		County of Ocean	
7. Operator of Facility:		Tom McInerney	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Ocean Township, Ocean County	
b. Street Address:		423 Wells Mills Road	
c. Block(s) and Lot(s):		Block 33, Lots 22, 23, 24, 25	
10. Location of discharge:			
a. Longitude:		74 deg. 14 min. 46.33 sec. west	
b. Latitude:		39 deg. 47 min. 43.97 sec. north	
11. Present Permitted Flow:		0.003 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		130*	130
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Ocean Township	Residential		
	Commercial	0.002 MGD**	0.002 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.002 MGD	0.002 MGD
*Estimated size of student population, provided by Ocean County Vo-Tech School			
**Estimate based on 130 students using 15 gpd			

V. Future Wastewater and Water Demand

Municipal Zoning

Table 5: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
BC	Bayfront Conservation	617.70	4.70
C-1	General Commercial	118.77	32.42
C-2	Village Commercial	82.39	5.22
EC	Environmental Conservation	1355.60	156.74
ER	Edgemont Redevelopment	35.91	0.44
FO	Forest Area	7667.65	796.37
PA	Preservation Area	26.83	0.00
PRD	Planned Residential Development	515.54	10.17
PV	Pinelands Village	257.02	36.93
R-1	Residential, Medium Density	349.38	7.68
R-1A	Residential, Medium Density	295.85	10.50
R-1B	Residential, Medium Density	11.66	1.72
R-2	Residential, Low Density	440.85	46.95
TC	Town Center	206.53	32.40
TCOC	Ocean Commons Town Center	4.72	4.72
WD	Waterfront Development	144.12	10.89

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth



projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 6: Wastewater Flow Directed to OCUA Facilities	
CWPCF	
Source	(MGD)
Existing Flow	0.702
Projected Residential	0.097
Projected Commercial	0.245
Total Future Planning Flow	1.044

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Ocean Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 7 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 7: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	415.88	285.31	323.99	5,687,851.79

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. At present, Ocean Township does not have a municipal ordinance applicable to septic connection.

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical

habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district's density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 8: Additional Development at Build Out (Septic)

HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301090	17.41	5.44	0.00	0.00	17.41	5.44
02040301100	0.00	0.00	0.00	0.00	0.00	0.00
02040301110	1,867.80	93.39	2.98	13.85	1,870.78	107.24
02040301120	327.59	35.65	4.04	18.09	331.63	53.74
02040301130	0.00	0.00	0.00	0.00	0.00	0.00
02040301180	352.37	18.49	0.00	0.00	352.37	18.49
02040301910	0.00	0.00	0.00	0.00	0.00	0.00
Totals	2,565.17	152.97	7.02	31.94	2,572.19	184.91

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP's nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 9: Nitrate Target

HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301090	4.5	21.62	4.80	5.44
02040301100	6.6	241.54	36.60	0.00
02040301110	4.6	5,797.95	1,260.42	107.24
02040301120	5.8	711.87	122.74	53.74
02040301130	5.0	85.17	17.03	0.00
02040301180	4.5	424.67	94.37	18.49
02040301910	17.9	8.33	0.47	0.00

The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Ocean's portion of HUC11 02040301090. However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in 02040301090; the



cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11, inclusive of Ocean Township, is less than the HUC11’s total capacity for development while maintaining optimal nitrate dilution. Information on this HUC11’s septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

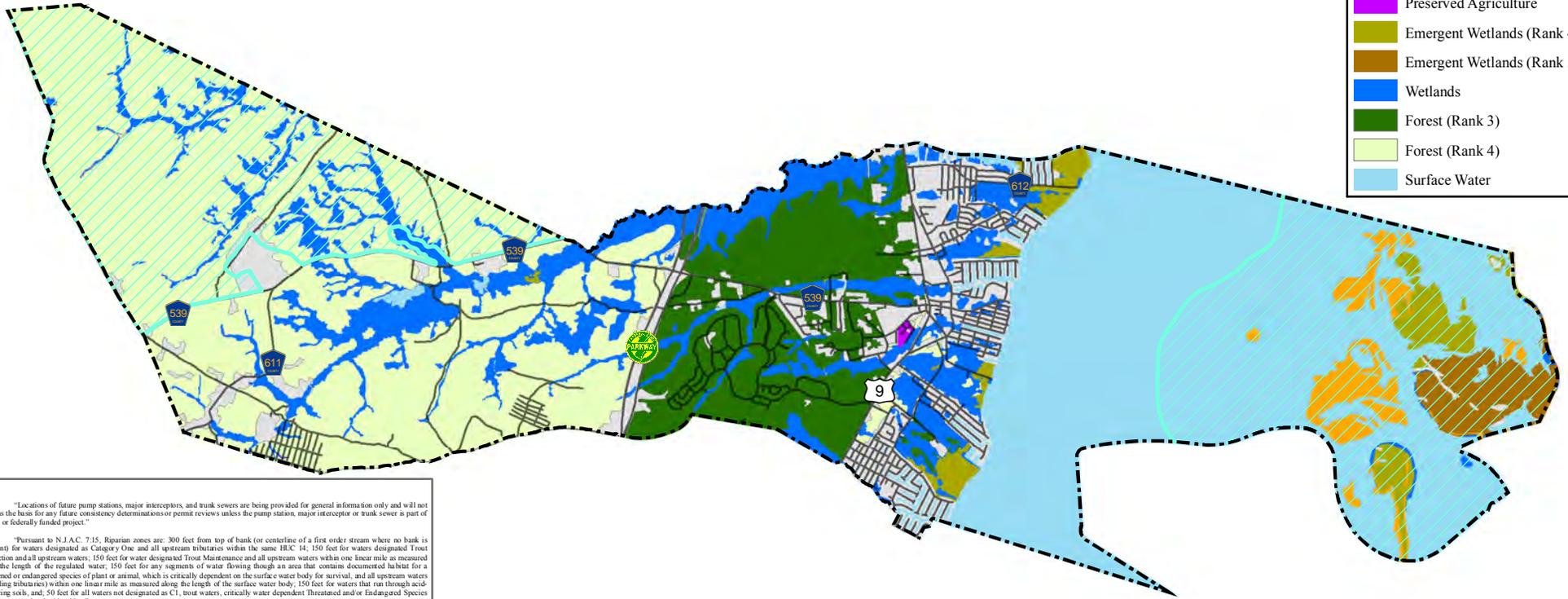
Table 10: Public Water Purveyor Capacity								
Ocean Township MUA - Pebble Beach								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
3.672	1.940	1.732	71.000	57.376	13.624	544.000	395.640	148.360
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Roads
-  Beach (Rank 5)
-  Preserved Agriculture
-  Emergent Wetlands (Rank 4)
-  Emergent Wetlands (Rank 5)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC; 14: 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counts may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require local approvals."

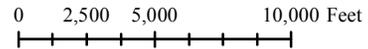
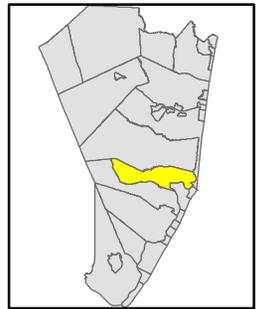
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3A and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or combined operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Prudlands Area, as defined at N.J.S.A. 15:18A-11, the approval of the Prudlands Commission pursuant to the requirements of the Prudlands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.28), Secondary Impacts (N.J.A.C. 7:7E-3.3), Public Facility Use Policies (N.J.A.C. 7:7E-6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 7,000 feet

OCEAN TOWNSHIP
OCEAN COUNTY, NJ

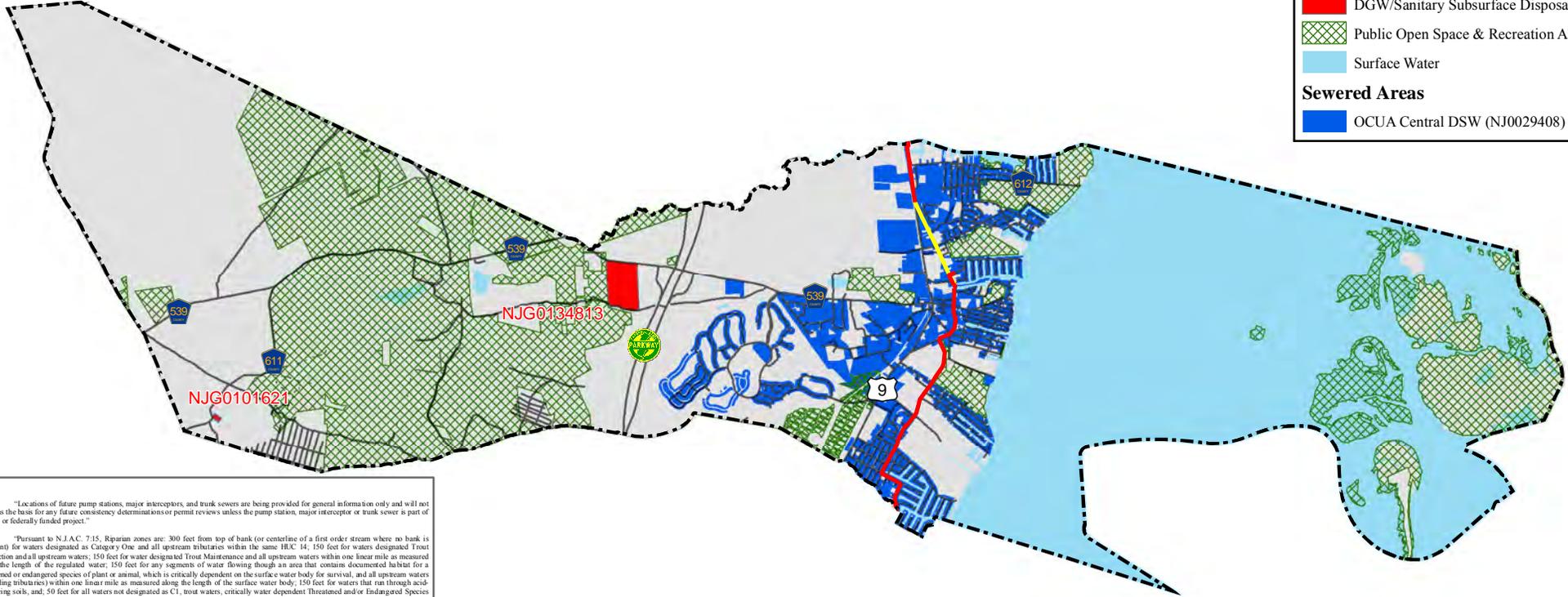
MAP 1

ENVIRONMENTAL FEATURES

JOSEPH A. CITTA SCOUT RESERVATION	NJG0101621
OCEAN COUNTY VO-TECH SCHOOL--WARETOWN	NJG0134813

Legend

-  Interceptor
 -  ForceMain
 -  Roads
 -  DGW/Sanitary Subsurface Disposal
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One, and all upstream tributaries within the same HUC. 14, 150 feet for waters designated Trout Production and all upstream waters, 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water, 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body, 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

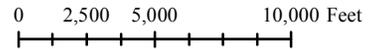
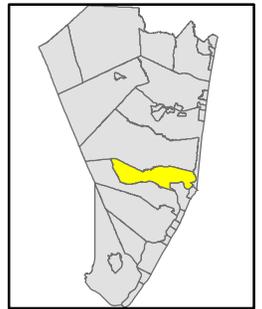
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3-4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or combined operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Prudlands Area, as defined at N.J.S.A. 15:18(a)-11, the approval of the Prudlands Commission pursuant to the requirements of the Prudlands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.30), Secondary Impacts (N.J.A.C. 7:7E-3.3), Public Facility Use Policies (N.J.A.C. 7:7E-6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
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OCEAN COUNTY, NJ

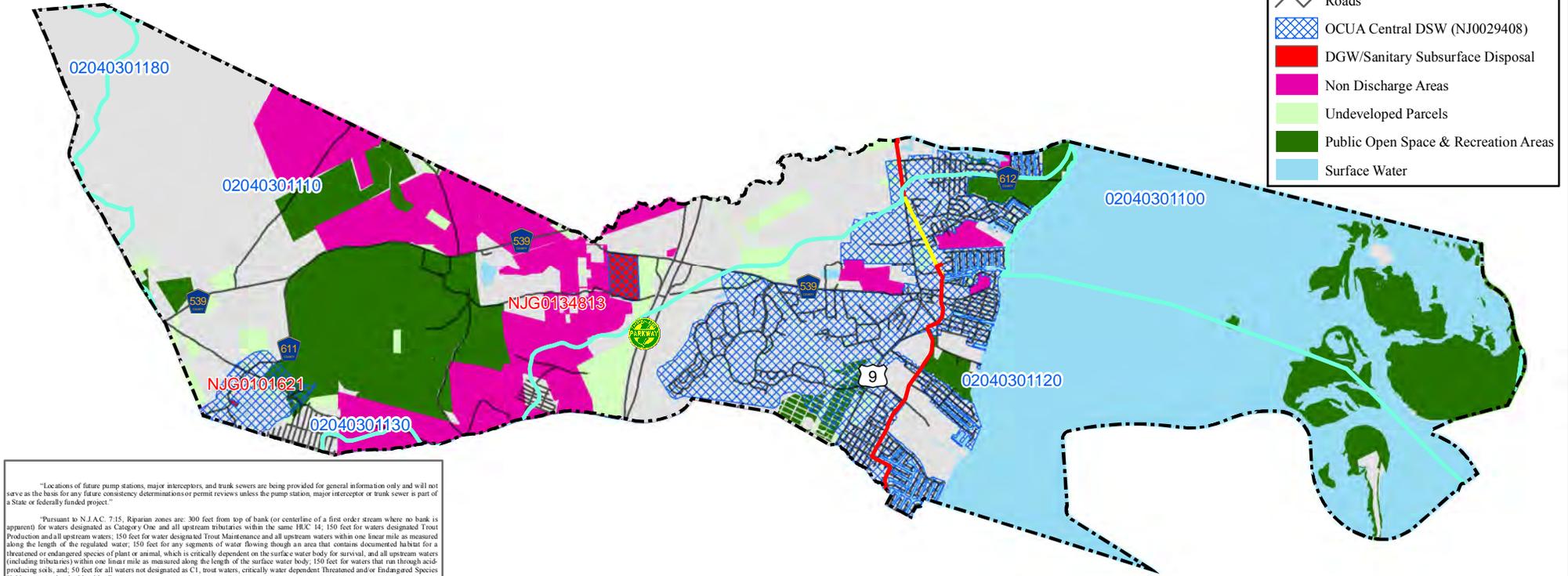
MAP 2

EXISTING SEWERED AREA

JOSEPH A. CITTA SCOUT RESERVATION	NJG0101621
OCEAN COUNTY VO-TECH SCHOOL--WARETOWN	NJG0134813

Legend

-  HUC 11
-  Interceptor
-  ForceMain
-  Roads
-  OCUA Central DSW (NJ0029408)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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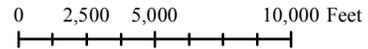
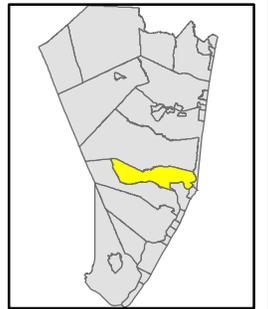
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 7,000 feet

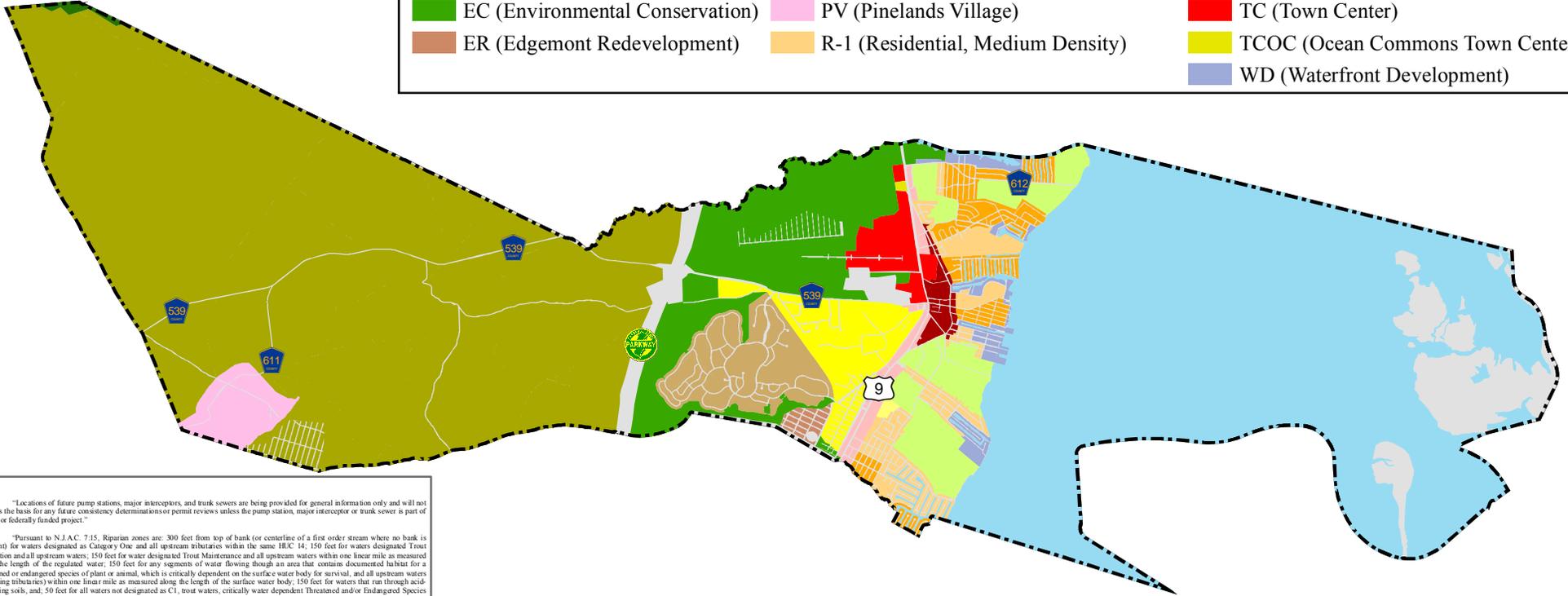
OCEAN TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- | | | |
|---|---|--|
|  BC (Bayfront Conservation) |  FO (Forest Area) |  R-1A (Residential, Medium Density) |
|  C-1 (General Commercial) |  PA (Preservation Area) |  R-1B (Residential, Medium Density) |
|  C-2 (Village Commercial) |  PRD (Planned Residential Development) |  R-2 (Residential, Low Density) |
|  EC (Environmental Conservation) |  PV (Pinelands Village) |  TC (Town Center) |
|  ER (Edgemont Redevelopment) |  R-1 (Residential, Medium Density) |  TCOC (Ocean Commons Town Center) |
| | |  WD (Waterfront Development) |



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"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HRC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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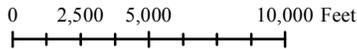
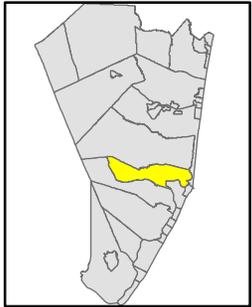
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Township of Ocean; Ocean County Tax Board



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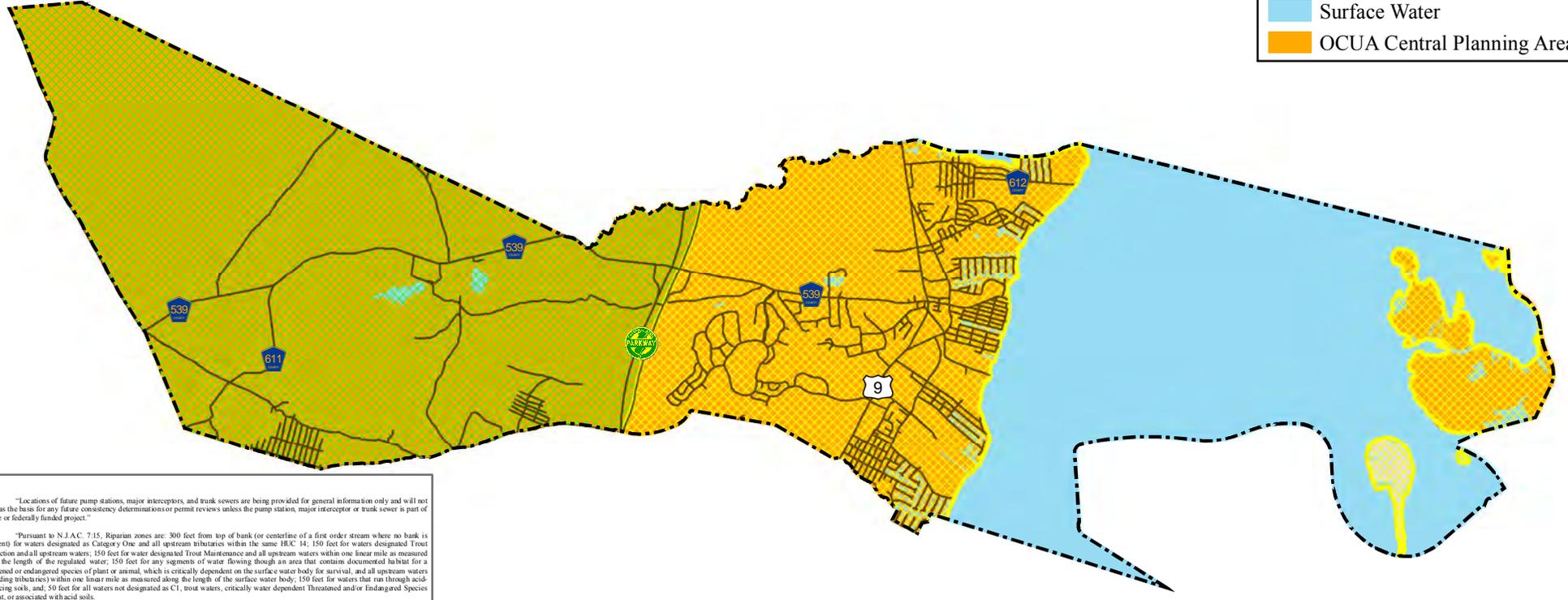
OCEAN TOWNSHIP
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



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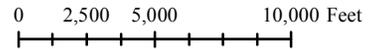
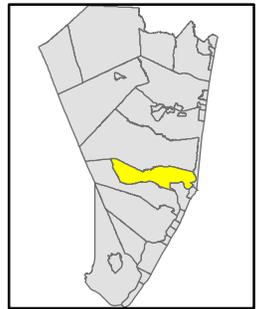
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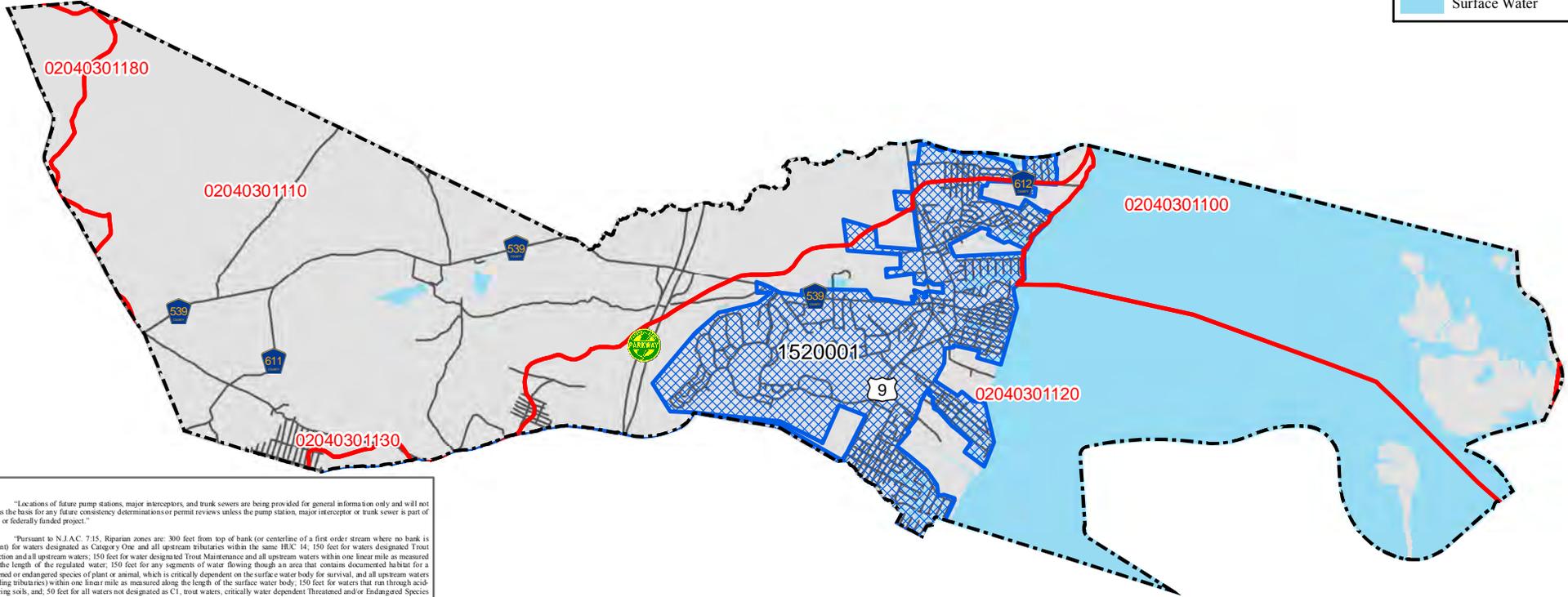
OCEAN TOWNSHIP
OCEAN COUNTY, NJ

MAP 5
REGIONAL PLANNING AREA

PWSID	PURVEYOR NAME
1520001	OCEAN TOWNSHIP MUA - PEBBLE BEACH

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



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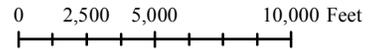
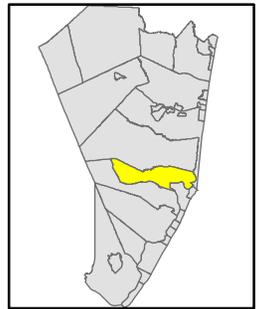
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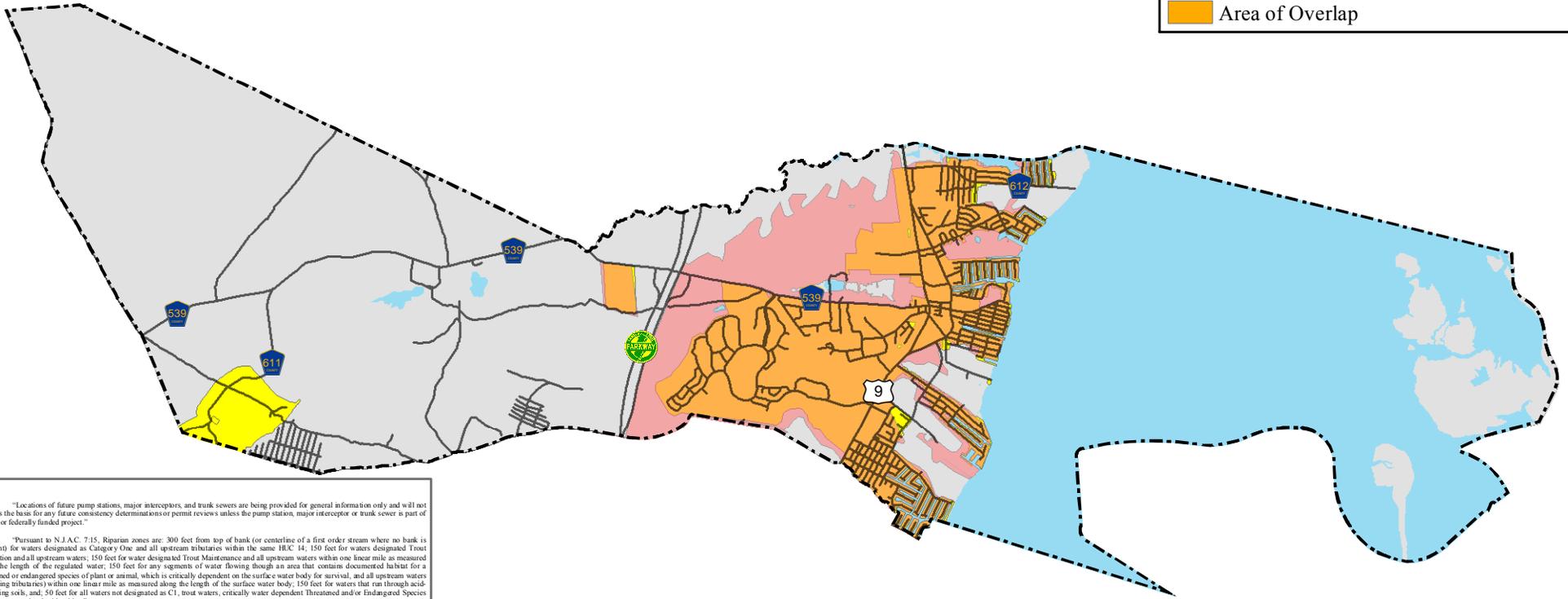
OCEAN TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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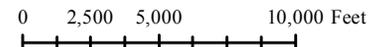
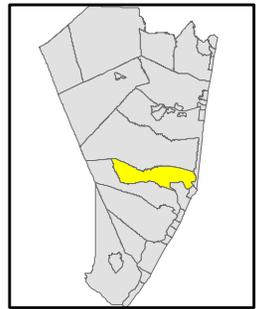
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 7,000 feet

OCEAN TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

21. OCEAN GATE BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

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I. Overview of Municipality

The Borough of Ocean Gate is situated on the south bank of the Toms River, near the river's point of confluence with Barnegat Bay in the eastern portion of Ocean County. On land, it is bordered on all sides by Berkeley Township. At 0.50 square miles of land (320 acres), it is the third smallest municipality in the County, larger than only Mantoloking and Seaside Heights Boroughs. This coastal community was incorporated in 1918, and lies entirely within the CAFRA region.

In 2010, the U.S. Census documented Ocean Gate's population as 2,011. The Census counted 1,203 housing units, of which 371 were vacant housing units. 302 of these vacant units were seasonally vacant. As such, seasonal fluctuations in population are significant when considered as proportions of the base population, but not enough to stress the Borough's wastewater infrastructure. NJTPA is projecting that Ocean Gate will experience only marginal population growth in the near future, forecasting a total population of 2,107 by the year 2035.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Ocean Gate fronts on the Toms River, and has a stretch of beaches along its northern edge. Several small wetland areas are located along the Borough's municipal border with Berkeley Township. Besides these, the Borough is nearly completely developed and has very few environmentally sensitive areas. There are no preserved farms or Natural Heritage Priority Sites in Ocean Gate.

Table 1 provides a breakdown of the Borough's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	7.02	2.02%
Public Open Space/Recreational Areas	23.30	6.71%
Habitat T&E	12.03	3.46%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	5.16	1.49%
Preserved Agriculture	0.00	0.00%
Surface Water	63.14	18.18%

Ordinance	Code	Date Adopted
Zoning	(Ordinance No. 66)	7/27/1946
Master Plan		3/10/2006
Stormwater [County - MSWMP]	(Ordinance No. 534-09)	2/11/2009 [12/17/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: Municipal Clerk



III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Ocean Gate is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which enters from Berkeley Township along West Atlantic Avenue heading east. This interceptor then turns south to follow Ocean Gate Avenue (Route 625) out of the municipality. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 2.98 acres of developable land, all of which is zoned residential. There is no developable land zoned for commercial or industrial uses in Ocean Gate. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Ocean Gate’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Ocean Gate. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Ocean Gate’s drinking water is diverted from the Piney Point Aquifer via two wells. The system is operated by the Ocean Gate Water Department, and is capable of pumping 0.230 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C	Commercial	13.10	3.36
R	Residential	190.52	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Ocean Gate Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 96 people by 2035. This equates to a 0.007 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Ocean Gate. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County WMP.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.170	0.028	0.198	0.205	0.000	0.205

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Ocean Gate Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.360	0.331	0.029	12.000	10.253	1.747	100.000	76.637	23.363

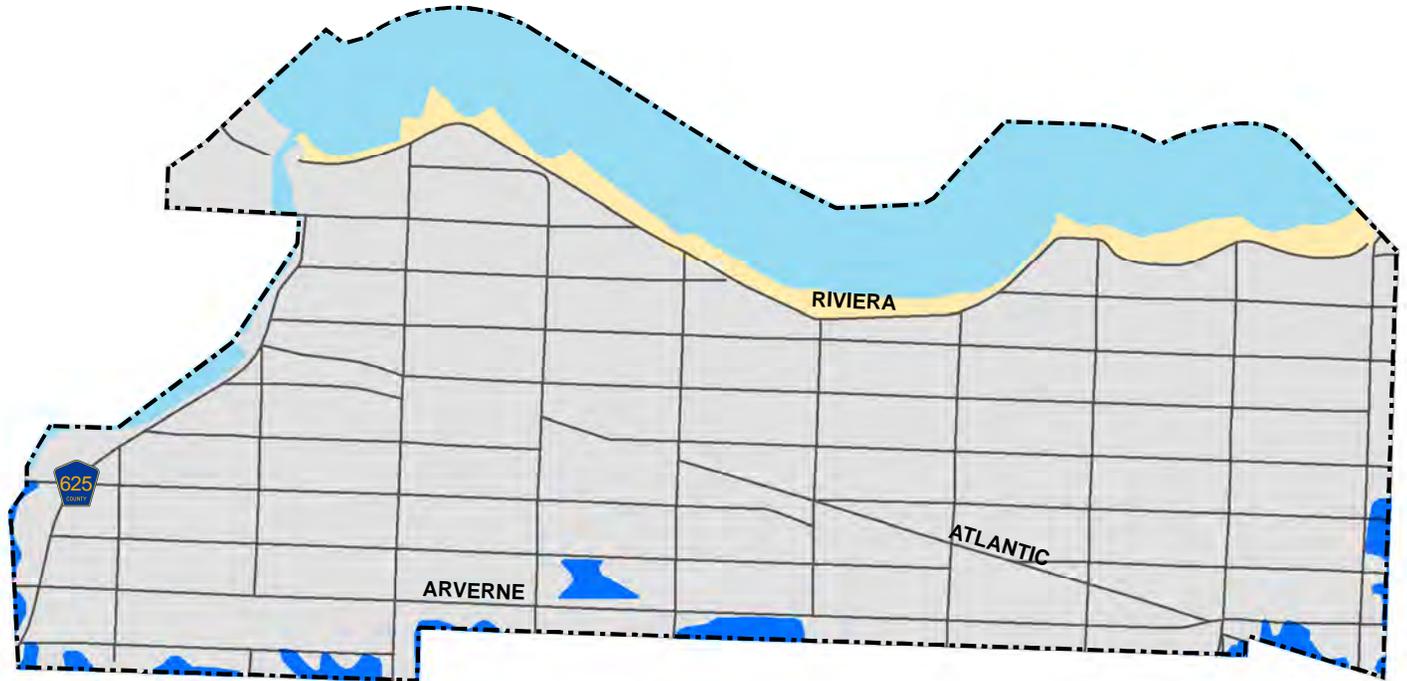
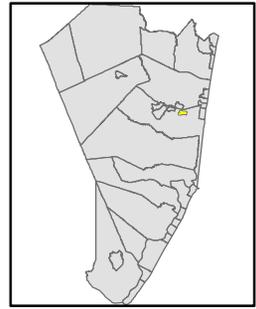
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Wetlands
-  Surface Water



Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waters and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courtesies may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

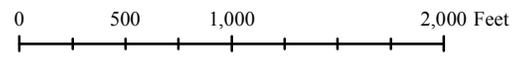
"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 88:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for protection) and are subject to restrictions including, but not limited to the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments lying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.8), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 900 feet

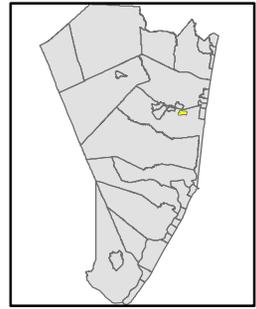
OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



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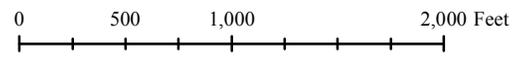
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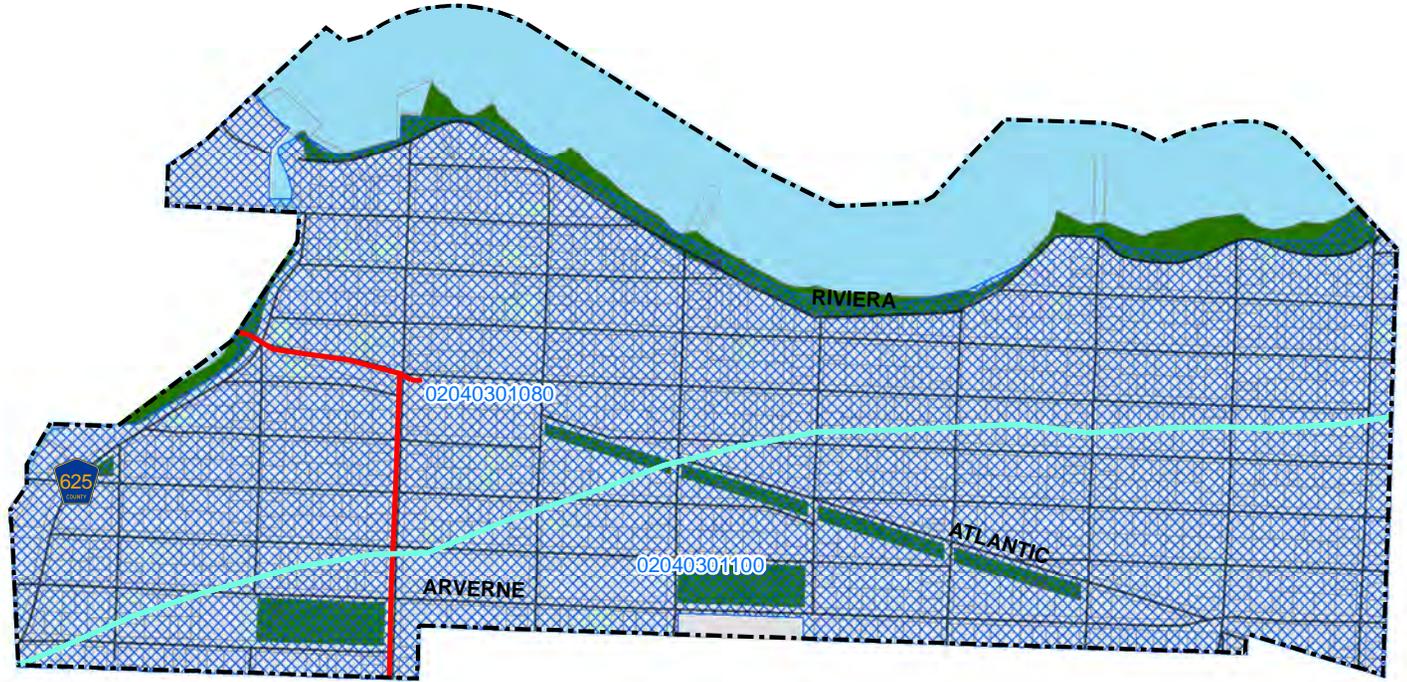
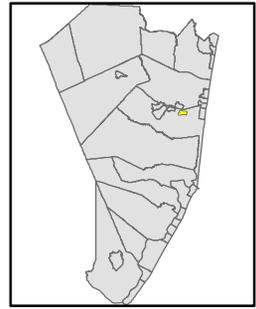
OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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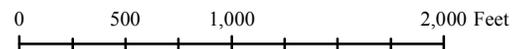
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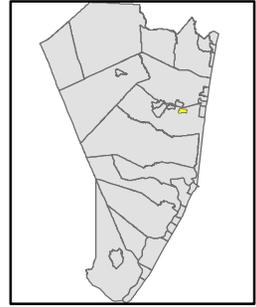
OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- C (Commercial)
- R (Residential)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival; and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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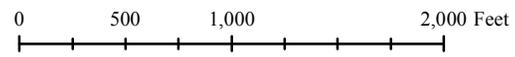
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Ocean Gate; Ocean County Tax Board



1 inch = 900 feet

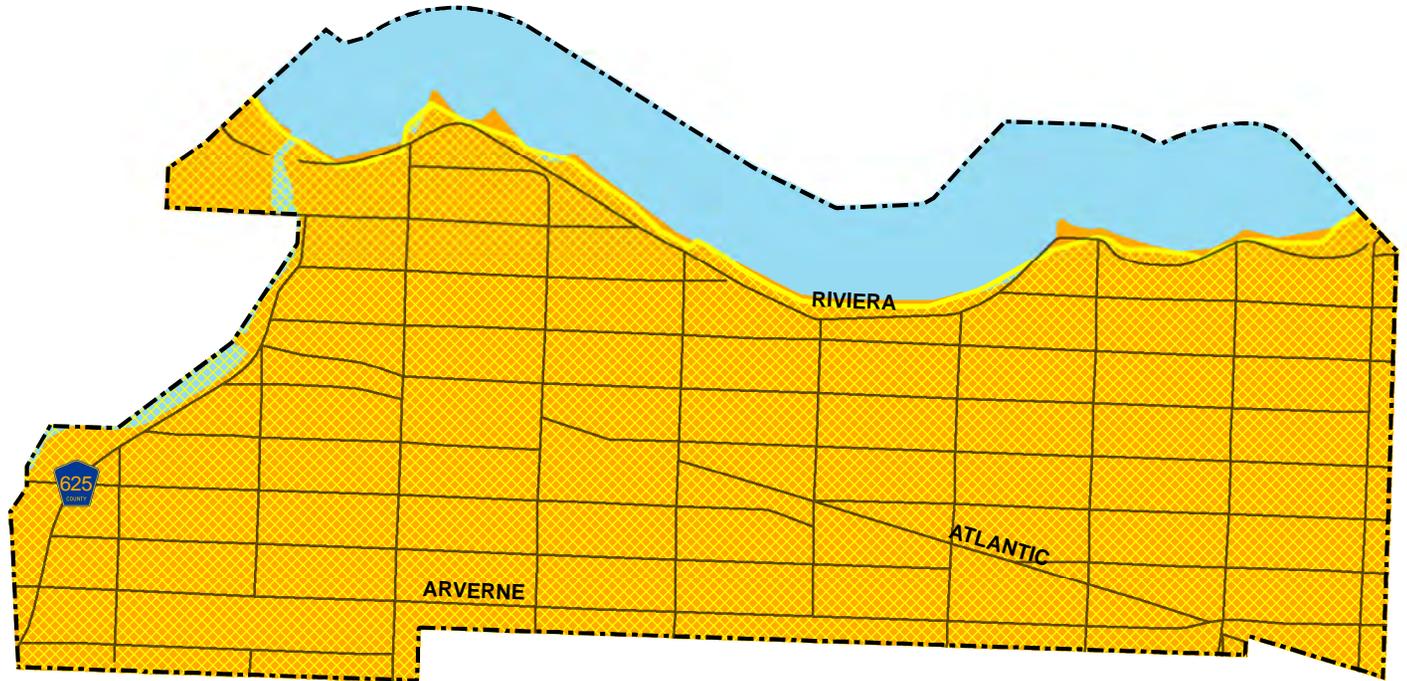
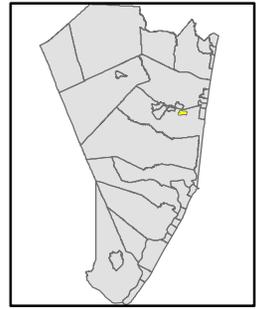
OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



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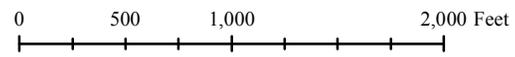
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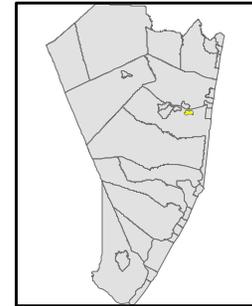
OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



PWSID	PURVEYOR NAME
1521001	OCEAN GATE WATER DEPARTMENT

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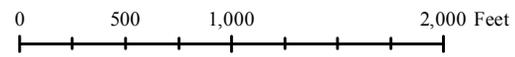
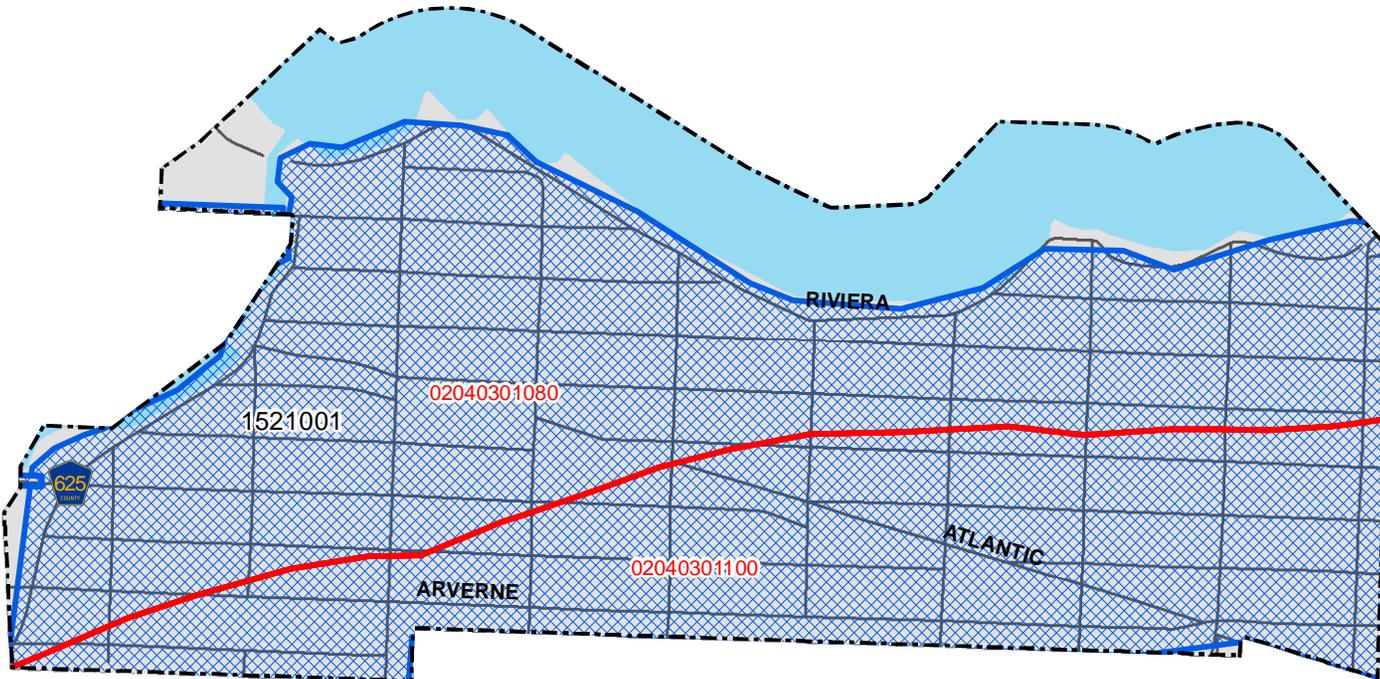
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OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

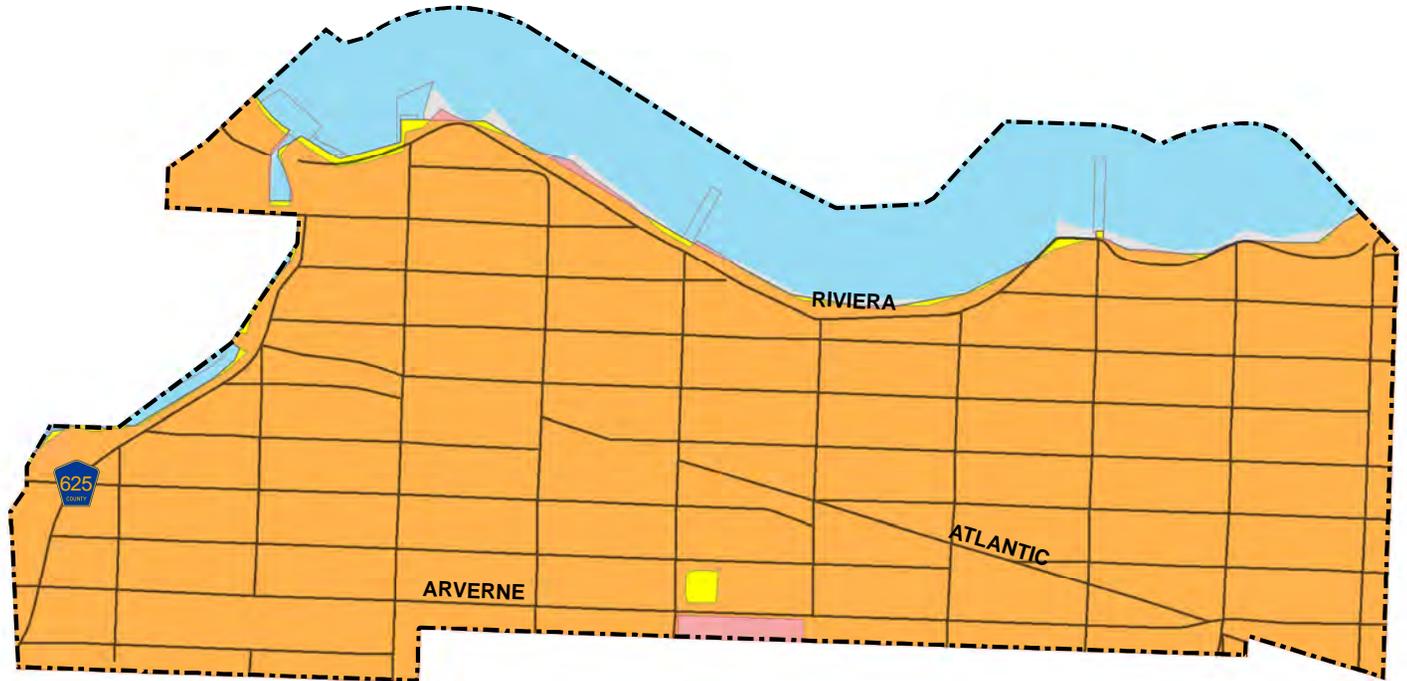
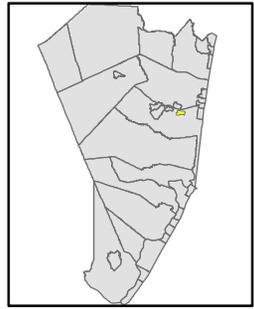
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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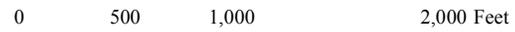
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1 inch = 900 feet

OCEAN GATE BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

22. PINE BEACH BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Pine Beach was incorporated in 1925, and is located along the southern bank of the Toms River in central Ocean County. Pine Beach is bordered by Beachwood Borough to the west and Berkeley Township to the south and east. On the opposite bank of the Toms River are Island Heights Borough and Toms River Township. At 0.60 square miles of land in size, the Borough is located entirely within the CAFRA region.

According to the U.S. Census, Pine Beach had a population of 2,127 people in 2010. The Borough also had a total of 903 housing units in 2010, of which 85 were vacant. Of these vacant units, 55 were seasonal vacancies. Like the other small coastal communities along the Toms River, NJTPA projects that the population of Pine Beach will increase only marginally, to 2,288 people by the year 2035. Seasonal fluctuations and future growth are not expected to overtax the Borough’s wastewater conveyance infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Pine Beach fronts on the Toms River, with beaches along its northern edge. A small wetlands area is located to the southeast. Otherwise, the Pine Beach has very few environmentally sensitive areas; there are no preserved farms, riparian zones, or Natural Heritage Priority Sites.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	0.26	0.06%
Public Open Space/Recreational Areas	11.40	2.74%
Habitat T&E	5.83	1.40%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.00	0.00%
Preserved Agriculture	0.00	0.00%
Surface Water	6.66	1.60%

Ordinance	Code	Date Adopted
Zoning	Chapter 175, Article X	4/14/2010
Master Plan		2011
Stormwater [County - MSWMP]	Chapter 175, Article XIII	12/28/2006 [6/7/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A
Source: http://clerkshq.com/default.ashx?clientsite=PineBeach-nj		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Pine Beach is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA force main that runs along Tudor Avenue at the municipal boundary with Berkeley Township, carrying wastewater south. The force



main connects to a southeasterly flowing interceptor near the intersection of Tudor and Prospect Avenues, which then exits the municipality. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 5.70 acres of developable land, of which 4.21 acres are zoned as residential and 1.49 acres are zoned as commercial. There is no developable land zoned for industrial uses in Pine Beach. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Pine Beach’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Pine Beach. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Pine Beach’s drinking water is diverted from the Kirkwood-Cohansey aquifer via two wells. The system is operated by the Pine Beach Water Department, and is capable of pumping 0.720 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B-1	Highway Shopping Centers	13.77	1.49
R-2	Single Family Residential	4.25	0.42
R-75	Single Family Residential	277.73	3.79
R-120	Single Family Residential	21.39	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Pine Beach Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 161 people by 2035. This equates to a 0.012 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Pine Beach. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.118	0.001	0.119	0.131	0.000	0.131

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily and monthly demands. Yearly deficits in water supply have been recorded. While there is adequate infrastructure to supply water to towns running deficits, there is also ongoing coordination with the NJDEP to address deficits through additional conservation measures and or increased water supply allocation where appropriate.

Table 5: Public Water Purveyor Capacity								
Pine Beach Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.450	N/A	14.000	13.959	0.041	92.000	93.465	-1.465

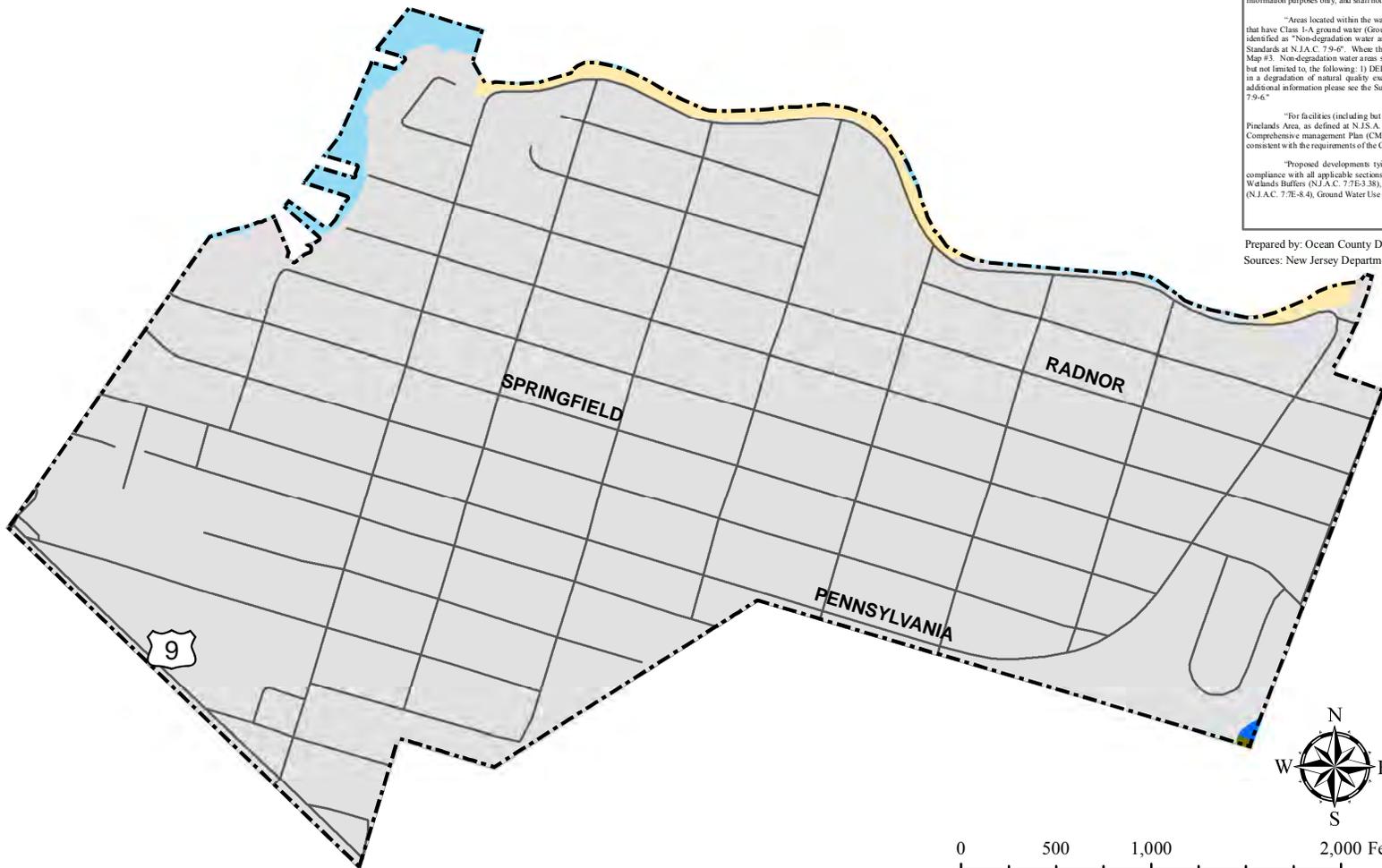
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 3)
-  Wetlands
-  Surface Water



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Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1994.

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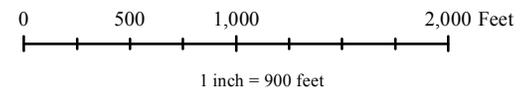
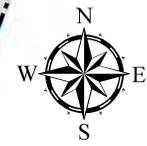
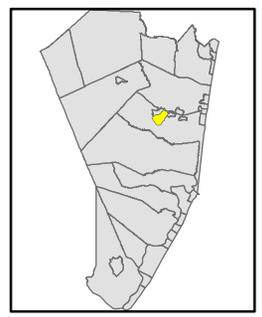
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3A, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



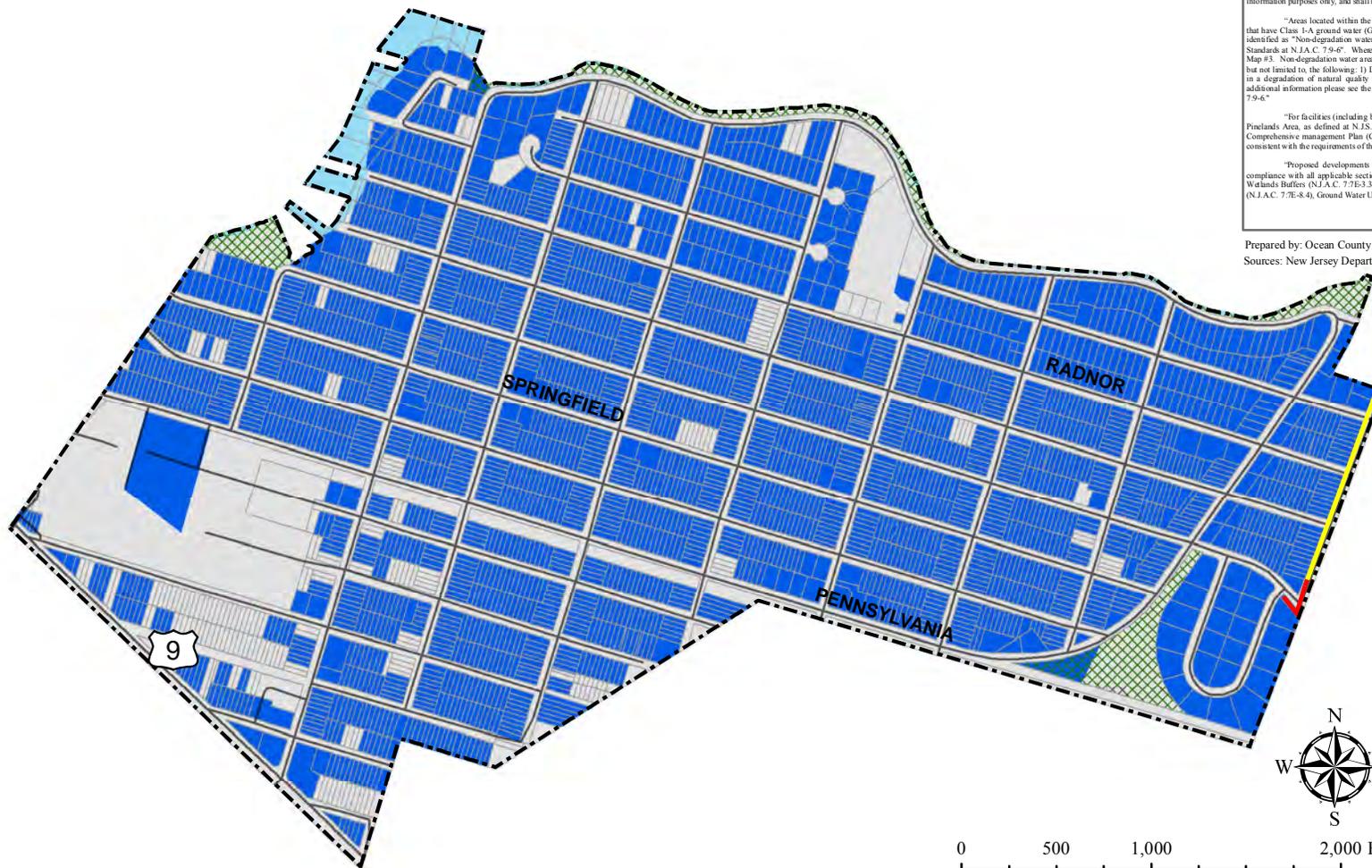
**PINE BEACH BOROUGH
OCEAN COUNTY, NJ**

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
 -  Force Main
 -  Roads
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



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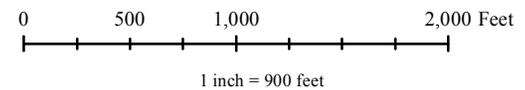
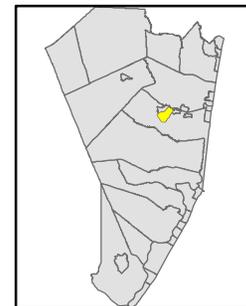
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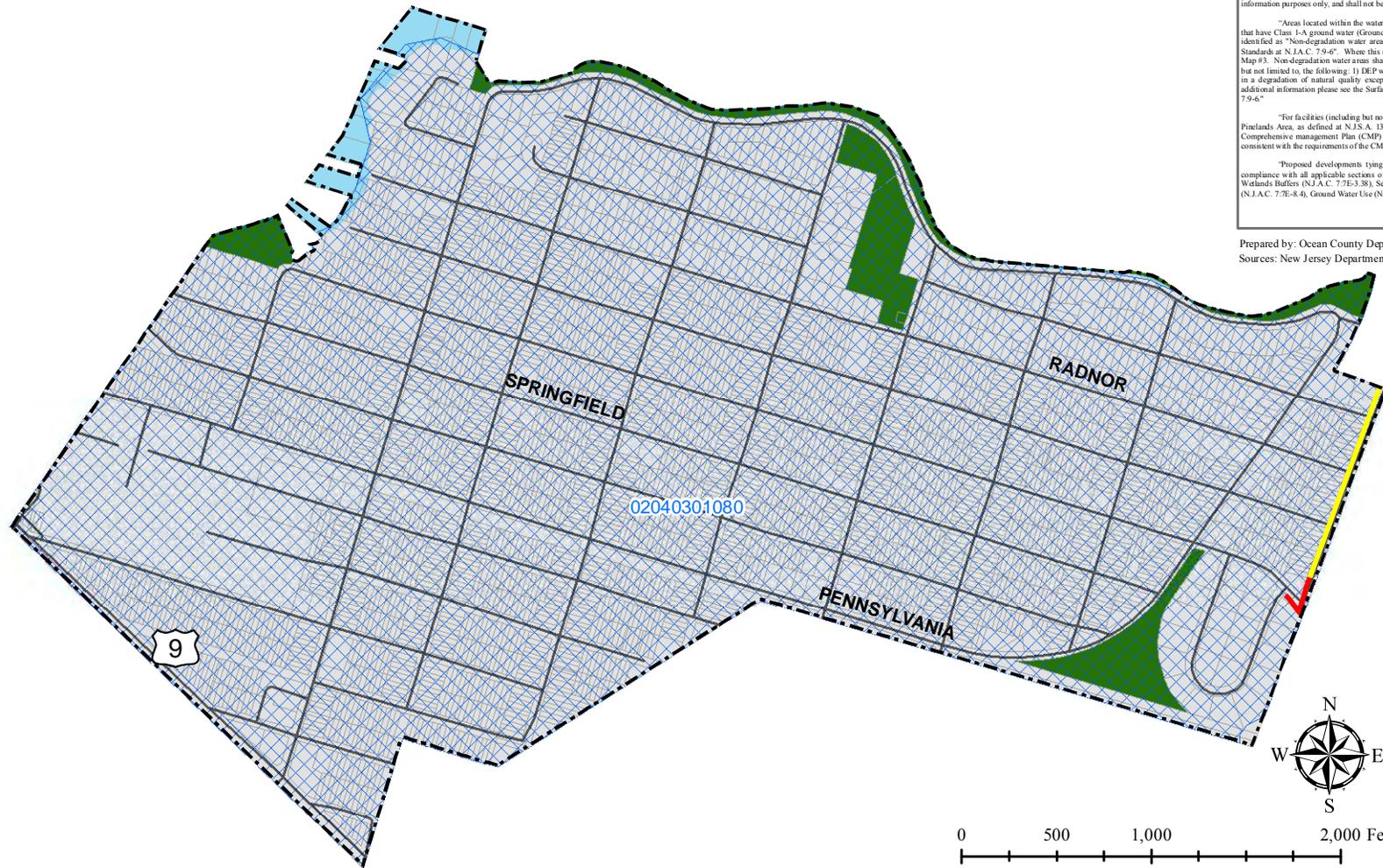
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



PINE BEACH BOROUGH
OCEAN COUNTY, NJ
MAP 2
EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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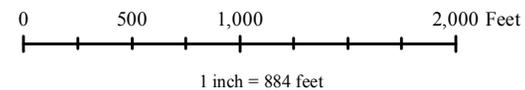
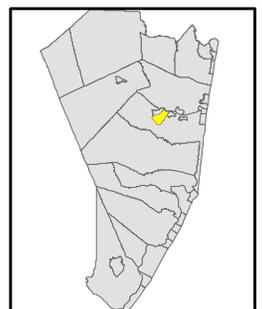
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



PINE BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- B-1 (Highway Shopping Centers)
- R-2 (Single Family Residential)
- R-120 (Single Family Residential)
- R-75 (Single Family Residential)
- Municipal Park

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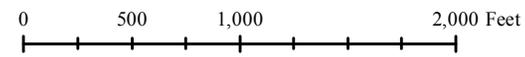
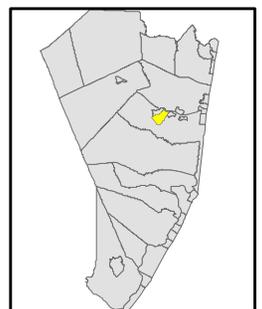
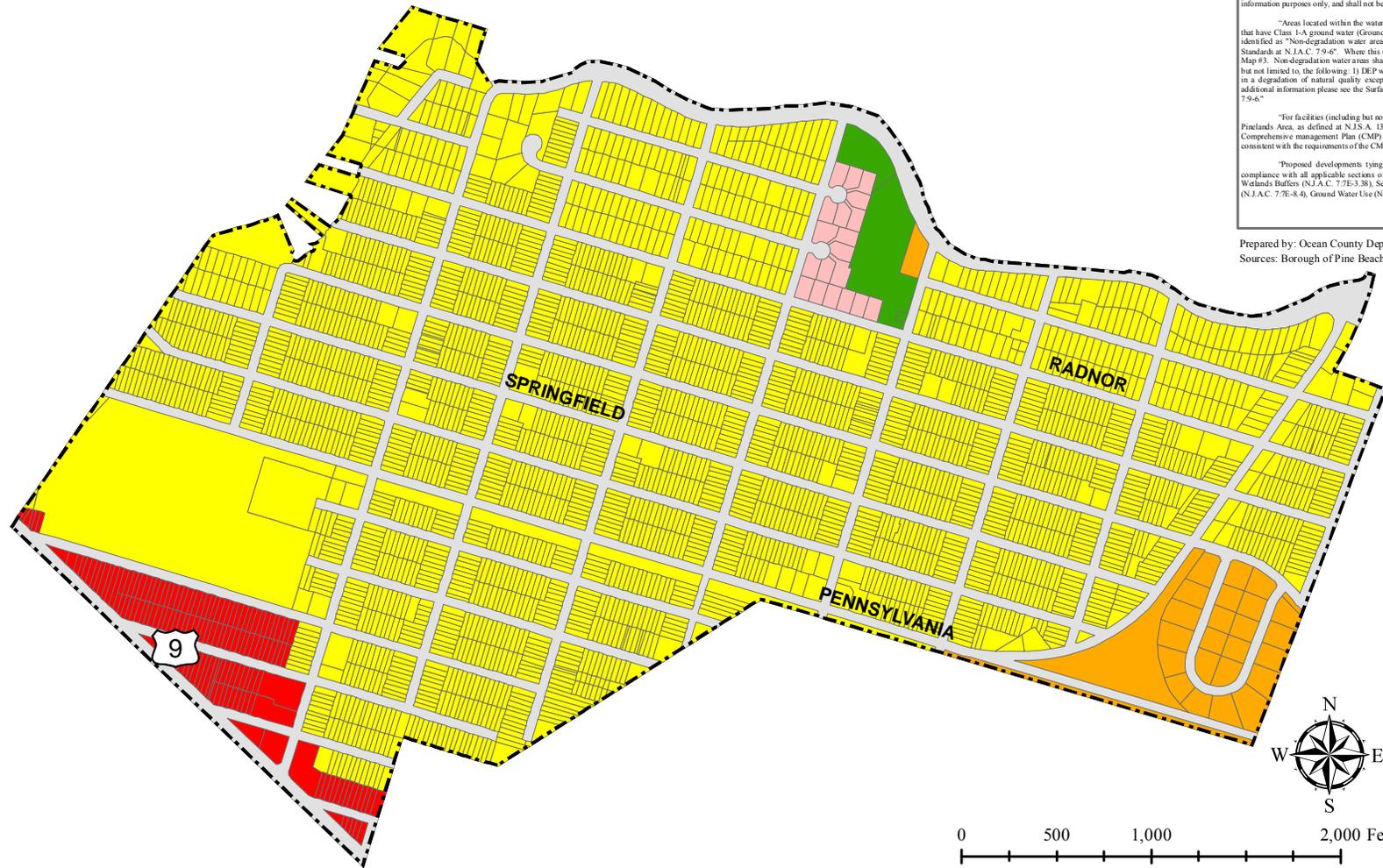
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 34, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Pine Beach; Ocean County Tax Board



1 inch = 884 feet

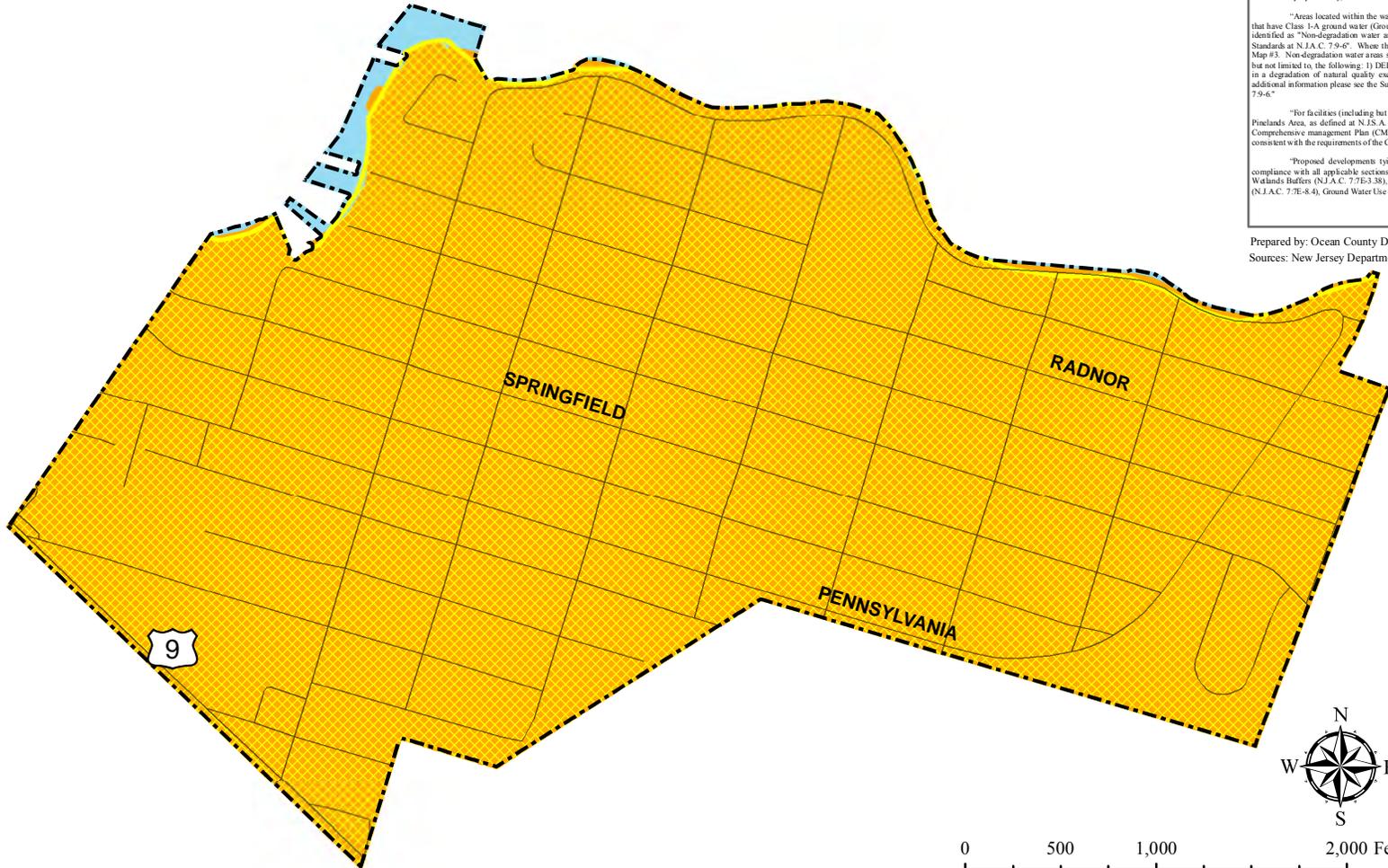
PINE BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1994.

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations restrict the extension of sewer service."

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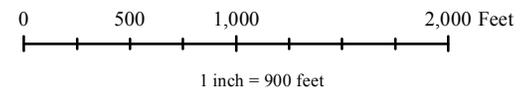
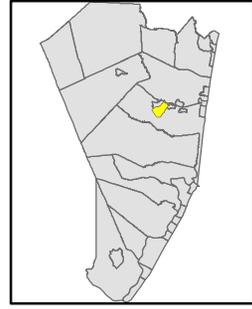
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



PINE BEACH BOROUGH
OCEAN COUNTY, NJ

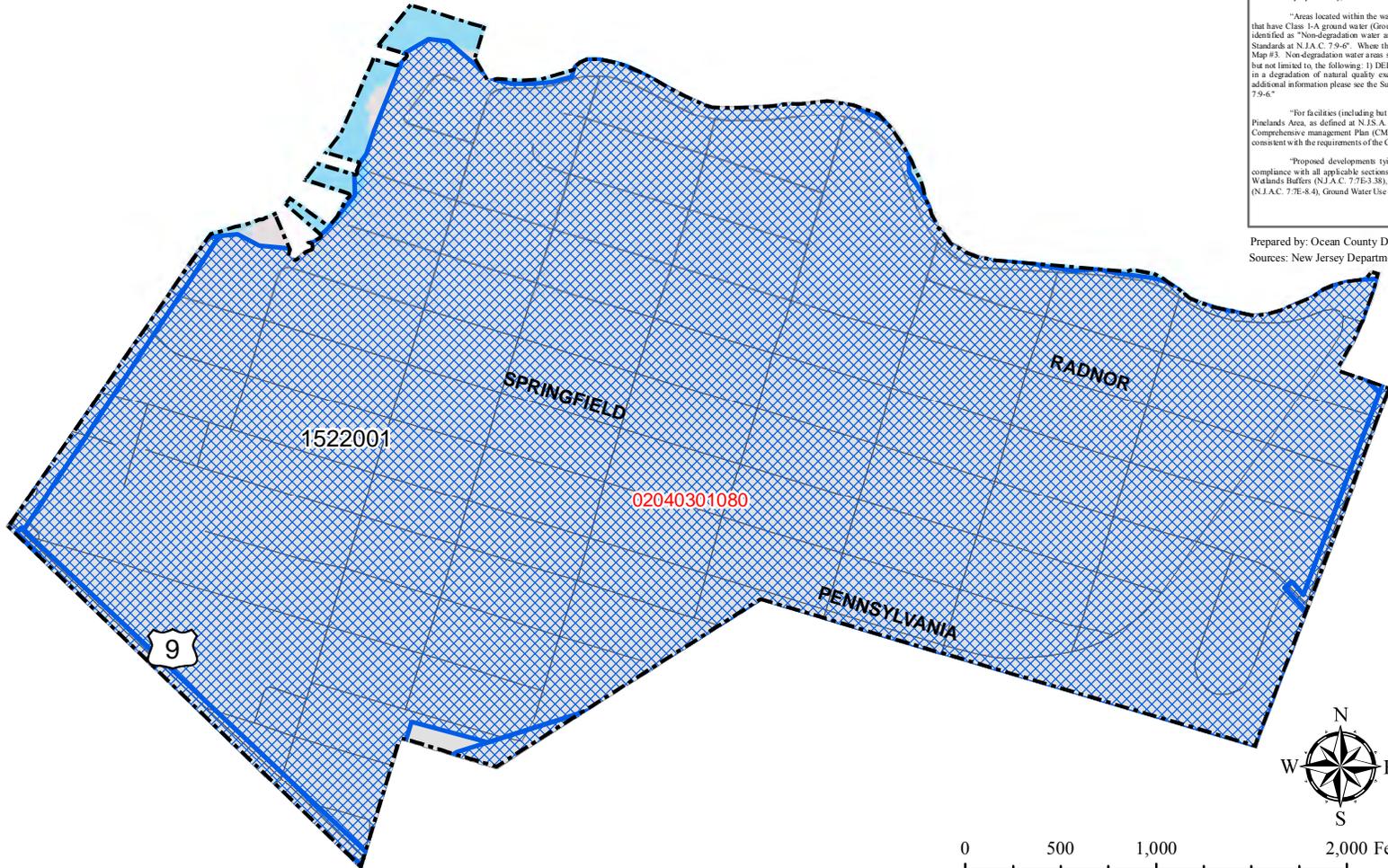
MAP 5

REGIONAL PLANNING AREA

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water

PWSID	PURVEYOR NAME
1522001	PINE BEACH WATER DEPARTMENT



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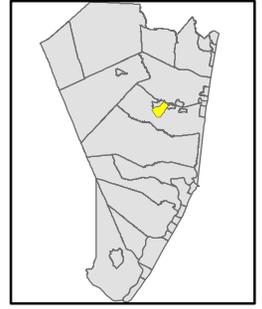
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 900 feet

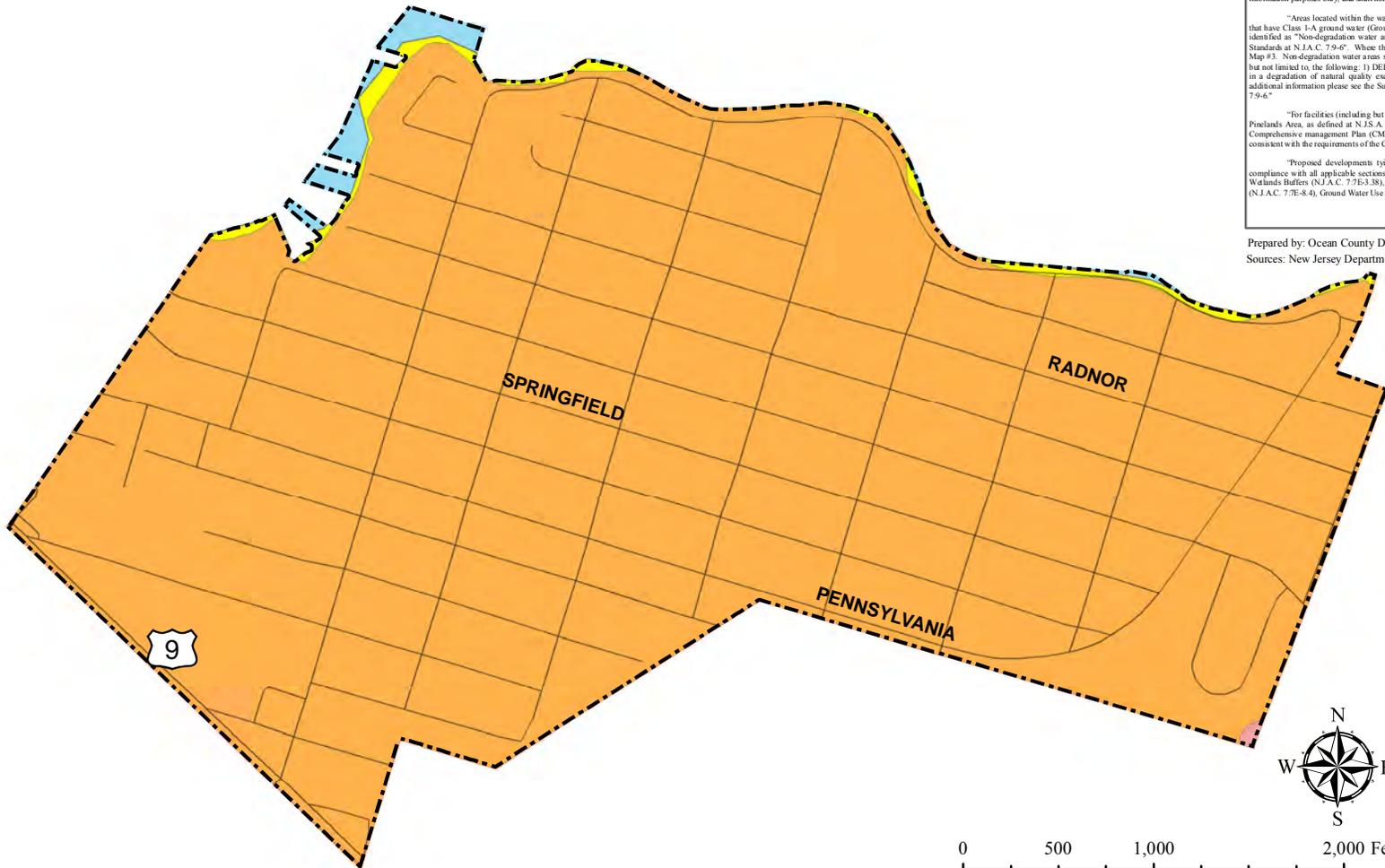
PINE BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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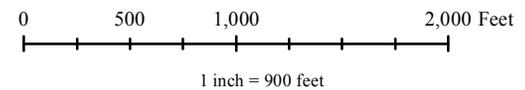
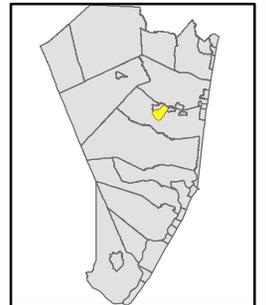
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



**PINE BEACH BOROUGH
OCEAN COUNTY, NJ**
DELTA MAP
SIGNIFICANT CHANGES

23. PLUMSTED TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Plumsted is located in the northwestern corner of Ocean County, and was incorporated in 1845. It is bordered by Monmouth County to the north, Burlington County to the west, Manchester Township to the south, and Jackson Township to the east.

A largely rural municipality, Plumsted contains more farmland than any other municipality in the County. To date, more than thirty of the Township’s farms—totaling more than 2,700 acres—have been permanently preserved through Ocean County’s Farmland Preservation Program. All of Plumsted’s agricultural development is located in the northern half of the municipality. The southern half of the Township lies within the Joint Base McGuire-Dix-Lakehurst.

Also bifurcating Plumsted Township is the boundary of the Pinelands Comprehensive Management Plan Area. Of Plumsted’s 39.51 square miles, about 53.01% of the Township is within the Pinelands, in the southern and eastern portions of the municipality.

In 2010, the U.S. Census found that Plumsted had a total population of 8,421. 2010’s Census also recorded 3,067 total housing units, of which 131 were vacant. Only nine of these vacant housing units were seasonal vacancies. NJTPA projects that Plumsted’s population will grow by 28.03% by 2035, to a total of 10,782 people. This figure was drawn from the Joint Base Regional Wastewater & Growth Management Plan which is referenced in Section V and included at the end of this municipal chapter.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

As seen in Map 1, Plumsted Township’s environmental features are multifarious. The southern half of the municipality, which lies within the Joint Base, is covered by dense pine forests. Here, emergent and non-emergent wetlands spread across the wooded landscape, which is crisscrossed by numerous streams. Located in the Township’s northern half is the county’s largest concentration of preserved farms, which is interspersed with freshwater wetlands. In the center of the municipality is a large wood turtle habitat zone. To the northeast, additional wood turtle habitation can be found among the forested wetlands. Bald eagle foraging grounds are located around Plumsted’s perimeter—to the east, south, west, and northwest. A Natural Heritage Priority Site is located in the Township’s northwestern corner.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	7,123.47	28.17%
Public Open Space/Recreational Areas	13,478.03	53.30%
Habitat T&E	16,987.10	67.18%
Natural Heritage Priority Sites	265.43	1.05%
Riparian Zones	1,309.34	5.18%
Preserved Agriculture	2,731.15	10.80%
Surface Water	205.96	0.81%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 15	10/26/1992
Master Plan		8/24/2007
Stormwater [County - MSWMP]	Chapter 14-7	11/2006 [6/7/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	2009 National Standard Plumbing Code	2009
Source: Municipal Clerk, http://clerkshq.com/default.ashx?clientsite=Plumsted-nj		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

Plumsted is the only Ocean County municipality not serviced by the Ocean County Utilities Authority’s wastewater conveyance and treatment infrastructure. First adopted in 2004, and amended in 2005, Plumsted Township’s Redevelopment Plan calls for the creation of a new public sewer system which would serve the New Egypt Town Center (NETC). The purpose of this system would be to remedy the economic decline of the downtown area, as well as ongoing public health and welfare issues, both attributed to the absence of public sewers. Over the past decade, several alternative strategies to implement sanitary sewer service have been explored by the Township and the Plumsted Municipal Utilities Authority (MUA). These alternatives included the construction of a new treatment facility which would discharge effluent to groundwater, connection to the OCUA’s NWPCF via the Jackson Township Municipal Utilities Authority’s pump station at Six Flags Great Adventure, and connection to existing treatment facilities which serve the Joint Base. Each of these alternatives, in addition to a “no-build” option, was found to be unfeasible for various reasons.

At present, Plumsted Township is seeking approval from the NJDEP and the Delaware Valley Basin Commission for the construction of a treatment facility which discharges effluent to Crosswicks Creek. The Township and the Plumsted MUA are pursuing socio-economic justification for noncompliance with non-degradation standards associated with discharges to surface water. The “Socio-Economic Analysis for the Plumsted Township Wastewater Treatment Plant” prepared by the Plumsted MUA, Van Cleef Engineering, and HDR Hydroqual on May 30, 2014 has concluded that a surface water discharge to Crosswicks Creek is “the only viable solution to address the critical need for wastewater facilities for the NETC.” The study finds that while the proposed facility would cause degradation of water quality in Crosswicks Creek, the concentrations of key pollutants would comply with changes to the monthly allowable limits requested in the Township’s January 13, 2014 letter to the NJDEP.

The “Socio-Economic Analysis for the Plumsted Township Wastewater Treatment Plant” projects a wastewater flow of 0.6 MGD from the NETC, with 0.3 MGD flowing from the downtown core and Planned Residential Retirement Community (PRRC) zone, once built. The sewer service area will remain consistent with the map approved by the NJDEP on February 7, 2013, and with this WMP. Whether or not this facility is constructed, the balance of the Township outside of the NETC will remain on septic.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. There are currently no public sewers in Plumsted Township.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. In Plumsted, the sewer service area has expanded outward to include several parcels which had been outside of the previous sewer service area boundary, but are within the designated town center of New Egypt. These include privately owned lands, as well as a large tract owned by the Plumsted Township Board of Education. Not included in this new expansion of the sewer service area are the numerous preserved farms on the outskirts of New Egypt.

According to GIS analysis performed by the County of Ocean, there are 464.92 acres of developable land within the adopted sewer service area boundary in Plumsted. Of these, 85.70 acres are zoned as residential, 13.63 acres are zoned as commercial, and 1.47 acres are zoned as industrial. The remaining 364.12 acres are zoned for other uses.



All development within the Pinelands Comprehensive Management Plan Area is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundary of the Pinelands. The Delta Map displays the changes to Plumsted’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the northwestern section of the Township is included in the designated sewer service area. Most of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, lies within the Joint Base, or a combination thereof. Smaller scale large lot developments are usually served by septic systems. Because Plumsted is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Plumsted’s drinking water is diverted from the Englishtown Aquifer via two wells. The system is operated by the New Jersey American Water Company—New Egypt, and is capable of pumping 0.173 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are six developments located in the Township that are served by NJPDES permitted facilities with discharge to ground water greater than 2,000 GPD. The Facility Tables for these systems are provided in Tables 3 through 8:

Table 3: NJPDES - Colliers Mills Mobile Home Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084387	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Colliers Mills Mobile Home Park, Inc.	
7. Operator of Facility:		George Lorbeck, Jr.	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		Woodruff Road	
c. Block(s) and Lot(s):		Block 79, Lot 5	
10. Location of discharge:			
a. Longitude:		74 deg. 27 min. 32.43 sec. west	
b. Latitude:		40 deg. 3 min. 41.21 sec. north	
11. Present Permitted Flow:		0.005 MGD	
12. Summary of Population Served:		Present (2010) Population Served Build Out (2035) Population Served	
Total		Approximately 100 Approximately 100	
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow Build Out (2035) Wastewater Flow	
Plumsted Township	Residential	0.005 MGD*	0.005 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.005 MGD	0.005 MGD
*Estimate based on 50 total sites using 100 gpd			

**Table 4: NJPDES - Jensen's Mobile Home Park**

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0080055	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		New Jersey American Water	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		819 Monmouth Road	
c. Block(s) and Lot(s):		Block 59, Lots 6.01, 8, 9, 11, 12, 20	
10. Location of discharge:			
a. Longitude:		74 deg. 29 min. 59.01 sec. west	
b. Latitude:		40 deg. 6 min. 20.27 sec. north	
11. Present Permitted Flow:		0.026 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 250	Approximately 250
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Plumsted Township	Residential	0.026 MGD*	0.026 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.026 MGD	0.026 MGD

*Estimate assumes 130 occupied mobile homes using 200 gpd

Table 5: NJPDES - New Egypt Middle School

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJ0104264	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Plumsted Township Board of Education	
7. Operator of Facility:		Andrea L. Caldes	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		115 Evergreen Road	
c. Block(s) and Lot(s):		Block 41, Lots 9.02, 10.02, 10.03	
10. Location of discharge:			
a. Longitude:		74 deg. 31 min. 52.27 sec. west	
b. Latitude:		40 deg. 4 min. 50.88 sec. north	
11. Present Permitted Flow:		0.010 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		440*	440
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Plumsted Township	Residential		
	Commercial	0.007 MGD**	0.007 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.007 MGD	0.007 MGD

*Estimate of student population provided by New Egypt Middle School

**Estimate assuming 440 students each using 15 gpd

**Table 6: NJPDES - New Egypt Speedway**

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0154105	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Fred Vahlsing	
7. Operator of Facility:		Fred Vahlsing	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		720 Route 539	
c. Block(s) and Lot(s):		Block 76, Lot 83.01	
10. Location of discharge:			
a. Longitude:		74 deg. 28 min. 10.20 sec. west	
b. Latitude:		40 deg. 4 min. 14.59 sec. north	
11. Present Permitted Flow:		0.0025 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 110*	Approximately 110
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Plumsted Township	Residential		
	Commercial	0.0022 MGD**	0.0022 MGD
	Industrial		
	Inflow/Infiltration		
Total		0.0022 MGD	0.0022 MGD
* The site sees approximately 35000 to 40000 visitors each year, as per New Egypt Speedway.			
**Estimate assumes 110 visitors each day, each using 2 gpd.			

Table 7: NJPDES - New Egypt Trailer Park

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084212	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Jung Hyun and Yunshim Cho	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		67 Jacobstown Road	
c. Block(s) and Lot(s):		Block 24, Lot 46	
10. Location of discharge:			
a. Longitude:		74 deg. 32 min. 31.96 sec. west	
b. Latitude:		40 deg. 4 min. 11.12 sec. north	
11. Present Permitted Flow:		0.003 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 30	Approximately 30
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Plumsted Township	Residential	0.003 MGD*	0.003 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.003 MGD	0.003 MGD
*Estimate assumes 15 occupied mobile homes using 200 gpd			

**Table 8: NJPDES - Oak Grove Mobile Home Park**

1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0157309	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Lambert Properties, LLC	
7. Operator of Facility:		N/A	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Plumsted Township, Ocean County	
b. Street Address:		254 Lakewood Road	
c. Block(s) and Lot(s):		Block 43, Lot 54	
10. Location of discharge:			
a. Longitude:		74 deg. 29 min. 29.70 sec. west	
b. Latitude:		40 deg. 4 min. 57.66 sec. north	
11. Present Permitted Flow:		0.005 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 50	Approximately 50
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Plumsted Township	Residential	0.005 MGD*	0.005 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.005 MGD	0.005 MGD

*Estimate assumes 25 occupied mobile homes using 200 gpd

V. Future Wastewater and Water Demand

Municipal Zoning

Table 9: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
C-2	Commercial	65.62	0.85
C-3	Commercial	86.52	0.00
C-4	Downtown Commercial Redevelopment Area	112.41	12.78
FA	Forest Area	635.73	129.13
FP	Farmland Preservation	1860.73	0.00
LI-1	Light Industrial	174.44	0.00
LI-2	Light Industrial	442.58	1.47
MHP	Mobile Home Park	118.54	0.00
MI	Military and Federal Installation Area	11866.44	0.00
PA	Preservation Area	184.63	0.00
R-10	Residential	54.22	1.18
R-40	Rural Residential	1821.89	66.00
RA-2	Rural Agricultural	6.92	0.00
RA-3	Rural Agricultural	14.18	0.00
RA-5	Rural Agricultural	6255.40	235.00
RD-1	Rural Development	318.67	0.00
RD-2	Rural Development	329.56	18.52
ROS	Recreation/Open Space	434.50	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater Needs and Capacity

The wastewater treatment facility proposed in the “Socio-Economic Analysis for the Plumsted Township Wastewater Treatment Plant” would be located at Block 40, Lot 4, which is situated at the intersection of Route 537 and New Egypt Allentown Road. Should this facility be built as designed, it would discharge approximately 0.6 MGD of effluent into the adjacent Crosswicks Creek. The full report is appended to this municipal chapter.

Table 10: Wastewater Flow Directed to Proposed Treatment Plant	
Source	(MGD)
Existing Flow	0.000
Projected Residential	0.600
Projected Commercial	(included in residential)
Total Future Planning Flow	0.600

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Plumsted Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assessed the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 11 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) based on the build-out analysis.

Table 11: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
N/A	989.21	692.10	808.08	12,632,907.39

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through adoption of a municipal ordinance which requires abandonment of the septic and connection to the sewer system once it becomes available. Plumsted Township has adopted the 2009 National Standard Plumbing Code as its official guide to septic connection, which can be seen in Table 2.

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service

area, developed parcels, NJPDES permitted sites, preserved farms, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district's density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 12: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040201040	483.39	116.53	0.00	0.00	483.39	116.53
02040201050	665.07	138.05	144.31	541.30	809.38	679.35
02040202020	0.00	0.00	0.00	0.00	0.00	0.00
02040202030	0.00	0.00	0.00	0.00	0.00	0.00
02040301070	288.25	164.13	0.00	0.00	288.25	164.13
Totals	1,436.71	418.71	144.31	541.30	1,581.02	960.01

Collection System Construction within the Sewer Service Areas

Where an area is designated for sewer service but the required trunk line or collection main has not yet been constructed, some local entities require that dry sewer lines be constructed within each new development. The developments will be connected to the sewer system as line capacity is constructed. At present, Plumsted Township does not have a municipal ordinance applicable to dry conveyance.

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP's nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 13: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040201040	7.1	1,469.13	206.92	116.53
02040201050	5.3	1,640.65	309.56	679.35
02040202020	5.2	4,343.55	835.30	0.00
02040202030	4.4	16.30	3.70	0.00
02040301070	4.6	820.77	178.43	164.13

The Township, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in Plumsted's portion of HUC11 02040201050.



However, rezoning or other restrictions on future septic development in these areas may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in 02040201050; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11, inclusive of Plumsted Township, is less than the HUC11's total capacity for development while maintaining optimal nitrate dilution. Information on this HUC11's septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township's residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 14: Public Water Purveyor Capacity

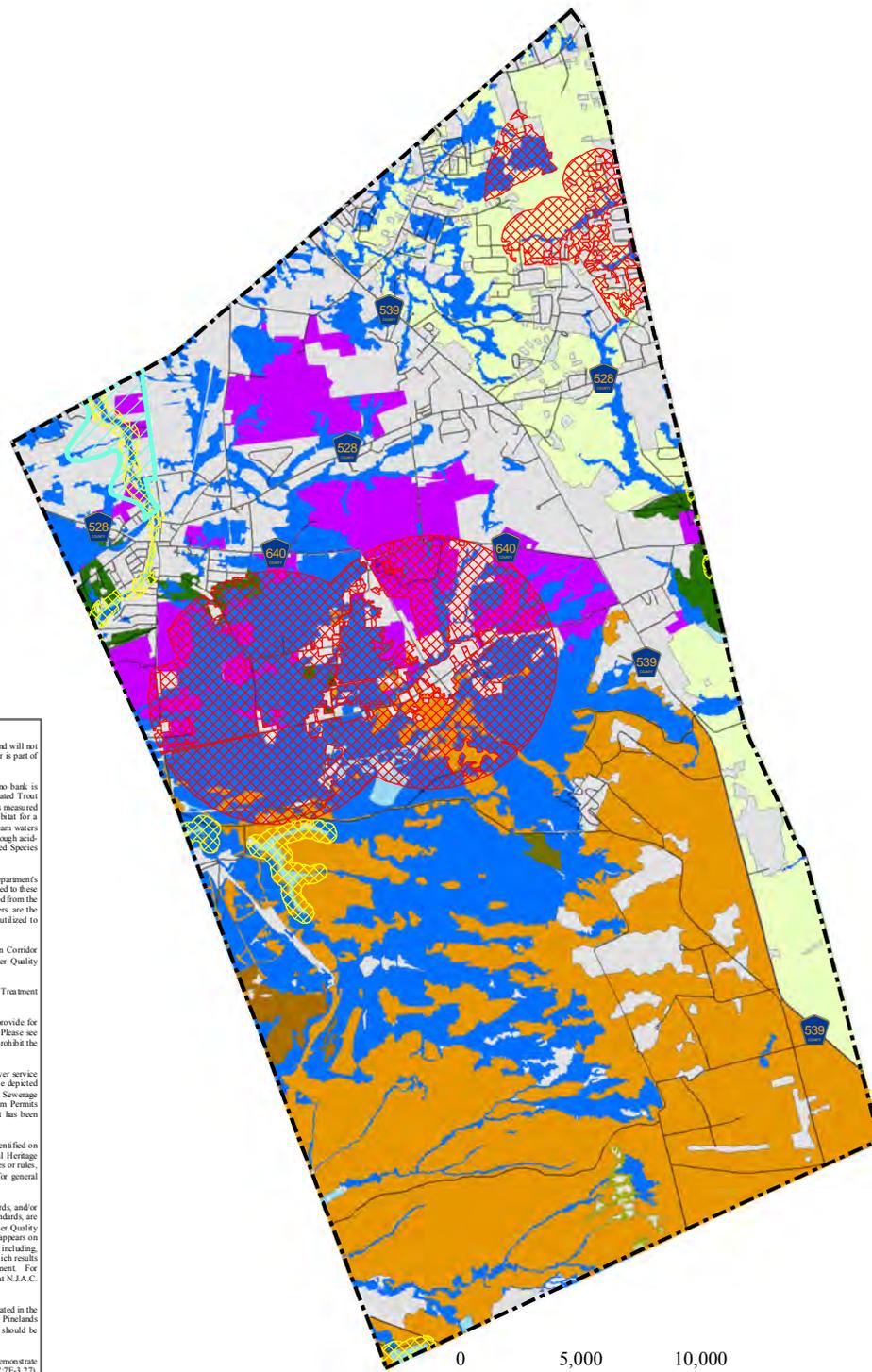
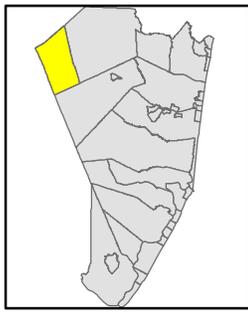
New Jersey American Water Company - New Egypt

Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.173	0.173	0.000	7.000	5.178	1.822	60.000	54.878	5.122

Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

- Natural Heritage Priority Sites
- Bald Eagle Foraging
- Wood Turtle Habitat
- Roads
- Emergent Wetlands (Rank 3)
- Emergent Wetlands (Rank 4)
- Emergent Wetlands (Rank 5)
- Wetlands
- Preserved Agriculture
- Forest (Rank 3)
- Forest (Rank 4)
- Forest (Rank 5)
- Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Reilly Improvement Sewerage and Facilities Act (RISFA) 88:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of the "2009 National Standard Plumbing Code" by the Township of Plumsted."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:7B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3-27), Wetlands Buffers (N.J.A.C. 7:7E-3-38), Secondary Impacts (N.J.A.C. 7:7E-6-3), Public Facility Use Policies (N.J.A.C. 7:7E-7-6), Water Quality (N.J.A.C. 7:7E-8-4), Ground Water Use (N.J.A.C. 7:7E-8-6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



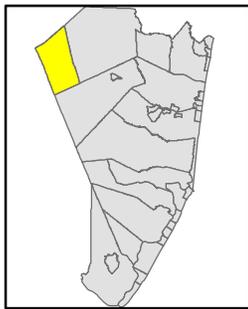
1 inch = 7,500 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES



Legend

- Roads
- Discharge to Ground Water
- Sanitary Subsurface Disposal (T1)
- Surface Water
- Public Open Space & Recreation Areas

Sewered Areas

None

COLLIERS MILLS MOBILE HOME PARK	NJG0084387
JENSENS MOBILE HOME PARK	NJ0080055
NEW EGYPT MIDDLE SCHOOL	NJ0104264
NEW EGYPT SPEEDWAY	NJG0154105
NEW EGYPT TRAILER PARK	NJG0084212
OAK GROVE MOBILE HOME PARK	NJG0157309

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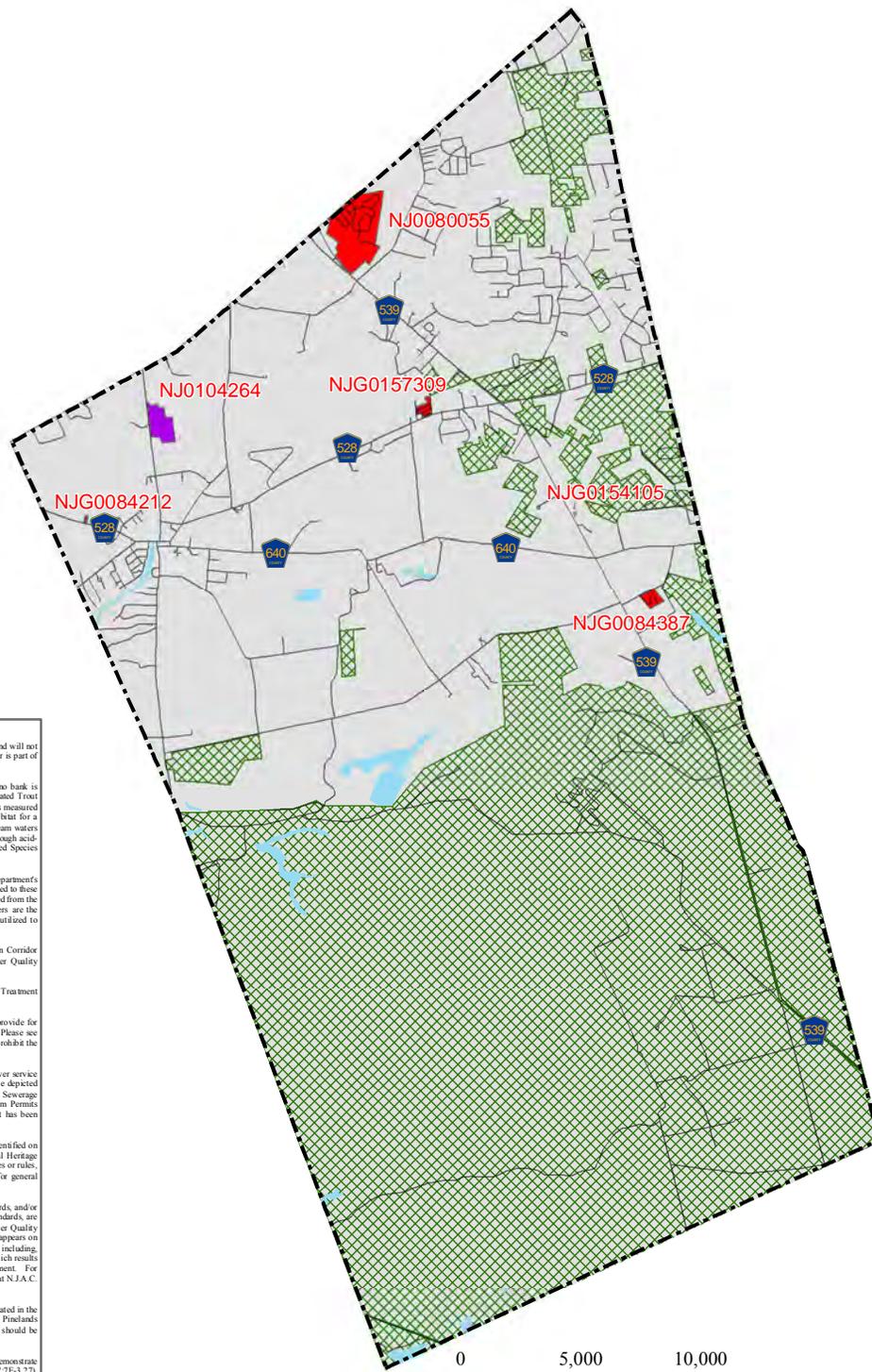
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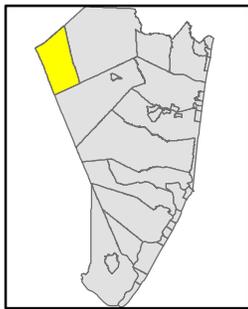
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1 inch = 7,500 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ
MAP 2
EXISTING SEWERED AREA



COLLIERS MILLS MOBILE HOME PARK	NJG0084387
JENSENS MOBILE HOME PARK	NJ0080055
NEW EGYPT MIDDLE SCHOOL	NJ0104264
NEW EGYPT SPEEDWAY	NJG0154105
NEW EGYPT TRAILER PARK	NJG0084212
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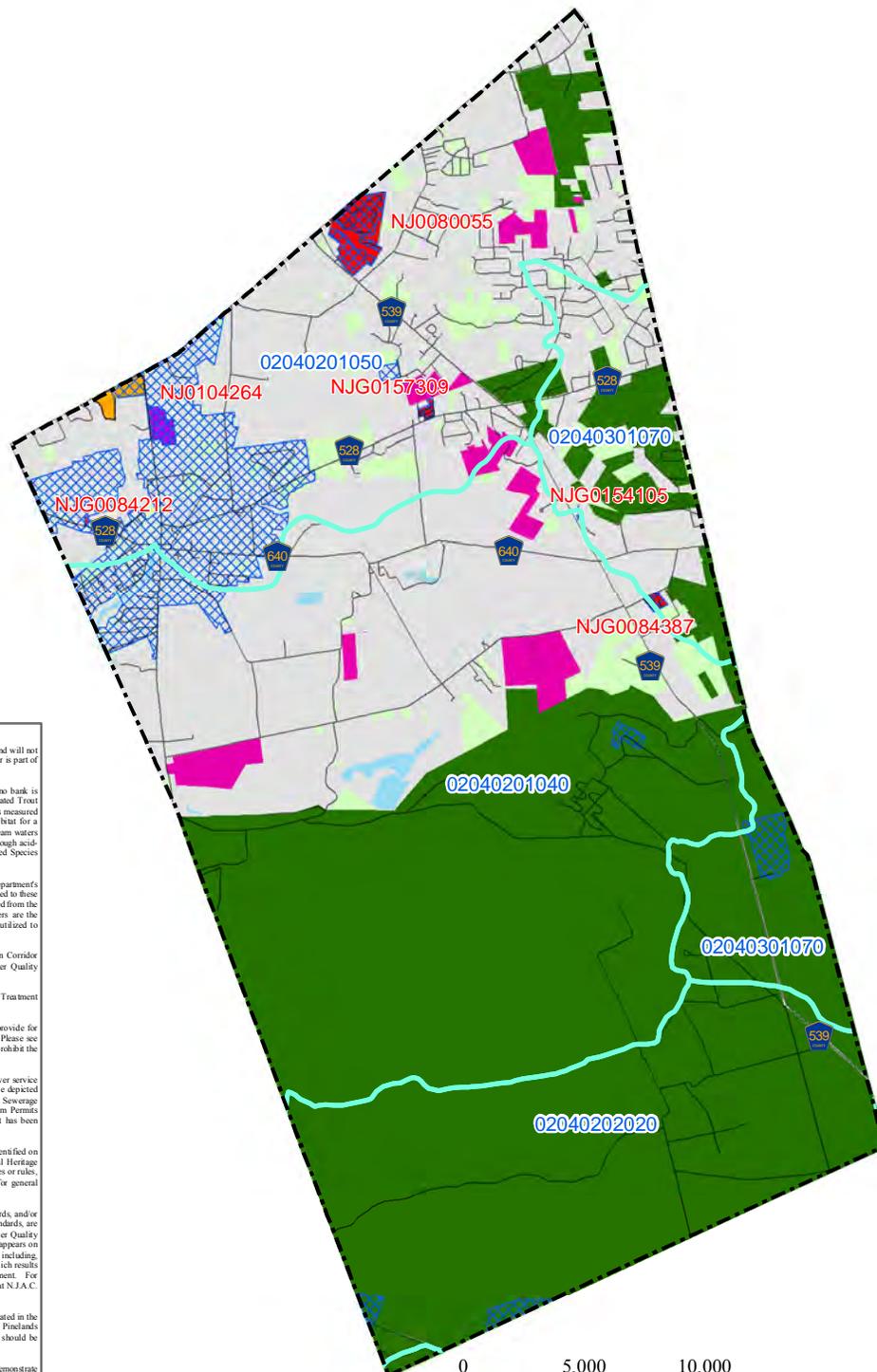
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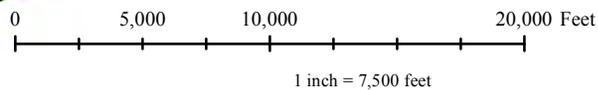
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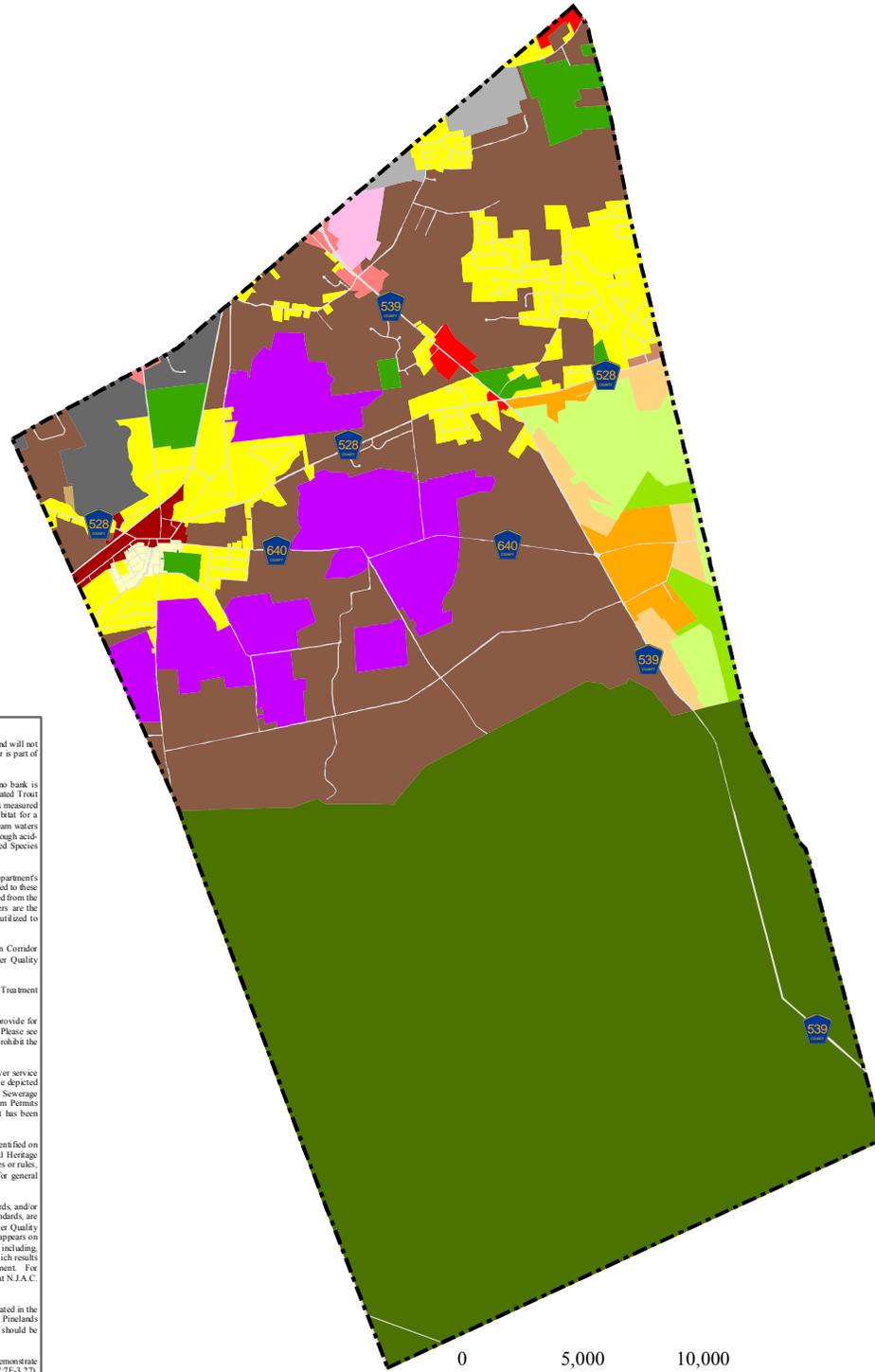
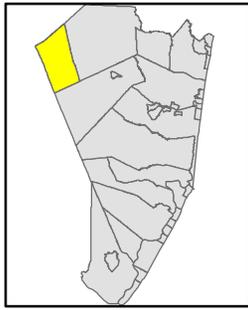
Legend

- HUC 11
- Roads
- Proposed to Plumsted MUA/Joint Base
- Site of Proposed Plumsted MUA Treatment Plant
- Discharge to Ground Water
- Sanitary Subsurface Disposal (T1)
- Non Discharge Areas
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



PLUMSTED TOWNSHIP
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA



Legend

- C-2 (Commercial)
- C-3 (Commercial)
- C-4 (Downtown Commercial Redevelopment Area)
- FA (Forest Area)
- FP (Farmland Preservation)
- LI-1 (Light Industrial)
- LI-2 (Light Industrial)
- MHP (Mobile Home Park)
- MI (Military and Federal Installation Area)
- PA (Preservation Area)
- R-10 (Residential)
- R-40 (Rural Residential)
- RA-2 (Rural Agricultural)
- RA-3 (Rural Agricultural)
- RA-5 (Rural Agricultural)
- RD-1 (Rural Development)
- RD-2 (Rural Development)
- ROS (Recreation/Open Space)

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Prepared by: Ocean County Department of Planning, December 2012
Sources: Township of Plumsted; Ocean County Tax Board

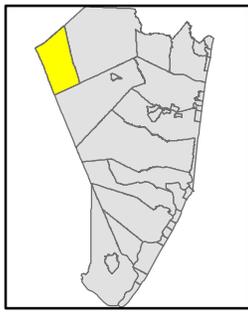


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PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ

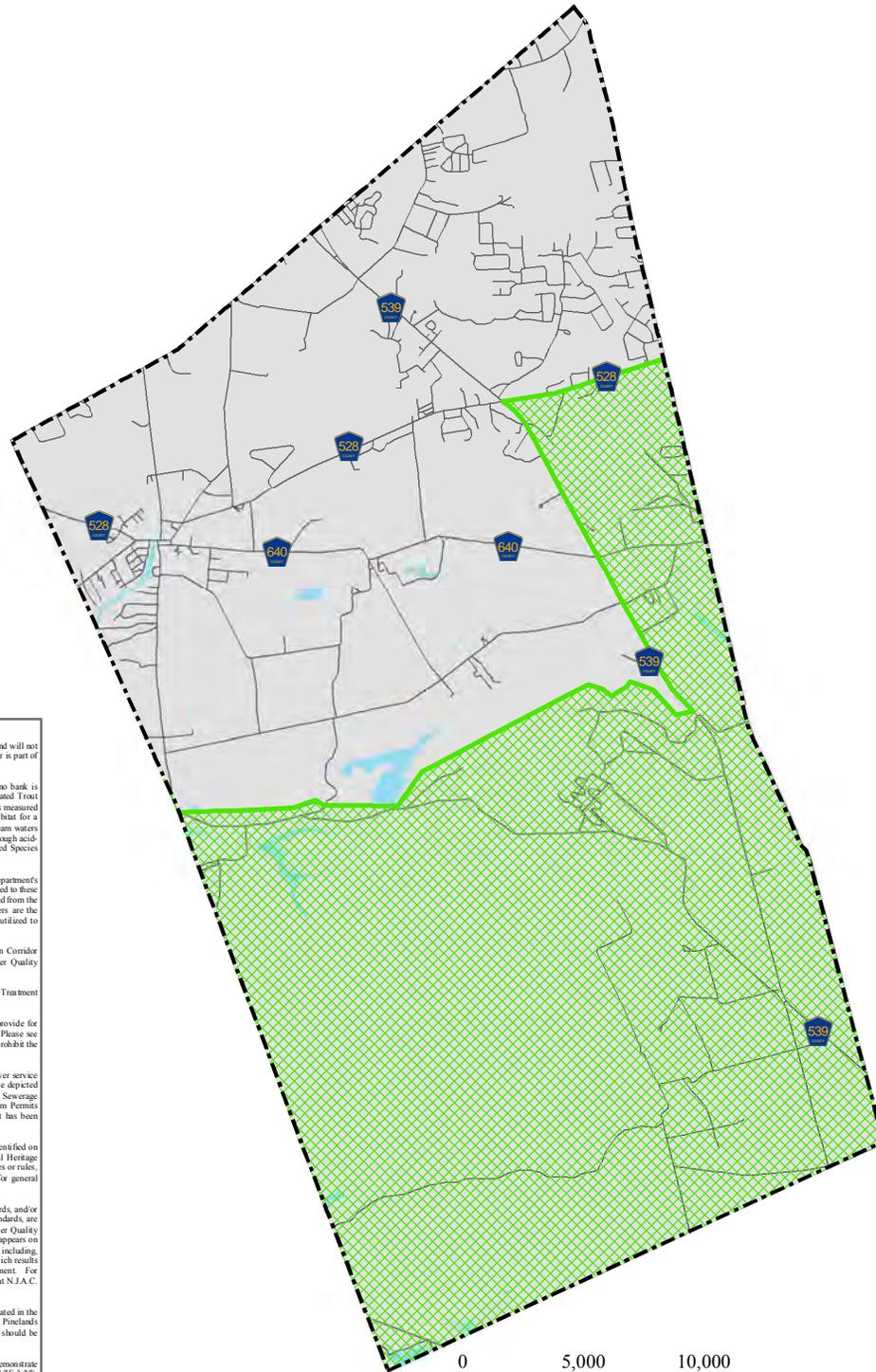
MAP 4

MUNICIPAL ZONING



Legend

-  Pinelands
-  Roads
-  Surface Water



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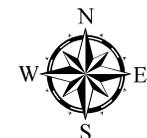
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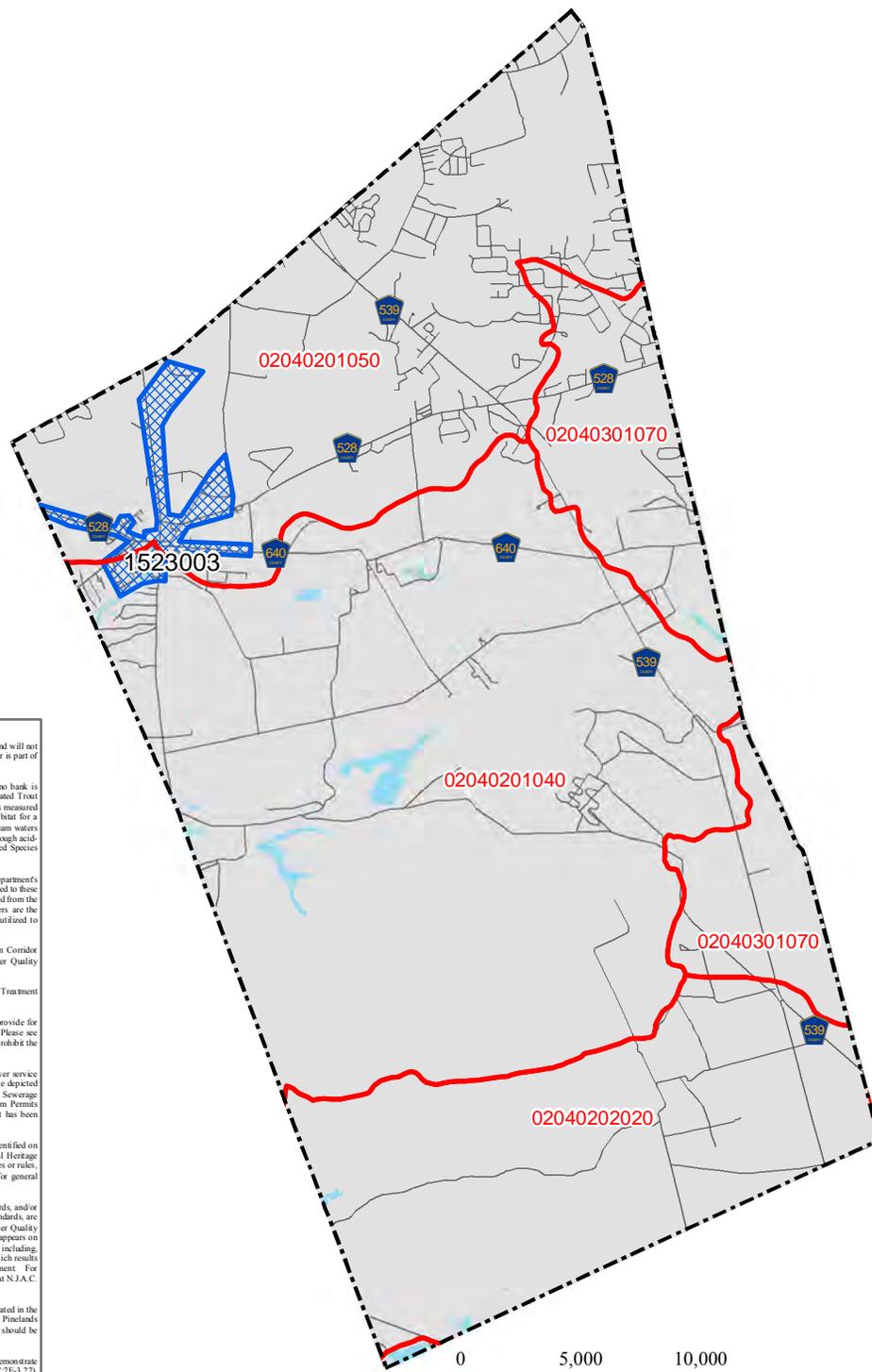
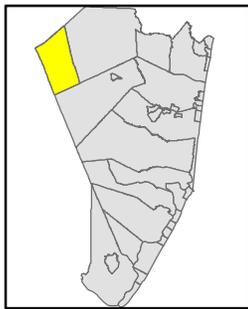
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PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1523003	NJ AMERICAN WATER COMPANY - NEW EGYPT

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of the "2009 National Standard Plumbing Code" by the Township of Plumsted."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:7B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6." Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

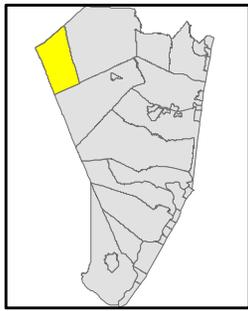


1 inch = 7,500 feet

PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ

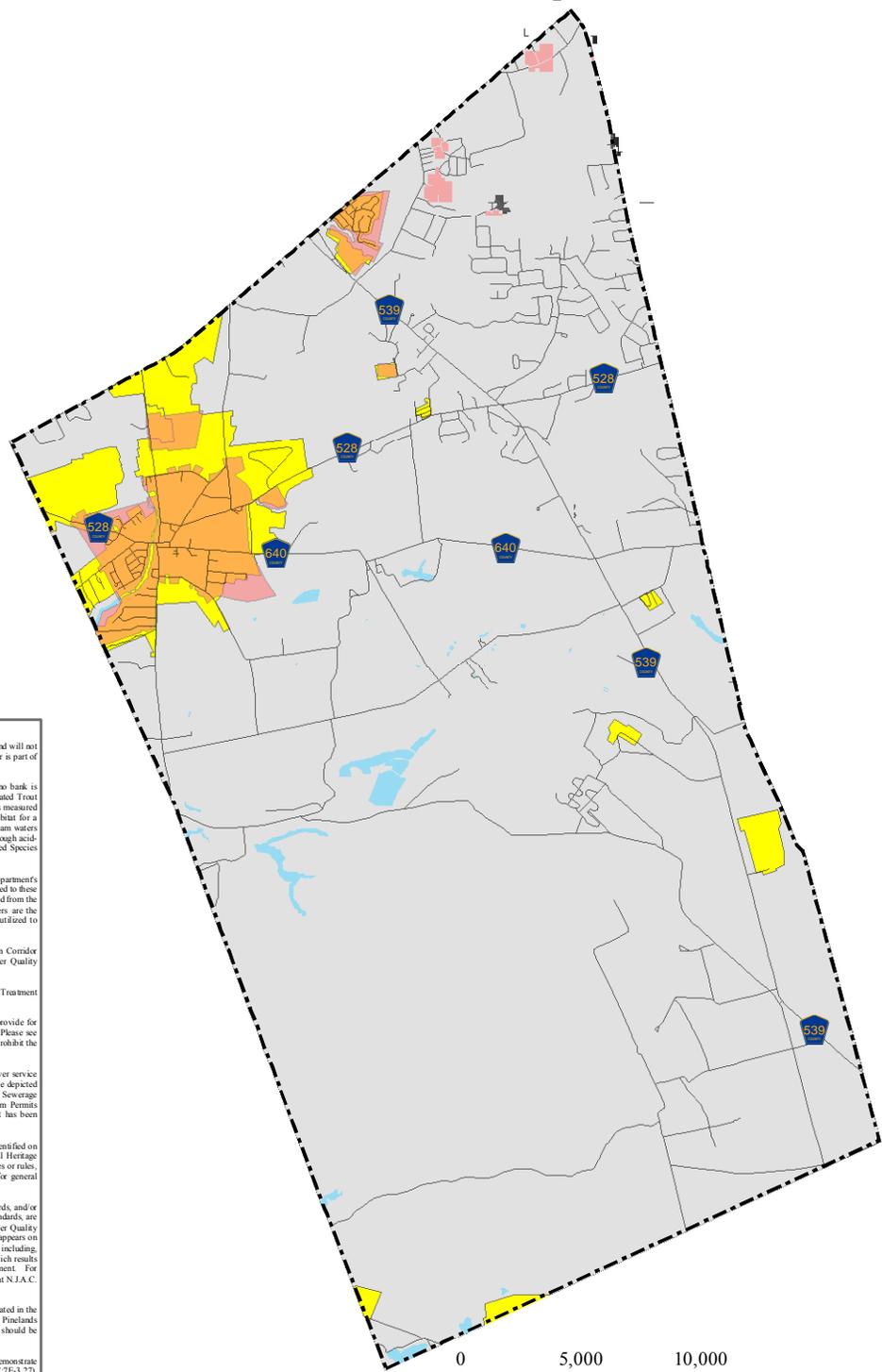
MAP 6

WATER SUPPLY



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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1 inch = 7,500 feet

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

PLUMSTED TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Plumsted Municipal Utilities Authority

Walter C. Bronson, Chairman
 Edward J. Weirsky, Jr., Vice Chairman
 Robert W. Minter, Treasurer
 Ronald S. Dancer, Member
 Harry E. Miller, Member
 Ricky T. Brown, Alternate Member
 Anthony Esposito III, Alternate Member
 Peter L. Ylvisaker, Executive Director
www.plumst.org



THE STATE'S CENTER

Authority Office
 121 Evergreen Road
 New Egypt, New Jersey 08533
 609-758-2241 ext. 132
 609-758-0123 (fax)

OCEAN COUNTY
 PLANNING DEPT. A
 SOLID WASTE MGT.
 JUN 09 3 07 8 PM '14

February 28, 2014

David J. McKeon
 Director, Ocean County Planning
 129 Hooper Avenue
 P.O. Box 2191
 Toms River, NJ 08754-2191

Dear Director McKeon:

As briefly discussed with you Monday, February 24, 2014, please find enclosed our application for a Surface Water Discharge (SWD) permit to the New Jersey Department of Environmental Protection (NJDEP). From our conversation, I understand the County Planning Department will be submitting to the NJDEP in March 2014 a draft of the Wastewater Management Plan (WMP) for Ocean County that will include Plumsted Township. It is our further understanding the County WMP will include the options to Plumsted of the SWD and the Joint Base McGuire-Dix-Lakehurst as the potential solutions for the method and treatment of wastewater generated from within our state approved Sewer Service Area and Town Center.

Please call me with any questions. We would appreciate receiving a copy of the draft WMP the County submits to NJDEP next month.

Sincerely,

Peter Ylvisaker
 Executive Director

Cc: Mayor Leutwyler
 Ronald Dancer, Business Administrator
 PMUA
 Elizabeth Semple, NJDEP
 Nancy Kempel, NJDEP

NJPDES-1



State of New Jersey
 Department of Environmental Protection
 Division of Water Quality

Reset Form

New Jersey Pollutant Discharge Elimination System Permit Application

Refer to the attached Instructions and the Appropriate Completeness Checklists and Provide All Applicable Information. Please Print or Type. (Attach additional sheets if necessary)

1. Applicant(s)/Operating Entry(ies)

Name Plumsted Municipal Utilities Authority
 Mailing Address 121 Evergreen Road
 City or Town New Egypt State NJ Zip Code 08533
 Contact Person Peter Ylvisaker Telephone 609, 758-2241 ext 132 E-Mail peterylvisaker@aol.com
 Parent Corporation & Place of Incorporation Plumsted Township
 Federal Tax Identification Number 223087262

2. Property/Land Owner(s)

Entity Name Esler and Sandra Heller
 Mailing Address 933 Route 537 (Monmouth Road)
 City or Town Cream Ridge State NJ Zip Code 08514
 Contact Person Aaron Heller Telephone 609, 743-0166 E-Mail _____

3. Location of Facility/Site

Name of Facility/Site Plumsted MUA WWTP
 Street Address/Location 933 Route 537
 City or Town New Egypt State NJ Zip Code 08533
 Municipality Plumsted Township County Ocean Block (s) 40 Lot (s) 4

4. Facility Contact (Person Familiar with the Facility/Site and this Application)

Name Christopher B. Jepson Affiliation Van Cleef Engineering Associates
 Mailing Address 4 AAA Drive, Suite 103
 City or Town Hamilton State NJ Zip Code 08691
 Telephone 609, 689-1100 Fax 609, 689-1120 E-Mail cjepson@vcea.org
 Emergency Contact(s) (24hr) Name Christopher B. Jepson Phone 609, 689-1100
 Alternate Phone 609, 915-2461 E-Mail cjepson@vcea.org

5. Project and Discharge Description (Under This Application)

Pursted MJA is designing and constructing a new 0.600 MGD domestic sewage WWTP that will discharge into the Crosswicks Creek near the Route 96 bridge in New Egypt. The WWTP will consist of MBR treatment followed by a Reverse Osmosis (RO) system with a concentrating RO unit in order to meet the proposed stringent effluent limits. The first stage of construction will be for 0.300 MGD with the second stage to follow. Disinfection will be by ultraviolet (UV).

6. Requested NJPDES Permit Action and Other NJPDES Permits

Table A: Requested Permit Action Under This Application

DISCHARGE CATEGORY CODES	NJPDES PERMIT NUMBER	NEW	RENEW	MOD	REVOLTE/ISSUE	EXPIR. DATE
A		X				

Table B: Other NJPDES Permits Associated With This Facility

DISCHARGE CATEGORY CODES	NJPDES PERMIT NUMBER	EXPIR. DATE	PENDING

7. Favorable Consistency Determination (CD) or WQMP Amendment Approval

Only For New Facilities, Expansions or Existing Discharge Location Change

	Existing Y/N/NA	Applied for Y/N/NA
Consistency Determination	X	Y - 03/14
WQMP Amendment		4/24/17

8. Other Permits

If any of the following applications have been submitted for this facility/site, complete the applicable information.

Permit Type	Application No. (if assigned)	Application Status		
		Approved	Denied Date	Pending Date
● Potable Water Supply Well				
● Hazardous Waste Management Program				
● Prevention of Significant Deterioration (PSD)				
● Nonattainment Program, Clean Air Act				
● National Emission Standards - Hazardous Pollutants				
● Dredge/Fill Permits - Federal Act Section 404				
● Relevant Environmental Permits - Including Federal, State, & Local Approvals - Specify:				

9. Industrial Classification Code(s):

SIC Code #	NAICS Code #	Products or Service Provided by Facility/Site
4652	221320	Sewage Treatment Facilities

10. Water Supply/Discharge Information

RAW WATER SOURCES: Please check all that apply.

Public Water Supply: Name of the water utility NJ American

Private Wells

Surface Water: Name of the water body(s) _____

A) Is this facility/site connected to a sanitary sewer? Yes No

If yes, list name, address, and phone number of receiving wastewater treatment plant: _____

B) Does this facility discharge to a storm drainage system? Yes No

If yes, please check Public Private

C) Does this facility discharge to surface water? Yes No

D) Does this facility discharge to ground water? Yes No

E) For Sewage Treatment Plants:

i) Do you have combined sewers in your sewer service area? Yes No

ii) Do you have any outfalls in the combined areas? Yes No

11. Monitoring Report Form Recipient Address	12. NJPDES Permit Fees
(Check if same as No. 1 <input checked="" type="checkbox"/> / No. 2 <input type="checkbox"/> / No. 3 <input type="checkbox"/>)	(Check if same as No. 1 <input checked="" type="checkbox"/> / No. 2 <input type="checkbox"/> / No. 3 <input type="checkbox"/>)
Organization name and address: _____ _____	Organization name and address: _____ _____
Contact Name: _____	Contact Name: _____
Phone: _____	Phone: _____
Fax: _____	Fax: _____
E-Mail: _____	E-Mail: _____

13. Licensed Operator(s) (If Applicable)

Name _____ N.J. License No. _____

Affiliation _____

Mailing Address _____

City or Town _____ State _____ Zip Code _____

Telephone (_____) Fax (_____) E-Mail _____

14. Applicant's Agent (Optional)

The person listed below is authorized to act as agent/representative in all matters pertaining to this application.

Name _____
 Company _____
 Mailing Address _____
 City or Town _____ State _____ Zip Code _____
 Telephone () _____
 Signature of Agent _____ Date _____
 Signature of Applicant _____ Date _____

15. Property Owner's Certification (For DGW Permits Only)

I hereby certify that _____ owns the property identified in (d.) below. The
 (Property Owner's Name)
 owner grants permission for the activity to be permitted under this application and authorizes the Department to conduct on-site inspections, if necessary.

In addition, I certify: (check "yes" or "no")

a. The activity will take place in an easement?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

b. Part of the entire project (e.g. pipeline, disposal area, wells, etc.) is or will be located within property owned by the State of New Jersey?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

c. Part of the entire project (e.g. pipeline, disposal area, wells, etc.) is or will be located within property owned by a municipality or county? If yes, contact the Green Acres Program at (609) 984-0500 for a determination.

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

d. Lot (s) _____ Block (s) _____

Note: If "yes" to statements a, b, or c, the applicant must provide evidence of obtaining permission from the other property owners (include copy with this application).

Signature for Owner _____ Date _____

Print or Type Name & Position

16. Electronic Communications

Are you interested in receiving communications related to the issuance of this Permit or Authorization through electronic means? Please refer to the attached *Agreement to Do Business Electronically* on page 8. Yes No

17. Certification by Applicant

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

Signature for Applicant _____ Date 7/29/14 _____
 Peter Ylvisaker, Executive Director
 Print or Type: Name and Position

INSTRUCTIONS FOR COMPLETING FORM NJPDES - 1

This form must accompany all NJPDES permit applications and Requests for Authorizations (RFA) - (excluding RFAs for Stormwater General Permits which use different forms).

1. **Applicant (s)/Operating Entities** - Provide the name, as it is legally referred to, of the operating entity(ies) that is the applicant(s) in your application for the NJPDES permit. An "operating entity" is any firm, public agency, individual, or other entity which, alone or along with other operating entities, has primary management and operational decision-making authority over any part of a facility/site.

It is the duty of the operating entity(ies) to obtain a NJPDES permit. When a facility/site or activity is owned by one or more entities, but is currently operated by another entity(ies), it is the duty of the operating entity(ies) to obtain a NJPDES permit. If the facility/site named in Item 3 has an operating entity(ies) which is not an applicant submitting your application, attach an additional sheet that contains a statement to that effect and as much Item 1 information as you have about that operating entity(ies).

Provide the mailing address of the applicant(s). If the mailing address is outside the United States, provide the correct foreign mailing address. Provide the 9-digit Federal Tax Identification Number (also called Federal Identification Number) assigned to the applicant(s) by the IRS for tax reporting purposes. Provide the telephone number and e-mail address of the applicant(s). If the applicant(s) has a parent corporation(s), provide that parent corporation's name, place of incorporation, contact person and contact person's e-mail address.

2. **Property/Land Owner(s)** - Provide the legal name of the owner(s) of the property/land upon which the discharge is controlled and/or taking place. A "Property" includes all contiguous lots and blocks, including vacant land, owned or otherwise under the control of the owner or operating entity of the regulated facility. Provide an owner contact person, telephone number and email address for the contact person. NOTE: For all DGW applications, the property owner where the discharge takes place must also sign item 14.

3. **Location of Facility/Site** - Provide the location of the facility/site. Street number and name must be used (PO Box numbers will not be acceptable). Use the municipality and county where the facility/site is physically located. Do not use local or neighborhood names. Please provide the lot and block numbers.

4. **Facility Contact** - Identify a person the Department can contact for facility/site related information. This person should be familiar with the content of the application. Include a telephone number, fax number and an email address. Also, please provide at least one emergency contact person (available 24 hours/day) with telephone numbers and email addresses.

5. **Project and Discharge Description (Under This Application)** - Provide a brief description of the project relating to this application (e.g., municipal sewage treatment plant, factory, shopping center, school, housing development, restaurant, etc.). For each discharge which is the subject of this application, provide the general type of waste discharged (e.g., sanitary, industrial, sludge, etc.) including non-contact cooling water. If requesting a modification to your permit, state the reason for such.

6. **Requested NJPDES Permitting Action and Other NJPDES Permits** - Under Table A, for each requested permit action under this application, list each discharge activity associated with this facility/site in the left column using the discharge activity category codes listed in the Discharge Activity Category Sheet (i.e., A, AB, CSO, etc.) and check the requested permit action (new, renewal, etc.). Under Table B, list currently held permits and/or pending applications for this facility/site. For existing permits, list permit number(s) and expiration date.

7. **Consistency Determination (CD)** - For new facilities, expansions or existing discharge location changes, submit evidence that a Water Quality Management Plan (WQMP) amendment approval, or favorable CD has been applied for and/or received; or indicate the reasons otherwise.

8. **Other Permits** - This section provides the Department with a facility's permitting status and history. Next to each permit type, list the application number and the date of the approval or denial in the appropriate column. If the application is still pending, place a check in the far right hand column.

9. **Standard Industrial Classification Code** - List, in descending order of priority, up to four 4-digit Standard Industrial Classification (SIC) codes or the North American Industrial Classification System (NAICS) which best reflect the principal products or services provided by the facility/site. The following websites are available to research these codes: www.dhs.gov/sic (SIC only) and www.dhs.gov/naics (look at "Crosswalks" on the right side).
10. **Water Supply/Discharge Information** - Provide pertinent information.
11. **Monitoring Report Form (MRF) Recipient** - If you wish to receive MRF notices at a different address than #1, complete #11.
12. **NJPDES Permit Fees Recipient** - If you wish to receive Billing Notices at a different address than #1, complete #12.
13. **Licensed Operator (If Applicable)** - Provide information pertaining to all licensed operator(s) of the treatment work(s).
14. **Applicant's Agent (Optional)** - Identify the person who is authorized to act as agent/representative in all matters pertaining to this application. Both the agent and the authorized official of the applicant must sign.
15. **Property Owner's Certification (For DGW Permits Only)** - Provide this certification for the property where the discharge takes place.
16. **Electronic Communications** - If you wish to do business with the Department through electronic means, please check "yes" and refer to the Agreement to Do Business Electronically on page 8.
17. **Certification by Applicant** - The certification must be made by the applicant(s) for the NJPDES permit. The applicant(s) is the operating entity(ies) for the facility/site (see item 1 instructions).

WHO MUST SIGN?

A Responsible Official is defined in N.J.A.C. 7:14A - 4.9 in part as follows:

For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities, provided:

- (1) The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of recommending major capital investment, initiating and directing comprehensive measures to assure long term compliance with environmental laws and regulations, and ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; or
- (2) The authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: A general partner or the proprietor.

For a government agency: A ranking elected official; or the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator).

A duly authorized representative.

Should you need assistance in completing the application, please call the appropriate phone number listed below:

- | | |
|--|---|
| * Discharges to Surface Water (Industrial)
(609) 292-4860 | * Sludge and Residuals Issues
(609) 633-3823 |
| * Discharges to Surface Water (Municipal)
(609) 292-4860 | * Discharge to Sanitary Sewer (SIU)
(609) 633-3823 |
| * Discharges to Surface Water (Stormwater)
(609) 633-7021 | * Discharges to Ground Water
(609) 633-7021 |

Discharge Category Codes

For completing the left columns in the NJPDES 1 Form, item 6, tables A and B

Discharge to Surface Water (DSW)
• A Domestic Surface Water Discharge
• CSO Combined Sewer Overflow
• B Industrial/Commercial/Thermal DSW
• ABR General Recycled Water for Beneficial Reuse Permit Authorization
• B4B GW Petroleum Products Cleanup GP
• BGR General Remediation Clean-up GP
• CG Non-Contact Cooling Water GP
• EPW Consolidated Potable Water Treatment Plant GP
• ASC Consolidated School Permit
• PGP Pesticides Application Discharge GP
Discharge to Ground Water (DGW)
• GW Discharge to Ground Water
• T1 GP Sanitary Subsurface Disposal
• H1 GP Stormwater Basins/Sanitary Landfill
• I2 GP Potable Water Treatment Plant Basin/Drying Beds
• LSI Lined Surface Impoundment
• K2 GP Dental Facilities Onsite Wastewater Treatment Systems
Discharge to Sanitary Sewer (SIU)
• L Discharge to Sanitary Sewer (SIU)
Residuals
• D Land Application of Biosolids - Class B
• V Land Application of Biosolids - Class A
• E Land Application of Industrial Residuals
• Z Residuals Transfer Facilities
• 04 Residuals Phragmites Reed Beds
• EG Land Application Food Processing Residual GP
• ZG Residuals Transfer Facilities GP
• 4G Residuals Phragmites Reed Beds GP
• S4G Sludge Quality GP - Category 4
Stormwater Discharges
• RF Stormwater
General Stormwater Discharges:
• CPM Concrete Products Management GP
• SM2 Scrap Metal Processing/Auto Recycling GP
• SG2 Stormwater Basic GP
• SG3 Construction Activity Stormwater GP
• R4 Hot Mix Asphalt Producers GP
• R5 Newark Airport Complex GP
• R7 Wood Recyclers
• R8 Concentrated Animal Feeding Operations (CAFO) GP
• R9 Tier A Municipal Stormwater GP
• R10 Tier B Municipal Stormwater GP
• R11 Public Complex Stormwater GP
• R12 Highway Agency Stormwater GP
• R13 Mining and Quarrying Activity GP
• RVR Vehicle Recycling GP

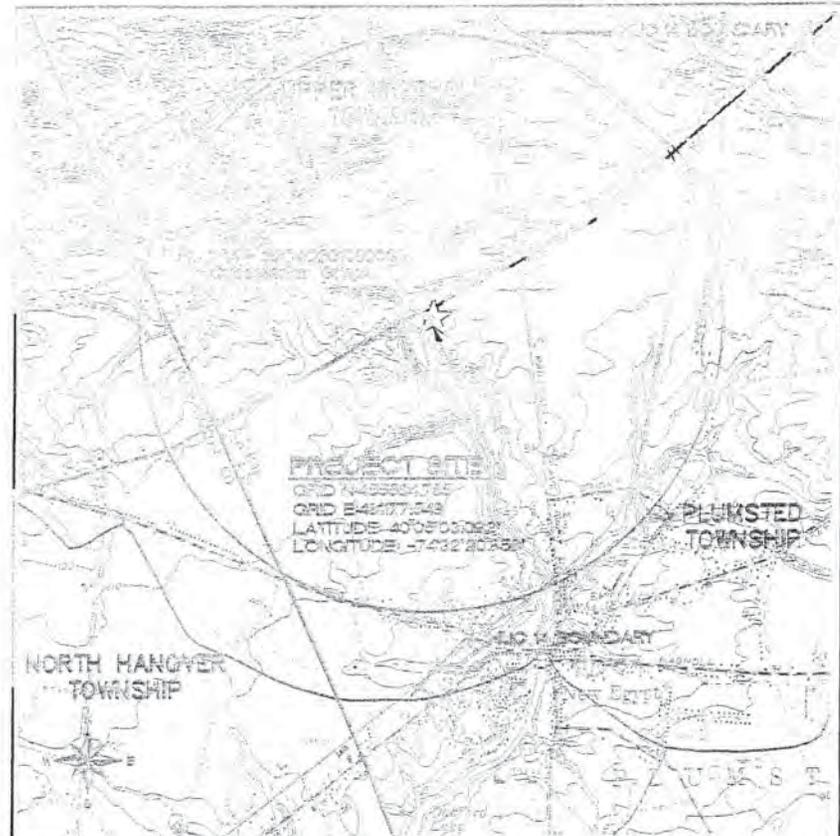
Agreement to Do Business Electronically
Division of Water Quality (DWQ) Issuance of NJPDES Permit NJ _____

- Electronic Communications:** Communications related to the Issuance of this DWQ NJPDES Permit or Authorization under a General Permit may be presented, delivered, stored, retrieved, and transmitted electronically. By signing this agreement, you agree that the New Jersey Department of Environmental Protection (Department) may send communications to you electronically (e.g. by e-mail and/or by notification of posting at one or more websites). The term communications means any notice, record, response or approval, or other type of information that is made available to you or received from you in connection with the Permit or Authorization.
- Limitations:** This agreement is limited to the processing of the DWQ NJPDES Permit Number cited above and does not extend to other transactions that you may have before the Department nor does it affect transactions offered through the Department's internet portal.
- Agreeing to Do Business Electronically:** The decision whether to do business electronically is yours, and you should consider whether you have the required hardware and software capabilities described below.
- Hardware and Software Requirements:** In order to access and retain an electronic record of communications, you will need: a computer, a valid connection to the Internet, Internet browser software, and a valid Email address. By agreeing to do business electronically, you are confirming to us that you have the means to access, and to print or download, communications.
- Withdrawal of Agreement:** You have the right to withdraw your agreement to do business electronically at any time by notifying the Department via email to NJPDES_ADBE_signup@dep.state.nj.us, in writing by certified mail (return receipt requested) to the address below, or by other means that provide verification of the date of delivery to the Department. Any communications between us during the period after your agreement to doing business electronically, and before our receipt of your withdrawal of such agreement, will be valid and binding on all parties.
- Changes to Your Contact Information:** You must keep the Department informed of any change in your electronic mailing address or other contact information. Such changes must be submitted on an Administrative Update Form available on the Department's website at <http://www.state.nj.us/dep/dwq/pdf/adm.pdf>.

Facility Name	
_____	_____
Contact Name	Title
_____	_____
Signature	Date
_____	_____
E-Mail Address (print carefully)	Phone Number

Please complete this form in its entirety. The signed form can be scanned and emailed to NJPDES_ADBE_signup@dep.state.nj.us or, alternatively, mailed to:

Mail Code: 401-02B
 Permit Administration Section
 Division of Water Quality
 P.O. Box 420
 Trenton, New Jersey 08625-0420



SOURCE:
 New Jersey Geological Survey DGS99-1 Monochromatic BT-Mapped
 7.5 Minute Topographic Images of New Jersey File Name NJ077.

Van Cleaf
 ENGINEERING ASSOCIATES

CONSULTING CIVIL ENGINEERING
 ENVIRONMENTAL ENGINEERING
 LANDSCAPE ARCHITECTURE
 LAND SURVEYING
 PROJECT PLANNING
 LANDSCAPE ARCHITECTURE

800 WEST WINDING NEW JERSEY DRIVE
 3000 SOUTH BORDENTOWN NEW JERSEY
 08801-1000 TEL: 908-685-1100 FAX: 908-685-1101
 1000 WEST WINDING NEW JERSEY DRIVE
 3000 SOUTH BORDENTOWN NEW JERSEY
 08801-1000 TEL: 908-685-1100 FAX: 908-685-1101

USGS SITE LOCATION MAP
PLUMSTED TOWNSHIP MUA
BLOCK 40, LOT 4

GEODETIC:	NAD83 NEW JERSEY STATE PLANES, US FOOT
SCALE:	1" = 2,000'
DATE:	02-17-14
APPLICANT:	PLUMSTED TOWNSHIP MUA
MUNICIPALITY:	PLUMSTED
WATERCOURSE:	CROSSMOCKS CREEK
HUC 14:	02040201050030
QUADRANGLE:	NEW EGYPT
JOB NO.:	M-08-D-PL



SUPPLEMENTAL APPLICATION FORM TO NJPDES-1 FOR DOMESTIC NJPDES/DSW PERMITS

Refer to Appropriate Completeness Checklist and Instructions. Provide All Applicable Information.
Please Print or Type. (Attach additional sheets if necessary)

1. FACILITY NAME: Plumsted MUA WWTP		2. NJPDES NO. (NEW APPLICANTS LEAVE BLANK) NJ _____	
3. THE PERMIT APPLICATION SHALL INCLUDE:		a. LINE DRAWING	
		b. USGS MAP	
4. PLANT OUTFALL LOCATION: For each outfall from the treatment plant, list the latitude, longitude and the name of the receiving water.			
OUTFALL NUMBER	LATITUDE (deg. min. sec)	LONGITUDE (deg. min. sec)	RECEIVING WATER (name)
001			Crosswicks Creek
			FOR DEPARTMENT USE ONLY

5. DESCRIPTION OF RECEIVING WATERS (for each outfall):

- a. Outfall number: 001
- b. The receiving waterbody is: tidal non-tidal
- c. For non-tidal waterbodies, provide USGS receiving waterbody flow values(s) in cubic feet per second (cfs).
- MA1CD10 flow: _____ 5 _____ cfs
- MA7CD10 flow: summer (May 1 through October 31) _____ 6 _____ cfs
- winter (November 1 through April 30) _____ cfs
- MA30CD10 flow: summer (May 1 through October 31) _____ 8 _____ cfs
- winter (November 1 through April 30) _____ cfs
- 75th Percentile flow _____ 30 _____ cfs
- d. Total hardness of receiving stream at critical low flow (if available) 59.9 mg/L of CaCO₃



6. DESCRIPTION OF OUTFALL (for each outfall):

- a. Outfall Number: 001
- For discharges to estuaries and ocean:
- b. Distance from shore (if applicable) _____ feet
- c. Depth below surface (if applicable) _____ feet
- d. For nontidal receiving waterbodies provide the following information at this point of discharge during critical conditions (MA7CD10 flow):
- Summer: width 44.9 feet depth 1.73 feet velocity 0.0773 fps slope 0.00111
- Winter: width _____ depth _____ velocity _____ slope _____

e. Check one of the following:

- The outfall is totally submerged at all times. (for tidal and non tidal)
- The outfall is not submerged at any time. (for tidal and non tidal)
- The submergence of the outfall depends on the tidal stage (tidal only). Provide details on an additional sheet.
- Attachment: Yes No
- Other: Provide details on additional sheet. Attachment: Yes No
- Is outfall equipped with a diffuser? Yes No
- if Yes, single port multi-port

- f. Provide a diagram showing the outfall configuration and its position in the receiving waterbody during MA7CD10 flow (for non-tidal) or mean low flow and mean high tide (for tidal). Attachment: Yes No

- g. Does this outfall have either an intermittent or a periodic discharge? Yes No

If yes, provide the following information:

Number of times per year discharge occurs: _____

Average duration of each discharge: _____

Average flow per discharge: _____

Month in which the discharge occurs: _____

7. POPULATION:

List the municipalities or areas served (municipalities and incorporated service areas). Also list their populations or the total population served.

Name	Population Served
Plumsted Township	_____
_____	_____
_____	_____
_____	_____
_____	_____
Total population served:	0

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8. FLOW:

a. Design maximum daily influent flow rate 0.600 (in MGD)

Effluent flow rate Two Years Ago Last Year This Year

b. Monthly average flow rate (in MGD) _____

c. Maximum daily flow rate (in MGD) _____

Average estimated daily industrial flow rate (in MGD) _____

9. COLLECTION SYSTEM:

Indicate the type(s) of collection system(s) flowing into this treatment plant. Also estimate the percent contribution (by miles) of each.

Separate sanitary sewer 100 %
 Combined storm and sanitary sewer (if applicable) _____ %

Name	Type of collection system	Ownership
Plumsted MUA	Separate	Municipal
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. DISCHARGE OR DISPOSAL METHODS:

a. List how many of each of the following types of discharge points your treatment works uses:

- i. Discharges of treated effluent 1
- ii. Discharges of untreated or partially treated effluent _____
- iii. Combined sewer overflow points _____
- iv. Constructed emergency overflows (prior to the headworks) _____
- v. Other _____

b. Does your treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to surface waters of the State? Yes No

c. Does your treatment works land-apply treated wastewater? Yes No

d. Does your treatment works discharge or transport treated or untreated wastewater to another treatment works? Yes No

Describe the mean(s) by which the wastewater from your treatment works is discharged or transported to the other treatment works (e.g., tank, truck, or pipe etc.).

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If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

Contact person: _____ Title: _____

Phone number: _____

Provide the average daily flow rate from your treatment works into the receiving facility: _____ mgd.

For each treatment works that receives this discharge, provide the following:

Name: _____

Mailing Address: _____

Contact person: _____ Title: _____

Phone number: _____

Provide the NJPDES permit number of the treatment works receiving this discharge. NJ: _____

Provide the average daily flow rate from your treatment works into the receiving facility. _____ mgd.

e. Does your treatment works discharge or dispose of its wastewater in a manner not included in 10.a. - 10.d. above (e.g., underground percolation, well injection)? Yes No

If yes, state the method(s) of disposal: _____

11. BENEFICIAL EFFLUENT REUSE:

a. Is your facility currently beneficially reusing the effluent from the wastewater treatment facility? Yes No

If the answer is yes, answer items 1 and 2 below: If the answer is no, answer item 3 below:

1. Please list all beneficial reuse applications in which the effluent is currently being utilized (such as, street cleaning/dust control and sewer jetting, non-contact cooling water etc.)

2. What is the total annual average flow rate to all the beneficial reuse applications from your facility?
 _____ MGD

3. Would you be interested in beneficially reusing the effluent from the wastewater treatment facility?
 Yes No

If the answer is yes, answer items 4 and 5. If the answer is No, answer item 5 only.

4. Please list all the potential beneficial reuse opportunities in your service area.

Farming irrigation, aesthetic uses, recycle washing among others

5. Please identify potential obstacles for implementing the use of effluent in beneficial reuse applications.

Unknown at this time - perhaps permitting

12. INFLOW AND INFILTRATION: (if applicable)

Estimate average flow to the treatment plant from inflow and infiltration. 0 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

13. DESCRIPTION OF TREATMENT:

a. What is the highest level of treatment (if any) provided for the discharge from this outfall?

Secondary Equivalent to secondary
 Advanced Other

b. Indicate the following removal rates (as applicable):

Design BOD₅ removal or Design CBOD₅ removal 99 % Design N removal 98 %
 Design TSS removal 99 % Other _____ %
 Design Total P removal 99 %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe. Ultraviolet (UV) disinfection

If disinfection is by chlorination, is dechlorination used for this outfall? Yes No

d. Does the treatment plant have post aeration? Yes No

Provide a narrative description of the treatment the wastewater receives or will receive: (Also, indicate if the units are not made of impermeable materials such as, steel, concrete etc.)

The main influent pumping station will pump the influent flow to the screened EQ tank; equalizing flow over time to the subsequent units. A fine screen unit will screen out the larger solids prior to flowing to the MBR system where the majority of treatment takes place. A sidestream (50%) is sent to the RO system to remove more contaminants and TDS. That sidestream is combines with the 50% flow remaining from the MBR and then goes thru UV disinfection. That is followed by a reeration process to achieve a high dissolved oxygen concentration.

14. ENFORCEMENT/CORRECTIVE ACTIONS:

Identify each AO, ACO, JCO, NOV, DOWP (if known to the applicant), or other (OT) corrective or enforcement action(s) required by NJDEP, USEPA or any other governmental agency(ies), and provide a brief summary of the action.

DATE	ACTION	AGENCY	SUMMARY OF REQUIRED ACTION

15. IMPROVEMENTS:

Complete this table if you are required by federal, state or local authority to meet any implementation schedule for construction, upgrading or operation of the wastewater treatment equipment or practices, or any other environmental programs which may affect the discharges described in this application (i.e., permit conditions, administrative orders, etc.)

IDENTIFICATION OF CONDITIONS, AGREEMENTS, ETC.	AFFECTED OUTFALLS		DESCRIPTION OF PROJECT	FINAL COMPLIANCE DATE	
	DSN	SOURCES		REQUIRED	PROJECTED

16. EFFLUENT TESTING INFORMATION: Outfall Number: _____

EFFLUENT DATA - PART A

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE MONTHLY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum) (daily minimum)					
pH (Maximum) (daily maximum)					
Flow					
Temperature (Winter)					
Temperature (Summer)					

EFFLUENT DATA - PART B

POLLUTANT	AVERAGE WEEKLY DISCHARGE (OR DAILY MAXIMUM DISCHARGE FOR POLLUTANT WITH AN *)				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	ML/MDL
	Conc.		Units		Conc.		Units				
	Units	Mass	Units	Mass	Units	Mass	Units	Mass			
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.											
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5										
	CBOD-5										
FECAL COLIFORM											
TOTAL SUSPENDED SOLIDS (TSS)											
AMMONIA (Total as N) *											
CHLORINE PRODUCED OXIDANTS (CPO) *											
DISSOLVED OXYGEN											
NITRATE (Total as N)											
OIL and GREASE *											
PHOSPHORUS (Total as P)											
TOTAL DISSOLVED SOLIDS (TDS)											
HARDNESS (mg/L of CaCO ₃) (if applicable)											
Use these spaces (or a separate sheet) to provide information on other conventional or nonconventional compounds requested by the permit.											

EFFLUENT DATA - PART C

POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	ML/MDL	
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units				
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS.												
ANTIMONY 7440-35-0												
ARSENIC 7440-38-2												
BARIUM (fresh water discharge only) 7440-39-3												
CADMIUM 7440-43-8												
CHROMIUM 7440-47-3												
COPPER 7440-50-8												
LEAD 7439-92-1												
MANGANESE (saline water discharge only) 7439-95-5												
MERCURY 7439-97-8												
NICKEL 7440-02-0												
SELENIUM 7782-49-2												
SILVER 7440-22-4												
THALLIUM 7440-28-0												
ZINC 7440-66-5												
CYANIDE 57-12-5												
TOTAL PHENOLIC COMPOUNDS												
Use this space (or a separate sheet) to provide information on other metals requested by the permit.												

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EFFLUENT DATA - PART C											
POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	MLMDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units			
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN 107-02-06											
ACRYLONITRILE 107-13-1											
BENZENE 71-43-2											
BROMOFORM 75-25-2											
CARBON TETRACHLORIDE 56-23-5											
CHLOROBENZENE 108-90-7											
CHLORODIBROMOMETHANE 124-48-1											
CHLOROETHANE 75-00-3											
2-CHLOROETHYL VINYL ETHER 110-75-6											
CHLOROFORM 67-68-3											
DICHLOROBROMOMETHANE 75-27-4											
1,1-DICHLOROETHANE 75-34-3											
1,2-DICHLOROETHANE 107-06-2											
1,1-DICHLOROETHYLENE 75-35-4											
1,2-DICHLOROPROPANE 78-87-5											
1,3-DICHLORO-PROPYLENE 542-75-6											
ETHYLBENZENE 100-41-4											
METHYL BROMIDE 74-83-9											
TETRACHLORO-ETHYLENE 127-18-4											
TOLUENE 108-88-3											
TRANS-1,2-DICHLORO- ETHYLENE 156-50-5											

A

EFFLUENT DATA - PART C											
POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	MLMDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units			
VOLATILE ORGANIC COMPOUNDS											
1,1,1-TRICHLOROETHANE 71-85-5											
1,1,2-TRICHLOROETHANE 78-00-5											
TRICHLOROETHYLENE 75-01-6											
VINYL CHLORIDE 75-01-4											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL 59-50-7											
2-CHLOROPHENOL 85-67-8											
2,4-DICHLOROPHENOL 120-63-2											
2,4-DIMETHYLPHENOL 105-67-9											
4,6-DINITRO-O-CRESOL 534-52-1											
2,4-DINITROPHENOL 51-28-5											
2-NITROPHENOL 88-75-5											
4-NITROPHENOL 100-02-7											
PENTACHLOROPHENOL 67-88-5											
PHENOL 108-95-2											
2,4,6-TRICHLOROPHENOL 88-06-2											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit.											

A

EFFLUENT DATA - PART C

POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE			AVERAGE MONTHLY DISCHARGE			Total Number of Samples	ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Conc.	Units	Mass			
ACENAPHTHENE 85-20-6									
ACENAPHTHYLENE 208-95-8									
ANTHRACENE 120-12-7									
BENZIDINE 82-87-8									
BENZO(A)ANTHRACENE 85-55-3									
BENZO(A)PYRENE 50-32-8									
3,4-BENZO-FLUORANTHENE 205-99-2									
BENZO(G)HUIPERYLENE 191-24-2									
BENZO(K)FLUORANTHENE 207-08-9									
BIS (2-CHLOROETHOXY)- METHANE 111-91-1									
BIS (2-CHLOROETHYL)-ETHER 111-44-4									
BIS (2-CHLOROISO-PROPYL) ETHER 102-80-1									
BIS (2-ETHYLHEXYL) PHTHALATE 117-81-7									
4-BROMOPHENYL PHENYL ETHER 101-55-3									
BUTYL BENZYL PHTHALATE 85-69-7									
2-CHLORONAPHTHALENE 91-59-7									
4-CHLORPHENYL PHENYL ETHER 7005-72-3									
CHRYSENE 218-01-9									
DI-N-BUTYL PHTHALATE 84-74-2									
DI-N-OCTYL PHTHALATE 117-84-0									
DIBENZO(A,H) ANTHRACENE 83-70-3									
1,2-DICHLOROBENZENE 95-50-1									
1,3-DICHLOROBENZENE 561-73-1									
1,4-DICHLOROBENZENE 106-48-7									
3,3-DICHLOROBENZIDINE 81-94-1									

A

EFFLUENT DATA - PART C

POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units			
DIETHYL PHTHALATE 84-86-2											
DIMETHYL PHTHALATE 131-11-3											
2,4-DINITROTOLUENE 121-14-2											
2,6-DINITROTOLUENE 896-20-2											
1,2-DIPHENYLHYDRAZINE 122-85-7											
FLUORANTHENE 206-44-0											
FLUORENE 86-73-7											
HEXACHLOROBIENZENE 118-74-1											
HEXACHLOROBUTADIENE 87-69-3											
HEXACHLOROCYCLO- PENTADIENE 77-47-4											
HEXACHLOROETHANE 67-72-1											
INDENO(1,2,3-CD)PYRENE 193-39-5											
ISOPHORONE 78-59-1											
NAPHTHALENE 91-20-3											
NITROBENZENE 98-95-3											
N-NITROSODI-N-PROPYLAMINE 621-64-7											
N-NITROSODI- METHYLAMINE 62-75-9											
N-NITROSODI-PHENYLAMINE 86-30-6											
PHENANTHRENE 85-01-8											
PYRENE 129-00-0											
1,2,4-TRICHLOROBIENZENE 120-82-1											
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit.											

EFFLUENT DATA - PART C											
POLLUTANT CAS REGISTRY NUMBER	MAXIMUM DAILY DISCHARGE				AVERAGE MONTHLY DISCHARGE				Total Number of Samples	ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units			
PESTICIDE COMPOUNDS:											
ALDRIN (309-00-7)											
ALPHA-BHC(316-84-8)											
BETA-BHC(316-85-7)											
GAMMA-BHC(56-89-9)											
DELTA-BHC (316-86-8)											
CHLORDANE (67-74-9)											
4,4'-DDE (60-20-5)											
4,4'-DDE (72-55-9)											
DIELDRIN (60-57-1)											
ALPHA-ENDOSULFAN (115-29-7)											
BETA-ENDOSULFAN (115-29-7)											
ENDOSULFAN SULFATE (1031-07-8)											
ENDRIN (72-20-8)											
ENDRIN ALDEHYDE (7421-93-4)											
HEPTACHLOR (76-44-8)											
HEPTACHLOR EPOXIDE (1024-67-3)											
PCB-1242 (53469-21-9)											
PCB-1254 (11097-89-1)											
PCB-1221 (11104-28-2)											
PCB-1232 (11141-16-5)											
PCB-1248 (12572-28-6)											
PCB-1260 (11096-82-5)											
PCB-1016 (12674-11-2)											
TOXAPHENE (8001-35-2)											
Use this space (or a separate sheet) to provide information on other pesticide compounds requested by the permit.											

17. BIOLOGICAL TOXICITY TESTING DATA:		
Number of whole effluent toxicity tests conducted in the past three years.		<input type="checkbox"/> Acute <input type="checkbox"/> Chronic
List the whole effluent toxicity tests done in the past one year.		
DATE OF TEST	TYPE OF TEST	RESULT OF TEST

18. CERTIFIED LABORATORY:			
Complete the table below for all analyses reported in this application.			
NAME OF CERTIFIED LAB.	TELEPHONE #	CERTIFICATION NUMBER	POLLUTANT(S)/CATEGORIES ANALYZED

19. INDUSTRIAL USER DISCHARGES:
All treatment works receiving discharges from significant indirect users must complete the following.

- a. Pretreatment Program. Does your treatment works implement an NJDEP approved pretreatment program?
Yes No
- b. Number of Significant Indirect Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to your treatment works.
 - 1. Number of non-categorical SIUs. _____
 - 2. Number of CIUs. _____

A

20. COMBINED SEWER SYSTEMS:

If your treatment works has combined sewer overflow discharge points and are authorized under this individual permit complete the following. If not, go to the next item.

Complete the following for each CSO discharge point/outfall:

Outfall Number:

Check when overflow occurs and provide the following information:

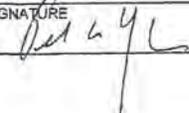
Wet weather Dry weather

- Number of CSO events in the last year. Number of CSO events in the last year.
Events (___ actual or ___ approx.) Events (___ actual or ___ approx.)
 - Average overflow duration per CSO event. Average overflow duration per CSO event.
Hours (___ actual or ___ approx.) Hours (___ actual or ___ approx.)
 - Average overflow volume per CSO event. Average overflow volume per CSO event.
Million gallons (___ actual or ___ approx.) Million gallons (___ actual or ___ approx.)
- Minimum rainfall that caused a CSO event in the last year:
_____ inches of rain fall

21. CERTIFICATION BY THE APPLICANT:

For Plumsted Municipal Utilities Authority
NAME OF APPLICANT/OPERATING ENTITY (Type or Print)

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

NAME (TYPE OR PRINT) Peter Ylvisaker	TITLE (TYPE OR PRINT) Executive Director
SIGNATURE 	DATE 2/24/14
	PHONE (609) 758-2241

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 1
(new applicants leave blank) DOMESTIC

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY
FORM R GENERATOR - DOMESTIC
(FOR USE WITH DISCHARGE CATEGORIES A, DGW, I4, 4G, S2G, S3G AND S4G)

Refer to Appropriate Completeness Checklist and Instructions. Provide All Applicable Information.
If you need assistance in completing Form R, contact the Bureau of Pretreatment and Residuals at (609) 630-3823.
Please Print or Type. (Attach additional sheets if necessary)

SUPPLEMENTAL APPLICATION FORM TO NJPDES-1 FOR NJPDES RESIDUAL PERMITS

PART A. GENERAL INFORMATION

A1. Screening Information

Does/will the facility generate a residual (including septage from a septic tank) as a by-product of the treatment of domestic wastewater?

Yes No

Residual means a solid waste that consists of the accumulated solids and associated liquids which are by-products of a physical, chemical, biological, or mechanical process or any other process designed to treat wastewater or any other discharges subject to regulation under the State Act. For purposes of this form residual includes, but is not limited to, domestic sewage sludge and domestic septage.

If you answered "no", only complete and submit this page and a signed certification page (Part C). (Note, however, industrial residual generators, including treatment works designed to treat drinking water, must complete Form R Generator - Industrial.)

A2. Facility Information

- Name of facility: Plumsted MUA WWTP
- Facility contact: Name: Peter Ylvisaker
Title: Executive Director Phone: 609-758-2241 ext 132
Email (optional): peterylvisaker@aol.com
- Facility location: Street or Route #: 933 Route 537
County: Ocean
City or town: New Egypt State: NJ Zip: 08533
- Facility mailing: Street or Route #: 121 Evergreen Road
City or town: New Egypt State: NJ Zip: 08533
- Facility design influent flow (wastewater) rate: 0.600 mgd
- Is wastewater treatment at this facility limited only to a septic tank treating domestic wastewater?
 Yes No

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R-2
(new applicants leave blank) DOMESTIC

PART B. GENERATION OF RESIDUAL

B1. Residual Amount Generated On Site

- a. Is there any industrial flow included in the influent to the domestic wastewater treatment plant?
 Yes No (if yes, percent of total influent flow: _____%)
- b. Volume and types of residual and/or grit and screenings generated on-site:
Sewage sludge (dry metric tons per 365-day period): _____
Domestic septage (gallons per 365-day period): _____
Other (describe _____): (dry metric tons per 365-day period): _____

B2. Types of Residual Received from Off Site

- a. Please indicate if your facility receives, or will receive, the following types of residuals from another facility for treatment, use, or disposal.
- | | | | |
|-------------------------|---|-------------------|---|
| Liquid Sewage Sludge | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Grease | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Dewatered Sewage Sludge | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Industrial Sludge | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Domestic Septage | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Other: _____ | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
- b. Describe the location(s) where customer residuals are added and indicate on line drawing required in B4 below (attach additional pages if necessary).
- _____
- _____
- _____

B3. Types of Residual Removed from Your Site

Where a facility generates different types of residuals that are removed separately for use or disposal, separate composite samples for each different type of residual shall be analyzed and reported pursuant to SQAR.

Does/will the facility remove more than one type of residual? Yes No

If yes, please describe the different types of residuals (attach additional pages if necessary).

Grit and screenings will be collected separately from sewage sludge.

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R-3
(new applicants leave blank) DOMESTIC

B4. Line Drawing

- a. Attach a detailed line drawing of residual flow through the facility that identifies all units where residual is generated and all residual treatment units, including all processes used for collecting, dewatering, storing, or treating residual, and the destination(s) of all liquids and solids leaving each unit (include on the line drawing the point where any chemicals are added and the type of chemical that is added).
- b. Provide a narrative description of the line drawing required in B4.a above, including information on any blending, treatment, or other activities that may change the quality of the residual (attach additional sheets as necessary):
Residuals will be generated from both screens and will be primarily larger solids, plastics, cigarette butts, rags, grit and other debris that is not small enough to pass through the rough and fine screen. Sludge will be generated as a byproduct of the treatment system and consist of waste sludge from the process. Both of these waste streams will be land filled unless an opportunity arises that makes it possible for land application. There will be a reject stream from the RO and RO concentrator unit that will be hauled to the Mt. Holly MUA for subsequent treatment and disposal.
- c. Provide a description of residual use and disposal practices:
Landfilling of sludge and residuals is anticipated unless land application opportunities exist locally. RO reject will be hauled to Mt. Holly.
- _____
- _____

B5. Contractor Information

Are any operational or maintenance aspects of this facility related to residual generation, treatment, use or disposal the responsibility of a contractor (include current contractor(s) for hauling and/or use or disposal)?

Yes No

If yes, provide the following for each contractor (attach additional pages if necessary).

Name: _____

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

Phone Number: _____

Responsibilities of contractor (if out-of-state use or disposal, provide permitting authority contact and permit number):

Hauling and disposal only.

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 4
(new applicants leave blank) DOMESTIC

B6. Residual Quality Information

SEPTAGE ONLY FACILITIES OR DOMESTIC TREATMENT WORKS WITH A PERMITTED FLOW LESS THAN OR EQUAL TO 20,000 GPD SKIP TO PART C - ALL OTHER DOMESTIC TREATMENT PLANTS CONTINUE FROM B6

For new facilities, a residual sample must be taken; analyzed for the metals and other selected chemical parameters listed in Appendix, Table I of the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C); and reported within 90 days of the start of operation.

B7. Residual Sampling Plan

Each domestic treatment works shall develop and maintain on file a residual sampling plan that details its sampling and analytical procedures (SQAR at N.J.A.C. 7:14C-1.5).

- a. Describe the intended sampling location(s) and the rationale for choosing such location(s) (Where a treatment works generates different types of residuals that are removed separately for use or disposal, or where a treatment works accepts customer sludge or septage, separate sampling points for each different type of residual may need to be established):

The fine screen solids will be sampled on a whatever schedule is required by NJDEP/Disposal site.

Depending on the disposal site, the frequency could be as much as weekly.

- b. Describe the sampling equipment to be used (sampling device, container type and size, and container cover):

The contract laboratory will supply the proper container size and requirements for taking the sample.

- c. Describe the procedure to be used for cleaning/decontamination of sample containers and sampling equipment (See *New Jersey Sludge Sampling and Analytical Guidance Document*, Chapter 4):

The contract laboratory will supply clean glassware for all sampling analyses and will clean and set up the compliance sampling routine and protocol and drive the samples to the laboratory for analyses.

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 5
(new applicants leave blank) DOMESTIC

B7. Residual Sampling Plan continued

- d. Describe in detail the procedure to be used for collecting the sample(s) to ensure the sample obtained for analysis is representative of the residual removed for use or disposal, include a schedule for days and times of sample collection, the procedures to be used to obtain a representative sample from the chosen sampling point, and the procedures to be used to mix composite samples (See *New Jersey Sludge Sampling and Analytical Guidance Document*, Appendix E):

This will be done by an outside contract laboratory.

- e. Describe the sampling method(s) (that is, Grab v. Composite), the number of samples to be taken per sampling event and the interval between grabs (include sample size by weight or volume.), and the frequency of the sampling event(s). (Note, different parameters or groups of parameters may require different sampling methods and/or locations.):

Representative grab samples will be taken of sludge, fine screen screenings and RO reject unless otherwise directed by the contract laboratory.

- f. Provide the name of the person who will take the sample(s) and his/her qualifications:

Contract laboratory

- g. Provide the name and address of all laboratories to be employed, including sub-contracting laboratories (if multiple labs, indicate which groups of parameters each lab is responsible for):

Probably QC Labs

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 6
(new applicants leave blank) DOMESTIC

B7. Residual Sampling Plan (continued)

h. Provide the frequency of analysis and the analytical methods requested for the following parameters. Note, sample holding times are indicated for use with your certified laboratory (see *New Jersey Sludge Sampling and Analytical Guidance Document, Appendix A*, for additional information, including information on Target Reporting Levels²).

PARAMETER	FREQUENCY OF ANALYSIS	ANALYTICAL METHOD	HOLDING TIME
Total Solids, (percent by weight)		SM Method 2540G	7 days
Arsenic, total			6 months
Beryllium, total			6 months
Cadmium, total			6 months
Cobalt, total			6 months
Chromium, total			6 months
Copper, total			6 months
Lead, total			6 months
Mercury, total		SW-846 Method 7471	28 days
Molybdenum, total			6 months
Nickel, total			6 months
Nitrogen, Total Kjeldahl (TKN)			28 days
Nitrogen, Ammonia (NH3-N)			28 days
Nitrogen, Nitrate (NO3-N)			28 days
Phosphorous, total			28 days
Potassium, total			6 months
Selenium, total			6 months
Zinc, total			6 months
Radionuclides (pCi/g) ¹			6 months
Dioxins and PCBs ¹		EPA Method 1613 and EPA Method 1668	14 days

¹case by case – see the SQAR, Appendix, Table I

²Target Reporting Level is a performance goal set greater than the lowest, technically feasible detection limit for routine analytical methods and equal to or less than the available regulatory criteria or guidelines. Detection limits reported by the analytical lab must be low enough to ensure that the presence of compounds of concern can be ruled in or ruled out at or below the predetermined limit.

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 7
(new applicants leave blank) DOMESTIC

DOMESTIC TREATMENT WORKS WITH A PERMITTED FLOW LESS THAN 1.0 MGD SKIP TO B7.i.- DOMESTIC TREATMENT PLANTS WITH A PERMITTED FLOW EQUAL TO OR GREATER THAN 1.0 MGD CONTINUE WITH B7.i.

i. Provide the frequency of analysis and the analytical methods requested for the following parameters. Note, sample holding times are indicated for use with your certified laboratory (see *New Jersey Sludge Sampling and Analytical Guidance Document, Appendix A*, for additional information, including information on Target Reporting Levels):

PARAMETER	FREQUENCY OF ANALYSIS	ANALYTICAL METHOD	HOLDING TIME
Antimony, total ¹			6 months
Silver, total ¹			6 months
Thallium, total ¹			6 months
Cyanide, total ¹			14 days
Volatile Organic Compounds ²			14 days
Acid Extractable Compounds ³			14 days
Base Neutral Compounds ⁴			14 days
Pesticides and PCB's ⁵			14 days

¹As required pursuant to the SQAR, Appendix, Table II

²As required pursuant to the SQAR, Appendix, Table III

³As required pursuant to the SQAR, Appendix, Table IV

⁴As required pursuant to the SQAR, Appendix, Table V

⁵As required pursuant to the SQAR, Appendix, Table VI

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 8
(new applicants leave blank) DOMESTIC

B7. Residual Sampling Plan continued

j. Describe the post-collection sample handling procedures employed to maintain sample integrity. This description should explain how the samples will be preserved and transported, how the holding times will be met, and whether a chain-of-custody is required (See *New Jersey Sludge Sampling and Analytical Guidance Document*, Appendix E):

Contract laboratory responsibility _____

k. Describe sample documentation procedures, specifically, describe those elements to be included in a field logbook (see *New Jersey Sludge Sampling and Analytical Guidance Document*, Appendix F):

Contract laboratory responsibility _____

l. Describe how the following elements of the sampling event will be reported to the certified laboratory:

- 1) What chemicals are added during sludge processing (alum, ferric chloride, lime, organic polymer etc.): None anticipated for thickening, however polymer could be utilized depending upon the solids level required.
- 2) analytical methods and target reporting levels (see above): Contract laboratory responsibility
- 3) treatment process conditions or deviations: Note any upsets/deviations
- 4) other: _____

m. Provide a description of record-keeping procedures. The description should explain what information will be retained and for how long, and how the information will be stored:

All records will be kept for a minimum of 7 years and will be stored at the WWTP and at the MUA offices

B8. Additional Information

Review the following to determine if additional Supplemental Form R applications are required to be submitted with this application.

1. FORM R: REED BEDS

Supplemental Form R: Reed Beds must be completed by applicants who own or operate a residual reed bed.

2. FORM R: SURFACE DISPOSAL

Supplemental Form R: Surface Disposal must be completed by applicants who own or operate a residual surface disposal site (active or inactive).

For copies of Supplemental Form R applications visit

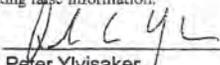
http://www.state.nj.us/dep/dwa/forms_residuals.htm. If you have specific questions or need assistance in completing any Supplemental Form R application, contact the Bureau of Pretreatment and Residuals at (609) 633-3823.

FACILITY NAME: Plumsted MUA WWTP NJPDES PERMIT NO.: _____ FORM R - 9
(new applicants leave blank) DOMESTIC

PART C: CERTIFICATION

Read and submit the following certification statement with this application.

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

Signature of Officer: 
Name of Officer: Peter Ylvisaker
(type or print)
Official Title: Executive Director
Telephone Number: (609) 758-2241 ext 132
Date Signed: 2/24/14

SOCIO-ECONOMIC ANALYSIS FOR THE PLUMSTED TOWNSHIP WASTEWATER TREATMENT PLANT
(NJPDES DISCHARGE PERMIT NJ 0226271)

PREPARED BY:

PLUMSTED MUNICIPAL UTILITIES AUTHORITY
121 EVERGREEN ROAD
NEW EGYPT, NJ 08533

VAN CLEEF ENGINEERING
32 BROWER LANE
P.O. BOX 5877
HILLSBOROUGH, NJ 08844

HDR HYDROQUAL
1200 MacArthur Boulevard
Mahwah, NJ 07430

May 30, 2014

1. THE PLUMSTED PROJECT

1.1 Project Background

In 1991, Plumsted Township created by Ordinance the Plumsted Municipal Utilities Authority (PMUA) and charged it with a number of tasks of which the provision of public wastewater and water facilities to New Egypt was central. In September 2009, the Township Committee and the PMUA entered into a Shared Service Agreement whereby the PMUA was authorized to investigate a proposed sewer service area plan as part of the Township's long term effort to stimulate the redevelopment of the state designated New Egypt Town Center (NETC).

Over the years, the PMUA and Plumsted Township have looked at various ways to provide public sewer to the NETC. The options evaluated by the PMUA included groundwater discharge, pumping the wastewater outside Plumsted Township to the Ocean County Utilities Authority northern sewage treatment plant via Jackson Township's MUA's pumping station at Great Adventure or the wastewater treatment facilities at the Joint Base McGuire, Fort Dix, Lakehurst (JBMDL) in Burlington County and surface water discharge to the Crosswicks Creek in Plumsted Township. A "No Build" alternative was also considered. Throughout this process, the PMUA and Township have been in constant contact with and received assistance from various representatives from the New Jersey Department of Environmental Protection (NJDEP) to find a viable solution which addresses the Township's need for a public wastewater system.

After significant effort and at an expense of greater than \$1,000,000 in studies and investigations on the various initiatives listed above, the PMUA and Plumsted Township determined that the only viable solution to address the critical need for wastewater facilities for the NETC was a surface water discharge to the Crosswicks Creek.

1.2 Project Description

The Redevelopment Plan adopted by the Township in 2004, as amended in 2005, provides the mechanism for the Township to realize a coordinated program of redevelopment and rehabilitation in the area of Plumsted Township designated by the State of New Jersey as the New Egypt Town Center (NETC). The original Town Center designation was approved in 1998 and a revised designation was approved in 2010. The purpose of the Redevelopment Plan is to provide a more vibrant, culturally interesting and attractive downtown to serve as a growth center to retail and attract new businesses and shoppers from within Plumsted Township and the surrounding environs. At the heart of the Redevelopment Plan is the need to provide sewer service and to expand water supply service to support the revitalization effort. Among the stated goals and objectives of the Redevelopment Plan for the sewerage of the NETC are to: 1) create a public sewer system within the Town Center to address public health and welfare issues caused by failing, inadequate or improperly designed septic systems and cesspools; and 2) to reverse the significant on-going economic decline of the downtown as the direct result of the absence of public sewer.

The provision of public sewer is required to remove the economic barriers to rehabilitated, new and expanded growth and to improve the environmental quality of Oakford Lake and the Crosswicks Creek. The nexus of the downtown is within the 100 year flood hazard area of Oakford Lake and the Crosswicks Creek. The related shallow depth to groundwater and small lot sizes which affect most of the NETC make it difficult to support and sustain the proper operation of septic systems and cesspools. Approximately 60% of existing septic systems and cesspools pre date 1969 when Ocean County began keeping records. As such, most of the septic systems and cesspools require

significant and costly repair or replacement. Added to this, many of the buildings and sewerage systems were created before current health codes that now require much larger lot sizes. In fact, downtown New Egypt and much of the NETC as it exists today would not have been permitted at anywhere near the existing density if modern health codes and zoning regulations had been in place at that time without a public sewer system. The adoption by the NJDEP in 2013 of more stringent regulations pertaining to cesspools only serves to exacerbate the existing problems. The provision of public sewer will provide an economic boost to the downtown, support and enforce the "Smart Growth" Initiative for Plumsted Township by channelling growth to the NETC and will eliminate the costly need for repair or replacement of failing septic systems and cesspools. For these reasons, the provision of public sewer in the NETC continues to be a high priority for Plumsted Township and the PMUA.

To fund the sewer improvements, the Township plans to utilize the Redevelopment Plan to establish a public/private partnership with a designated redeveloper to pay for the capital costs of the sewer infrastructure. A parcel within the NETC has been designated for redevelopment by the Redevelopment Plan. The parcel, referred to as the PRRC or Planned Residential Retirement Community, would be developed for approximately 400 active adult retirement homes. The Township is currently in discussions with Lennar Homes to develop this parcel. The Township has been unsuccessful in two earlier attempts with redevelopers to implement the Redevelopment Plan due to the inability to find a solution to dispose of the wastewater generated from the Town Center and PRRC development. In the absence of the Redevelopment Project to provide the funding for the planned sewer system, the Township would have to publicly finance the sewer infrastructure improvements through the sale of public bonds. This would pose an even greater hardship on the residents of Plumsted Township which is a transitional aid municipality which requires state aid to offset its budget shortfall.

1.3 Planning Consistency

As noted above, the proposed sewer improvements are within the state designated, approved NETC. The proposed sewer improvements are also consistent with the Plumsted Township Master Plan and Redevelopment Plan. The designated sewer service area is consistent with the sewer service area map adopted by Ocean County and approved by the NJDEP on February 7, 2013 and with the May 2014 Draft Ocean County Wastewater Management Plan (WMP).

2.0 WASTEWATER MANAGEMENT ALTERNATIVES

The projected wastewater flow for the NETC is 0.6 million gallons per day (mgd). The initial projected wastewater flow to serve the core downtown area, including the PRRC, is 0.3 mgd. As discussed below, an extensive review of various options to address the wastewater needs of the NETC has been undertaken.

2.1 Groundwater Discharge

A great deal of effort and money has been undertaken in pursuing a groundwater disposal option. In discussions with the NJDEP and the Delaware Valley Basin Commission (DRBC), this option was considered to be the more environmentally friendly option available and was vigorously pursued by the PMUA. After an extensive analysis of potentially suitable sites within the Township, three separate sites were identified and investigated. These sites were identified based on a number of

factors including: available acreage; soils: presence or absence of wetlands; presence or absence of threatened or endangered species and preserved farmland. The three sites identified are referred to as the Tower Road site; the Maple Avenue site; and the Lakewood Road site. A fourth site, the "Search Farm" had previously been looked at by the Centex Corporation (Redeveloper No. 1) for groundwater disposal. Two of the three sites investigated, the Search Farm and the Maple Avenue site, were found to have seasonally high water tables and other limiting conditions which eliminated these sites from consideration. The Tower Road site was eliminated from investigation due to steep slopes and the presence of bog turtles (an endangered species) which were found near the site. The Lakewood Road site was found to have some potential to serve as a groundwater discharge site. However, several issues including the limited disposal capacity (0.25mgd), coupled with public concerns that the GWD field may aggravate flooding issues experienced in a nearby residential subdivision, Green Acres and Preserved Farmland access issues to the site, the higher projected capital costs associated with this alternative as well as its land intensive nature led the PMUA to reject this site and turn to other potential disposal and treatment options.

2.2 Great Adventure Pump Station to OCUA

After exhausting all options for groundwater disposal, the PMUA and Township met with the NJDEP and the DRBC to explore the feasibility of other options for disposing of the projected wastewater. The Great Adventure Option would involve the construction of an approximately nine (9) mile force main from downtown New Egypt to connect to the Jackson Township Municipal Utilities Authority pump station at Six Flags Great Adventure Park in Jackson Township near Route 195. From there, the wastewater would be pumped, thru a series of pump stations, to the Ocean County Utilities Authorities Northern Treatment Facility in Brick Township; a further distance of approximately 25 miles. This option would result in an inter-basin transfer of water from the Delaware River Basin to the Atlantic Basin. While an inter-basin transfer is permitted it is also not encouraged. The DRBC generally opposes this option because of the possible impacts to the Delaware River. An analysis of the construction and operating costs for this option found that this option would result in higher construction costs and the highest cost to operate of any possible option. The Township and PMUA were also concerned with future costs to increase the pumping capacity of the existing pump station at Great Adventure to serve all of Plumsted's designated Town Center and the uncertainty of future operating costs which could be assessed by the OCUA or the Jackson Township Municipal Utilities Authority and not within the PMUA's control.

2.3 Joint Base McGuire-Dix-Lakehurst (JBMDL)

This option would involve the construction of an approximately four (4) mile long force from downtown New Egypt thru North Hanover and New Hanover Townships in Burlington County to the JBMDL pump station located off of Mount Road. The wastewater would be treated at JBMDL's Texas Road Wastewater Treatment Plant which was constructed in 1995 with a treatment capacity of 4.6 mgd. The treated wastewater would be disposed by groundwater discharge at existing recharge basins located on JBMDL. There are twelve (12) existing basins designed for disposal of 4.6 mgd. However, JBMDL operators report that two (2) and possibly three (3) of the twelve (12) recharge basins are not working properly. The functioning capacity of the recharge basins is thought to be approximately 3.3 mgd. The projected immediate and short term of need JBMDL and the three adjacent municipalities of 3.5 MGD exceed the present ability to serve the projected need by approximately 200,000 gallons per day (gpd). In 2007 when the Township and PMUA first approached the JBMDL to explore the viability of this option, senior officials informed the Township there was no excess capacity to service the Townships needs. In 2009, the development of the Joint

Base Regional Wastewater Growth and Management Plan was recommended by the Joint Land Use Study funded by the United States Department of Defense (JLUS) and managed by the Ocean County and Burlington County Planning Departments. In recent meetings and discussions with Assistant Secretary Ferguson of the United States Air Force and Colonel Hodges, the current commander of JBMDL, it appears unlikely that a decision to approve the Township's request to connect to the existing facilities at JBMDL is likely to be made. This is due, in part, to the uncertainty regarding the capacity of the recharge basins and how that may affect the ability of JBMDL to support its present and future mission. In addition, the Township is concerned that the expense related to the repair or replacements of the recharge basins capacity as well as JBMDL's desire to re locate the Texas Road Treatment Facility to allow for other development to support JBMDL's mission will be costly and exceed the ability of Plumsted to afford this option. As such, due to timing and cost issues, it is felt this option is not available.

2.4 No Build Option

The provision of sewer will benefit New Egypt by eliminating a major cause of its years of economic decline. The benefits of a sewer system will also extend to the entire Township. A stronger NETC will increase the Township's overall tax rateable base, improve employment opportunities, provide residents with convenient and expanded retail and service businesses, improve environmental conditions in the downtown and support the Smart Growth initiatives the Township has long sought to achieve. For these reasons, the compelling public need to provide sewers in New Egypt are reaffirmed. The Township and PMUA are also cognizant of the possibility if Plumsted Township does not move forward to provide public sewers that the State of New Jersey may ultimately mandate the provision of sewer in the designated Town Center to address existing degradation of water quality in the Crosswicks Creek and Oakford Lake caused by failing septic systems and cesspools. Further regulations affecting individual discharges are becoming more restrictive. The provision of sewer will eliminate the possibility of future costly repair or replacement.

2.5 Surface Water Discharge

After exhausting all options for wastewater disposal as discussed above, the Township and PMUA concluded a surface water discharge to the Crosswicks Creek was the last and best suited option to provide for the immediate and future need of the NETC for sewer. The Crosswicks Creek is designated a FW2-NT (non-trout) water body. This decision was based, in part, on discussions with the NJDEP and DRBC in November and December of 2010 where the PMUA was told that, in fact, a surface water discharge permit could be permitted although no new surface water discharge permit had been issued by the NJDEP in over ten (10) years. In 2007, the NJDEP had discouraged the Township from considering this option while other more "environmentally friendly" options existed. Based on this new information and with other options exhausted, the PMUA assessed the advantages of a SWD and determined it would allow Plumsted Township to own and operate the system separate from the control of other agencies, the system becomes an asset for the Township and the discharge could meet the existing and future needs of the NETC for wastewater disposal. Another factor considered in favor of this option was the willingness of a landowner to locate the sewage treatment plant on a site located on County Route 537 where it crosses over the Crosswicks Creek. The site is well suited for wastewater treatment and disposal due to its proximity to Route 537 for access and the Crosswicks Creek for discharge. The site is located in an area zoned for commercial/industrial use with only two (2) residential properties located within ¼ mile of the proposed wastewater treatment facility. As discussed in greater detail in Section 3, the level of treatment to be provided prior to discharge has been specified by the NJDEP in their letter dated

January 13, 2014. NJDEP's approval is based on the Anti-Degradation Quality Assurance Plan (QASP) Plan for the Crosswicks Creek which included site specific stream water quality studies completed in fulfillment of NJDEP's requirements for the issuance of a surface water discharge permit.

3.0 ANALYSIS OF ACHIEVABLE TREATMENT LIMITS

3.1 Introduction and Background

The Anti-Degradation Quality Assurance Plan (QASP) to characterize ambient water quality of the Crosswicks Creek at the proposed discharge location was approved by the NJDEP on July 18, 2011. In October 2013, the QASP Final Report was submitted to the NJDEP. On January 13, 2014, the Department approved the QASP study and proposed two (2) sets of permit limitations based on a flow of 0.6 mgd. The limits under the Monthly Average and Daily Maximum correspond to the maximum allowable concentrations that could be allowed with the submittal of an appropriate socio-economic justification. The socio-economic justification would need to address the important social and economic reasons for the lowering or degradation of water quality in the Crosswicks Creek as a result of the proposed discharge. Compliance with the non-degradation limits specified would not require Plumsted to submit an appropriate socio-economic justification.

At its January 21, 2014 meeting, the members of the PMUA, based on information it requested from its engineer (Van Cleef Engineering) opted not to pursue a socio economic justification and to comply with the non-degradation limits specified in the NJDEP's letter of January 13, 2014. To meet the non-degradation limits, it was determined that the addition of Reverse Osmosis (RO) to the proposed Membrane Filtration Treatment (MBR) treatment process would be required, particularly to meet the limits established for Total Dissolved Solids (TDS). It was proposed that fifty (50) % of the effluent be directed to the RO unit and then merged or "blended" with the effluent from the MBR process to achieve the non-degradation limits. However, at a meeting with the NJDEP on March 24, 2014, the Department, in consultation with its Deputy Attorney General, determined that partial treatment of the discharge and re-mixing with the MBR effluent would constitute blending which is not permissible by the USEPA or NJDEP rules. The Department was also concerned with the disposal of the "reject" water from the RO process. The reject water contains high levels of salt and other components which are expensive to dispose of as there are few facilities in New Jersey which would be able to treat and dispose of this material. With the Department's decision, the MUA is left with two options: 1) to fully treat the entire waste stream with RO which would significantly increase the capital but more importantly the costs to operate the treatment system; or 2) to re consider its decision and pursue a socio economic justification to support the lower permit limits included in the Department's January 13, 2014 letter. At its meeting of April 30, 2014, the MUA opted to pursue the socio-economic justification as the only prudent option available. This report is submitted in fulfillment of the Department's request for specific information regarding water quality and socio-economic justification for the lowering of water quality limits specified by the Department.

3.2 Key Parameters to be Addressed in the Socio-Economic Justification

In its letter of January 13, 2014, the NJDEP identified the following parameters to be included in the socio-economic justification based on a flow of 0.6 mgd. These are: Total Dissolved Solids (TDS); Nitrate Nitrogen (NO₃-N); Ammonia Nitrogen (NH₃-N); and Copper (Cu). As a result of the March 24, 2014 meeting with NJDEP, the modelling effort was repeated at a flow of 0.3 mgd (the initial flow) for determining effluent limits utilizing WLA protocol and using a 10% safety factor (see Exhibits 1

and 2). As a result, Total Suspended (TSS), Lead (Pb), Nickel (Ni) and Zinc (Zn) are also included in this analysis. A brief description of each follows:

-Total Suspended Solids- The proposed wastewater treatment system is capable of meeting the monthly average limit of 6.01 for TSS and, therefore, no further analysis of this parameter is deemed necessary.

-Total Dissolved Solids (TDS) - TDS is primarily a drinking water concern. It is not a biotic or stream concern. There are no drinking water sources on the Crosswicks Creek. Water containing TDS concentrations below 1,000mg/l is usually acceptable to consumers for drinking water. The DRBC allows a TDS discharge of 1,000mg/l. The NJDEP has indicated that a TDS discharge concentration of 163mg/l would not result in degradation of in stream water quality. This limit cannot be consistently met by the proposed treatment plant. This is not because of inadequate treatment, but rather because an advanced wastewater treatment plant will not remove TDS. In fact, many of the chemicals necessary to optimize the removal of TDS will increase TDS levels. While the proposed treatment facility will typically discharge TDS concentrations less than 500 mg/l, the lowest monthly average TDS concentrations that can be consistently achieved by the proposed discharge is estimated to be 500 mg/l.

-Nitrate Nitrogen (NO₃-N) and Ammonia Nitrogen NH₃-N- These are common by-products of the treatment process. Based on water quality modelling of the Crosswicks Creek, the limiting factor for ammonia in stream concentration is oxygen consumption as ammonia transforms to nitrate. Modelling results for ammonia indicate that monthly average effluent limits of 0.55mg/litre would meet criteria for the 0.6mgd plant or 0.85mg/litre would meet criteria for the 0.3mgd plant. The nitrate limit is not as stringent and a limit of 10 mg/l will far exceed water quality standards for either sized waste water treatment plant. These limits will exceed the non-degradation limits of 0.25 mg/l for ammonia and 0.35 mg/l for nitrate and, therefore, these parameters are included in this socio-economic analysis.

-Copper- Copper is quite often present in wastewater as a result of leaching from copper water pipes in household systems. The surface water standard for copper is 8.6 ug/l. The annual water reports published by New Jersey American Water Company (NJAW), which is the Township's water purveyor, show that copper is present in the potable water supplied to New Egypt at concentrations as high as 353 ug/l. As a comparison, water supplied by NJAW to the area serviced by the Skillman Village Wastewater Treatment Facility, which the Plumsted Facility will be similar to, averages 9.9 ug/l of copper. To meet the anti-degradation criteria, the proposed Plumsted facility would have to reduce copper in the discharge to 2.54 ug/l or more than a 99 percent % reduction. The ability to provide an effluent concentration this low through typical wastewater treatment processes is questionable. The removal of copper and other metals through a chemical reaction and precipitation process is possible but will result in a higher level of TDS discharged to the stream and an expensive metal removal process to operate and maintain with much more sludge generation. The lowest monthly average discharge concentration that can be consistently achieved is about 10-20 ug/l.

-Lead (Pb) Lead is toxic in its soluble form in the aquatic environment. It is found (along with the nickel and zinc) to be present in the solder that is used to fuse plumbing fixtures and connections in household plumbing applications. An amount of these metals will leach into the wastewater flow from the connections due to the varying pH of the water supply. Those households that have their own wells for potable water supply are of a greater concern for leaching potential. The lowest monthly average concentration that can be consistently achieved is about 10 - 20 ug/l.

-Nickel (Ni) - While nickel is somewhat toxic in its soluble form it does not usually cause water quality issues. As mentioned above, its discharge to the wastewater collection system is through the leaching of potable water fixtures found in the typical households and other commercial buildings. The lowest monthly average concentration that can be consistently achieved is about 10-20 ug/l.

-Zinc (Zn) - Zinc also finds its way into the wastewater system by leaching of the plumbing fixtures in residences and commercial buildings. The lowest monthly average concentration that can be consistently achieved is about 25-35 ug/l.

3.3 Discussion

It is predicted in stream water quality will not be degraded due to NO₃-N and NH₃-N and TSS by the proposed discharge under critical low flow conditions. Utilizing a highly advanced tertiary wastewater treatment plant, such as the one described below, the non-degradation limits of 0.25 mg/l for ammonia and 0.35 mg/l for nitrate and 6.01 for TSS will be met on a consistent basis and will protect from violating in stream criteria for these parameters. There will be times, however, when the discharge may exceed the discharge limits for these parameters and, due to this, Plumsted is requesting somewhat higher limits for these parameters in the socio-economic justification. It is anticipated that the non-degradation limit will be exceeded for TDS as will the monthly average limits for Cu, Ni, Pb and Zn. The addition of RO as discussed herein will allow all of the proposed limits for these parameters to be met but at exorbitantly higher operating and maintenance costs. Under typical stream flow conditions, the proposed plant would have a much smaller effect, or no effect, on in stream water quality and are not anticipated to have any deleterious impacts on the Crosswicks Creek.

4.0 Description of Proposed Treatment Technology

As noted above, the proposed discharge from the immediate to short term development of the core downtown area of New Egypt is expected to generate 0.3 mgd of wastewater. At full development of the designated NETC, the anticipated flow is expected to be 0.6 mgd of wastewater. The wastewater characteristics are expected to be those associated with residential wastewater. There is no heavy industrial use existing or planned. The light industrial uses existing or planned within the NETC are associated with warehouses or light industrial.

A wastewater treatment system incorporating Biological Nutrient Removal (BNR) and Advanced Membrane Filtration (MBR) will be utilized for the project. The proposed treatment plant will consist of the following major unit processes:

- Grit/Screening Removal
- Influent Pumping Station
- Fine Screen
- Flow Equalization
- Four Stage Biological Treatment (MBR)
- Ultraviolet Light Disinfection
- Flow Metering
- Post Aeration

Associated equipment will include:

- Sludge Holding Tank
- Chemical Addition for Phosphorous Removal
- Glucose/Methanol Feed System (carbon source to enhance denitrification)
- pH/alkalinity adjustment (to enhance the nitrification process)
- Manual and Automatic Membrane backwash/Cleaning System
- System Controls and Automatic Dialer/Alarm System
- Building (to house process tanks)
- Odor Control System
- Aeration System (for sludge holding tanks)
- Standby Generator and Automatic Transfer Switch

The treatment system will be configured in two separate process trains each capable of handling one-half of the daily design flow. A process flow schematic is shown in Attachment 3. For illustrative information, the flow schematic contains the complete RO system and RO reject concentrator required for advanced TDS and metal removal.

4.1 Anticipated Effluent Quality

The wastewater treatment process described herein is capable of producing a consistently high quality effluent. For the parameters being addressed in this analysis, the following concentrations are felt to be generally attainable from this type of treatment.

- Total Dissolved Solids	≤500 mg/l
- Nitrate Nitrogen	5-10 mg/l
- Ammonia Nitrogen	≤1-1.4 mg/l
- Copper	10-20 ug/l*
- Lead	10-20 ug/l*
- Nickel	10-20 ug/l*
- Zinc	25-35 ug/l*

*This type of treatment process is not specifically designed to remove metals. As a result, it is not possible, without actual data, to specify limits for these parameters and a monitor only requirement for these parameters is requested.

While the proposed treatment technology can typically produce an effluent with concentrations such as those listed above, it may not do so at all times. Therefore, the best achievable monthly average limits that can be expected are as follows:

- Total Dissolved Solids	500 mg/l
- Nitrate Nitrogen	10 mg/l
- Ammonia Nitrogen	1.4mg/l
- Copper	Monitor Only
- Lead	Monitor Only
- Nickel	Monitor Only
- Zinc	Monitor Only

4.2 Additional Treatment Needed to Meet No Measurable Lowering of Water Quality (NMLWQ) Effluent Limits

In the January 13, 2014 letter from NJDEP, the following non-degradation limits or monthly limits were specified based on a flow of 0.6 mgd.

Total Dissolved Solids	163 mg/l
Nitrate Nitrogen	0.35 mg/l
Ammonia Nitrogen	0.25 mg/l
Copper	2.54 ug/l
TSS	6.01 mg/l
Lead	1.52 ug/l
Nickel	0.85 ug/l
Zinc	21.5 ug/l

The wastewater treatment technology the Township proposes to use which is the most advanced, readily available and cost effective technology on the market today, is not capable of meeting the NMLWQ limits for TDS and on a consistent basis the monthly limits for nitrate nitrogen, ammonia nitrogen or the four (4) metals. In order to meet such limits, additional treatment, as discussed below, would need to be added to the proposed treatment plant. The additional treatment technology available would result in exorbitant operation and maintenance costs as discussed herein.

The removal of TDS, NO₃-N, NH₃ and metals can all be accomplished by RO. RO is a process in which water is separated from dissolved salts in solution by filtering through a semi permeable membrane at a pressure greater than the osmotic pressure caused by the dissolved salts in the wastewater. While the process will remove the included parameters, the process results in a saline waste product ("reject water") that must be disposed of in a suitable fashion. A major drawback and cost associated with RO is the removal and disposal of the saline waste ("reject water") product produced. This waste product can be 15-20% of the plant flow and requires trucking to a suitable disposal facility. There are very few facilities in New Jersey that would be permitted by NJDEP to accept Plumsted's reject water and all are located some distance from Plumsted. For this analysis, the Passaic Valley Sewerage Authority is used as it is the closest facility approved to accept this type of waste. This facility is located approximately 56 miles from Plumsted, a 112 mile round trip. Other major drawbacks of RO are substantially higher capital, operation and maintenance costs, an effluent water quality which is "too clean" and has limited, if any, operating experience in New Jersey. For the purposes of this analysis, RO has been used to develop operation and maintenance cost estimates. While there will also be additional costs for capital improvements for an RO system of approximately \$570,000, these cost are not included in this analysis. As discussed earlier in this Report, the capital costs are expected to be absorbed as a result of the implementation of the Redevelopment Project.

4.3 Operation/Maintenance Costs

In NJDEP's letter of January 13, 2014, if Plumsted were to choose the socio economic justification for the lowering, or degradation, of water quality in the Crosswicks Creek as a result of the proposed discharge, the NJDEP requested that a treatment cost analysis, including a chart that compares the individual user fees for a treatment plant for the following three (3) treatment levels be provided:

- 1) No degradation (no change in water quality above ambient);

- 2) The limitations that are proposed in the Anti-Degradation Study (Best Achievable); and
- 3) The mid-point between one and two.

In order to meet the non-degradation limits included in NJDEP's January 13, 2014 letter, it would be necessary to add RO and the RO concentrator unit process to the proposed treatment plant described in Section 4.0. Based on the meeting with the NJDEP on March 24, 2014, as the federal and state regulations do not permit blending of the wastewater stream, RO cannot be utilized at less than full capacity to achieve a mid-point scenario and, therefore, this comparison, while provided, is not useful. The only way to address a mid-point scenario is by use of chemicals which, in the case of copper and other metals, may address this but will increase the level of TDS in the waste stream. The TDS no degradation limit is not achievable without the use of RO.

To establish the operating costs for RO, the PMUA requested Van Cleef Engineering to prepare estimates for an RO system. Van Cleef engineering prepared these estimates with the assistance of a major wastewater equipment manufacturer, Dynatec Systems. Van Cleef also prepared cost estimates for the transport and disposal of the reject water (see Attachment 4).

Based on the information provided by Van Cleef Engineering, the additional costs to operate an RO process to meet the anti-degradation limits at the initial anticipated flow of 0.3 mgd is estimated to be \$774,000. The estimated additional cost to meet the best achievable limits proposed in the anti-degradation study is estimated to be \$340,000.

The estimated annual user costs for the anti-degradation scenario are significantly higher than for the lower limits that are proposed in the Anti-Degradation Study. The anti-degradation scenario would result in an annual user fee for a typical homeowner of approximately \$1,006 as compared to an annual user fee of approximately \$ 611 for the Best Achievable scenario. These costs do not include a sewer connection fee or other costs to the homeowner to connect to the PMUA sewer infrastructure. By way of comparison, Jackson Township has an annual user fee of approximately \$380, Pemberton Township \$360 and the Borough of Wrightstown \$1,100. The annual user fee for Wrightstown is unusually high as there are only 250 residential connections. If the Borough had 1100 connections as Plumsted anticipates, the average annual user fee would be approximately \$532 (total annual operating expenses of \$585,000/ 1100 connections). The average annual user fee for the Jensen's Deep Run retirement community located within Plumsted Township is approximately \$500. Table 1 summarizes the costs for the No Degradation, Mid-Point and Best Achievable Scenario.

Table 1: Anti-Degradation Analysis: Increased RO Cost-Benefit Summary for 0.3 mgd Discharge

	Best Achievable	Mid-Point	Increase in \$/%	No Degradation	Increase in \$ / %
Annual O/M	\$671,594	\$889,000	\$217,406/32%	\$1,106,594	\$435,000/65%
Annual User Fee	\$611	\$809	\$198/32%	\$1,006	\$395/65%

5.0 Socio-Economic Implications

As discussed in Section 1, the proposed wastewater treatment plant will serve important social, environmental and economic purposes consistent with the Township's Master Plan, State Development Guide Plan and the Ocean County Draft Wastewater Management Plan. The proposed system will also enable the Township to meet its COAH obligation that it is not able to do without sewer. Thus, the project clearly advances the Township's, Ocean County and the State's social goal of providing managed, orderly growth within the NETC.

The affordability of the proposed treatment plant to the residents it is intended to serve is a grave concern. If the annual user fee is too high and is not affordable to the population it serves then the municipality may have to forego the construction of the planned wastewater infrastructure. In that case, the Township would not be able to advance the important social, environmental and economic goals it has planned for. In 1996, when the Safe Drinking Water Act was developed, the USEPA established four (4.0) percent of the Median Household Income (MHI) as a benchmark of affordability. MHI is measured as the total annual water and sewer bill divided by the MHI for the service area. The four (4.0) percent benchmark is equally split between water (2%) and sewer (2%). The MHI for Plumsted Township is approximately \$70,000. However, within Plumsted Township there is a disparity of MHI which is based on older and smaller homes and lot sizes in New Egypt as opposed to newer development outside the NETC (see Attachments 5 and 6). In the downtown area of New Egypt proposed to be sewered in the project's 1st and 2nd phases, the MHI is less or approximately \$60,000. Based on the lower MHI for New Egypt, and using 2% as an affordability guideline for wastewater, the USEPA guideline for what is affordable to New Egypt residents is \$1200. It can be argued that USEPA's affordability guideline is subjective and is not easily measured and may vary from one community to the next and, as noted above, even within a municipality. A study undertaken by Kieven in 2010 for 211 communities in the north central United States found the majority of average residential wastewater bills equate to less than 0.5 percent of the MHI (see Attachment 7). In a review of the literature, values tend to be more conservative than USEPA's rule of thumb generally indicating that the average residential wastewater bill should not ideally exceed 0.75 percent of the MHI. Based on the lower MHI for New Egypt, as compared to all of Plumsted, and the average annual user fees for residential customers in Jackson, Pemberton Township, Wrightstown Boro and Jensen's of \$ 443, an average annual rate of \$450 (0.75 percent of MHI) is deemed more appropriate for what residential customers in New Egypt can afford. As noted, the projected average annual rate of \$ 600 (1% of MHI and \$150 above the average) is already stressing the affordability of the project. Anything much above this will have substantial adverse impacts on the affordability of the project and must be weighed heavily against the downside of the added environmental benefits that may be achieved by meeting the anti-degradation limits. The associated reductions in TDS, Nitrate Nitrogen, Ammonium Nitrogen and metals do not justify the

foregoing of the important social and economic benefits which will result from this project in order to avoid the in stream concentrations of these parameters, particularly since the "Best Achievable" limits for these parameters would ensure the in stream criterion are met. Also lost in this scenario are the benefits of improved water quality to Dakford Lake and the Crosswicks Creek above the proposed discharge location with the elimination of septic and cesspool systems that, if not removed, will continue to adversely impact water quality for decades to come. These improvements are more than likely sufficient to offset the increase associated with these parameters predicted in the Anti-Degradation Study.

6.0 Conclusion

A discharge to surface water has been selected as the most viable and practical, if not the only, solution available to Plumsted Township. This report describes a type of anti-degradation analysis of the receiving stream which was undertaken at the request of the NJDEP. The analysis identified several parameters of concern: TDS, nitrate nitrogen, ammonium nitrogen and metals. The best achievable concentrations for these parameters that can be discharged from a treatment process using readily available, proven technology were evaluated. It was determined that under critical low flow conditions, the in stream concentrations of these parameters would increase due to the discharge, but would still be well below the applicable stream criterion. As a result of this finding, and a demonstration that there are important social and economic justifications for increasing the in stream concentrations the Township has met the anti-degradation policy contained in the Surface Water Quality Standards at N.J.A.C. 7: 1.9 to justify the lowering of water quality in the Crosswicks Creek as a result of the proposed discharge.

Water quality studies conducted as part of this project determined the discharge concentration for each of these parameters that would be necessary to avoid increasing stream concentrations. Next, the additional wastewater treatment process that would be needed to meet the limits for TDS, nitrate nitrogen, ammonium nitrogen and metals were identified. The additional costs to operate and maintain these processes were quantified and their effect on the annual user fees evaluated. It was concluded that annual user fees would increase significantly if anti-degradation limits for the studied parameters were to be achieved.

The socio economic implications of the increased user fees on the residents of New Egypt were evaluated. The conclusion of that analysis was that increased user fees would have a significant adverse impact on the residents in terms of their ability to afford these fees and the likelihood that the viability of the entire project would be impacted as well. Therefore, it is concluded that the exorbitant user fees that would result from meeting the anti-degradation limits or mid-point scenario are not justified given the marginal difference in water quality between those limits and what can be obtained by meeting the "best achievable" limits.

Based on the March 24, 2014 meeting with NJDEP, the modelling effort was repeated for determining effluent limits utilizing WLA protocol and using a 10% safety factor. These results and the requested monthly limits are for both the 0.6 mgd and 0.3 mgd discharge scenarios. If the socio-economic evaluation is accepted by the NJDEP, we would request the following changes to the monthly average allowable limits set forth in the January 13, 2014 letter as follows:

	<u>Monthly Average Requested</u>
CBOD ₅	2.0 mg/l (no change necessary)
TSS	6.01 mg/l (no change necessary)
DO	8.0 mg/l (no change necessary)
Ammonia	1.4 mg/l
Nitrate	10 mg/l
Phosphorus	0.1 mg/l (no change necessary)
pH	6.0 s.u. (minimum)
TDS	500 mg/l
Copper	(monitor only)*
Lead*	(monitor only)*
Nickel*	(monitor only)*
Zinc*	(monitor only)*

We feel these requested discharge concentrations have been shown by our socio-economic analysis and extensive studies and modelling to be protective of the stream uses identified for the Crosswicks Creek and are, therefore, reasonable and justified.

* The four metals (4) metals, while of some concern, can be adequately addressed through a monitor only scenario until some real concentrations are obtained. We request the right to conduct a phosphorus study after the WWTP has been constructed and operational. We also request the right to conduct a Water Effects Ratio (WER) study for any of the metals depending upon the data obtained through the NJPDES monitoring process.

Attachment 1

Table 17. Water Quality Criteria Waste Load Allocation Analysis

Flow from USGS in Crosswicks Creek, at Rt 527 Bridge near New Egypt, 1991 - 2010

Stream Information-Summer 2011 & 2012 Data		Stream Flow (cfs)		Effluent Information	
Lower 95% Total Hardness (as CaCO ₃)	59.3	1210 (Annual)	5	Hardness as CaCO ₃	72
95% Temperature	26.2	7010 (Annual)	8	Temperature Maximum	23.2
95% pH	7.34	30210 (Annual)	8	95% Temperature	23.3
		15in discharge	30	Maximum pH	8.5
				Minimum pH	7.4
				Discharge reported max	8.6
				Discharge reported min	7.4

Mass Balance Hardness

1210 (Annual)	81.8
7010 (Annual)	81.8

Discharge Flow (MGD): 0.8

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Mass Balance Concentration Based on WLA	Surface Water Criteria	WLA	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Temperature - summer - C ¹⁾	26.2	25.0	26.0	28	26.3	NA	NA	NA	NA
pH	7.34	7.5	7.4	4.3 - 7.3	7.3	NA	NA	NA	NA
TSS - mg/L	123	8	36	NA	NA	160	160	10	10
TDS - mg/L	143	401	449	500	2000	NA	2000	10	10
Chloride - mg/L						NA	NA	NA	NA
Total Phosphate - mg/L	0.13	0.1	0.12	0.1	0.1	NA	NA	0.1	0.1

ACUTE

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Mass Balance Concentration Based on WLA	Surface Water Criteria	WLA	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Arsenic - mg/L	0.05	0.01	0.4	13.8	0.6	0.05	0.50	0.50	97
Nitrate - mg/L						See Human Health			
Copper - mg/L	2.54	12.4	7.74	8.8	NA	11.5	35.0	31.8	10
Lead - mg/L	3.0	2.5	47.15	52.8	285	31.5	284.5	172.9	10
Mercury - mg/L	2.19	1.4	272.12	304.1	1730	550.3	1727.1	1085.1	10
Chloride - mg/L	3100	3.2	11477	1.8	0.2	3.9	8.5	8.1	10
Zinc - mg/L	34.7	33.1	77.8	390	85.5	258.8	159.8	10	10
Chlorine Produced Chlorine - mg/L	15	0	8.4	15	0.0	0.0	0.0	0.0	98
Di(2-Ethylhexyl) Phthalate - mg/L						See Human Health			
Methylene Chloride - mg/L						See Human Health			

CHRONIC

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Mass Balance Concentration Based on WLA	Surface Water Criteria	WLA	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Arsenic - mg/L	0.05	0.0	0.3	4	0.8	0.3	1.3	0.5	97
Nitrate - mg/L						See Human Health			
Copper - mg/L	2.54	12.4	1.4	8.8	24	12.8	36.3	24.0	10
Lead - mg/L	3.0	2.5	8.7	7.47	31	18.3	32.8	31.2	10
Mercury - mg/L	6.19	1.4	35.3	32.8	212	111.7	347.5	213.3	10
Chloride - mg/L						No Chronic Criteria			
Zinc - mg/L	34.7	33.3	69.7	77.81	260	158.1	491.7	302.4	10
Chlorine Produced Chlorine - mg/L	15	0	8.7	11.50	0.0	0.0	0.0	0.0	21
Di(2-Ethylhexyl) Phthalate - mg/L						See Human Health			
Methylene Chloride - mg/L						See Human Health			

	Ambient Concentration (95%)	Effluent Concentration	Mass Balance Concentration Based on WLA	Surface Water Criteria	WLA	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Nitrate - mg/L	0.20	0.20	0.25	10	290	0.1	0.25	176.8	10
Lead - mg/L	3.0	2.50	4.3	5.0	13	17.0	22.9	22.3	10
Di(2-Ethylhexyl) Phthalate - mg/L	1.31	2.20	1.3	1.2	3.00	0.1	0.2	0.2	97
Methylene Chloride - mg/L	0.275	0.89	0.25	0.5	72.5	22.3	72.4	44.3	10

¹⁾ Temperature shall not exceed a maximum of 21C or a 7 day rolling average of daily max not to exceed 20C, unless due to natural conditions. The WLA was calculated using the 95% percentile about the mean of field temperature.

²⁾ Concentrations represent data maximums for acute and chronic, or as indicated in notes 8 and 10 below for human health criteria, except for pH, nitrate, ammonia and phosphorus. Ammonia and nitrate are based on dissolved oxygen modeling. Concentrations for pH are reflective of anticipated treatment level of 7.5 maximum. Also CPO = 0 is anticipated for the UV treatment system.

³⁾ Estimated effluent TDS is based on additional TDS that can be expected from chemical treatment for TP removal with a target of 0.08 mg/L TP - x-rayed/total TDS estimate of 243.3 plus in-stream background. No other background TDS is readily available.

⁴⁾ Lead acute and chronic SWQC are listed in NJ rules in the dissolved form while field measures were of total recoverable. Therefore a fraction of 0.723 as listed in NJ AC 17A Subchapter 13.8c was used to calculate a the total recoverable SWQC. The lead human health SWQC is listed as total recoverable and therefore did not have the fraction applied.

⁵⁾ In review of the previous years WCH for Sullivan village, it is noted that from 2007 through 2012 effluent nickel was below 7 mg/L with an average concentration of 2.8 ug/L (peak 4.5 ug/L). There was no significant change in effluent concentrations following upgrade of the facility to the MBR system. Additionally, a check of the 2011 water report from NJ American Water (not provide water to the area served by the Sullivan STP) revealed nickel at a concentration of 7.0 ug/L in the public water supply. This represents a removal of approximately 85%. The water supply reports for New Egypt (NJ American Water) show nickel levels of 0.8 ug/L in 2011 and 1.4 ug/L in 2010. Even without utilizing a removal factor in the STP, this level of nickel is lower than the ambient stream water quality. Therefore the antidegradation calculation for nickel using nickel at 1.4 ug/L.

⁶⁾ Silver in-stream sample measurements were reported as not detect (except one value). However all effluent data is also below the detection limit so using half the detection limit for effluent indicates violation of the antidegradation limit when this is an artifact of detection limits.

⁷⁾ Residual chlorine can result from the chlorination-dechlorination process and can be toxic to fish. The field measured residual chlorine is less than detection. The effluent discharge was set at 0 assuming no CPO in effluent using UV treatment.

⁸⁾ Human health noncarcinogen-use recently maximum attainable concentrations for WLA.

⁹⁾ Effluent for 2-ethyl hexyl phthalate is shown for being difficult to measure because it is used to make plastics and dyes positive are a problem. The Allowable data was used since no DHP data was available for Sullivan. Allowable data used here has a high value of 23 ug/L, two other detected values of 3 and 4 ug/L, and the remaining 8 values are less than the detection limit.

¹⁰⁾ Human health carcinogen-use long-term average which is the average of the available effluent data for WLA.

¹¹⁾ Instream data is below the detection limit of 1 ug/L, so use half the detection limit. The Allowable data was used since no methylene chloride data was available for Sullivan. Effluent data are also below detection. Therefore violation are an artifact of detection limits.

Table 17. Water Quality Criteria Waste Load Allocation Analysis

Flow from USGS in Crosswicks Creek, at Rt 527 Bridge near New Egypt, 1991 - 2010

Stream Information-Summer 2011 & 2012 Data		Stream Flow (cfs)		Effluent Information	
Lower 95% Total Hardness (as CaCO ₃)	59.3	1210 (Annual)	5	Hardness as CaCO ₃	72
95% Temperature	26.2	7010 (Annual)	8	Temperature Maximum	23.2
95% pH	7.34	30210 (Annual)	8	95% Temperature	23.3
		15in discharge	30	Maximum pH	8.5
				Minimum pH	7.4
				Discharge reported max	8.6
				Discharge reported min	7.4

Mass Balance Hardness

1210 (Annual)	80.8
7010 (Annual)	80.8

Discharge Flow (MGD): 0.8

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Surface Water Criteria	Target Mass Balance Concentration with 10% MOS	WLA-10% MOS	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Temperature - summer - C ¹⁾	26.2	25.0	28	25.7	26.3	NA	NA	NA	NA
pH	7.34	7.5	4.3 - 7.3	7.43	7.3	NA	NA	NA	NA
TSS - mg/L	123	8	NA	36	361	NA	NA	328	10
TDS - mg/L	143	401	500	450	4160	NA	NA	4160	10
Chloride - mg/L						NA	NA	NA	NA
Total Phosphate - mg/L	0.13	0.1	0.1	0.09	0.1	NA	NA	0.1	0.1

ACUTE

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Surface Water Criteria	Target Mass Balance Concentration with 10% MOS	WLA-10% MOS	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Arsenic - mg/L	0.05	1.4	13.8	1.4	0.45	1.42	1.42	3.85	10
Nitrate - mg/L						1.42	1.42	1.42	87.9
Copper - mg/L	2.54	11.4	8.8	5	64.2	32.1	34.1	34.1	10
Lead - mg/L	3.0	2.5	52.8	47	168	324	320	320	10
Mercury - mg/L	2.19	1.4	304.1	274	3190	1021	3190	1951	10
Chloride - mg/L						1.42	1.42	1.42	10
Zinc - mg/L	34.7	33.1	77.8	79	450	454.2	371	371	10
Chlorine Produced Chlorine - mg/L	15	0	19	17	93.8	30.5	93.4	37.1	10
Di(2-Ethylhexyl) Phthalate - mg/L						See Human Health			
Methylene Chloride - mg/L						See Human Health			

CHRONIC

	Ambient Concentration (95%)	Est Effluent Concentration ¹⁾	Surface Water Criteria	Target Mass Balance Concentration with 10% MOS	WLA-10% MOS	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Arsenic - mg/L	0.05	1.4	4	1.4	0.7	2.1	2.1	2.1	10
Nitrate - mg/L						0.7	0.7	0.7	10
Copper - mg/L	2.54	11.4	8.8	5	49.6	25.2	25.2	25.2	10
Lead - mg/L	3.0	2.5	52.8	47	168	32.1	32.1	32.1	10
Mercury - mg/L	2.19	1.4	304.1	274	3190	1021	1021	1021	10
Chloride - mg/L						1.42	1.42	1.42	10
Zinc - mg/L	34.7	33.1	77.8	79	450	454.2	371	371	10
Chlorine Produced Chlorine - mg/L	15	0	19	17	93.8	30.5	93.4	37.1	10
Di(2-Ethylhexyl) Phthalate - mg/L						See Human Health			
Methylene Chloride - mg/L						See Human Health			

	Ambient Concentration (95%)	Effluent Concentration	Surface Water Criteria	Target Mass Balance Concentration with 10% MOS	WLA-10% MOS	LTA ²⁾ (mg/L)	Daily Maximum	Monthly Average	Assimilative Capacity Remaining (%)
Nitrate - mg/L	0.20	0.20	10	0.2	0.63	0.2	0.2	0.2	10
Lead - mg/L	3.0	2.50	5.0	4.0	10.2	3.0	3.0	3.0	10
Di(2-Ethylhexyl) Phthalate - mg/L	1.31	2.20	1.2	1.1	3.00	0.1	0.2	0.2	10
Methylene Chloride - mg/L	0.275	0.89	0.5	0.3	44.3	22.3	22.3	22.3	10

¹⁾ Temperature shall not exceed a maximum of 21C or a 7 day rolling average of daily max not to exceed 20C, unless due to natural conditions. The WLA was calculated using the 95% percentile about the mean of field temperature. Also Target Mass Balance is set at ambient because 10%MOE is lower than ambient.

²⁾ Concentrations represent data maximums for acute and chronic, or as indicated in notes 8 and 10 below for human health criteria, except for pH, nitrate, ammonia and phosphorus. Ammonia and nitrate are based on dissolved oxygen modeling. Concentrations for pH are reflective of anticipated treatment level of 7.5 maximum. Also CPO = 0 is anticipated for the UV treatment system.

³⁾ Estimated effluent TDS is based on additional TDS that can be expected from chemical treatment for TP removal with a target of 0.08 mg/L TP - x-rayed/total TDS estimate of 243.3 plus in-stream background. No other background TDS is readily available.

⁴⁾ Lead acute and chronic SWQC are listed in NJ rules in the dissolved form while field measures were of total recoverable. Therefore a fraction of 0.723 as listed in NJ AC 17A Subchapter 13.8c was used to calculate a the total recoverable SWQC. The lead human health SWQC is listed as total recoverable and therefore did not have the fraction applied.

⁵⁾ In review of the previous years WCH for Sullivan village, it is noted that from 2007 through 2012 effluent nickel was below 7 mg/L with an average concentration of 2.8 ug/L (peak 4.5 ug/L). There was no significant change in effluent concentrations following upgrade of the facility to the MBR system. Additionally, a check of the 2011 water report from NJ American Water (not provide water to the area served by the Sullivan STP) revealed nickel at a concentration of 7.0 ug/L in the public water supply. This represents a removal of approximately 85%. The water supply reports for New Egypt (NJ American Water) show nickel levels of 0.8 ug/L in 2011 and 1.4 ug/L in 2010. Even without utilizing a removal factor in the STP, this level of nickel is lower than the ambient stream water quality. Therefore the antidegradation calculation for nickel using nickel at 1.4 ug/L.

⁶⁾ Silver in-stream sample measurements were reported as not detect (except one value). However all effluent data is also below the detection limit so using half the detection limit for effluent indicates violation of the antidegradation limit when this is an artifact of detection limits.

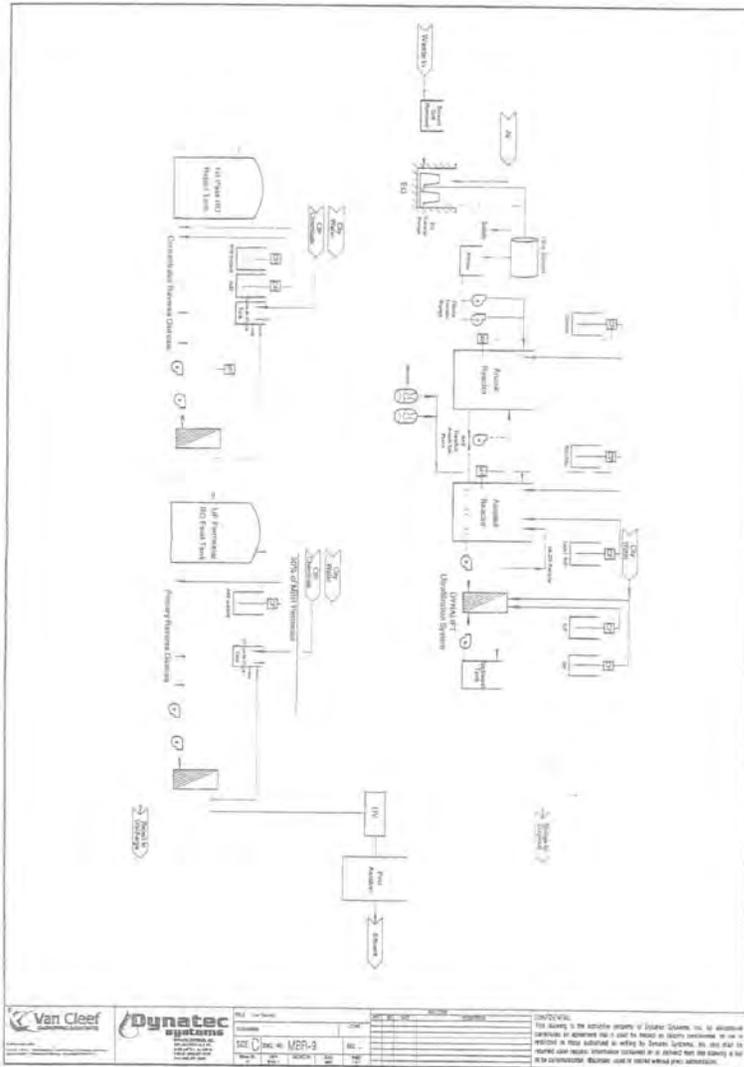
⁷⁾ Residual chlorine can result from the chlorination-dechlorination process and can be toxic to fish. The field measured residual chlorine is less than detection. The effluent discharge was set at 0 assuming no CPO in effluent using UV treatment.

⁸⁾ Human health noncarcinogen-use recently maximum attainable concentrations for WLA.

⁹⁾ Effluent for 2-ethyl hexyl phthalate is shown for being difficult to measure because it is used to make plastics and dyes positive are a problem. The Allowable data was used since no DHP data was available for Sullivan. Allowable data used here has a high value of 23 ug/L, two other detected values of 3 and 4 ug/L, and the remaining 8 values are less than the detection limit.

¹⁰⁾ Human health carcinogen-use long-term average which is the average of the available effluent data for WLA.

¹¹⁾ Instream data is below the detection limit of 1 ug/L, so use half the detection limit. The Allowable data was used since no methylene chloride data was available for Sullivan. Effluent data are also below detection. Therefore violations are an artifact of detection limits.



**Plumsted Township MUA
Operational Cost Estimate**

4/2/14

MBR Wastewater Treatment Facility (300,000 GPD)

Generator Fuel
 Pumping station generator fuel costs = 975
 1 hr/wk exercise x 52 wks x 4 gal/hr x \$4/gal. = \$832
 3/4 Load - 24 hrs/yr x 7 gal/hr x \$4/gal. = \$672
Total Cost per Year = \$2,479

Operator Costs
 20 hrs/week x 52 weeks/yr x \$80/hr = \$83,200
Total Cost per Year = \$83,200

Laboratory Costs
 Monthly influent & effluent samples to outside lab. = \$1,900
 Monthly influent & effluent samples - onsite testing = \$500
 Annual sludge testing = \$200
 Annual effluent volatile organics & heavy metals = \$1,000
Total Cost per Year = \$3,600

Chemical Costs
 Alum for phosphorus removal - 77 lbs/day x 365 days x \$0.3/lb = \$8,432
 MBR cleaning (sodium hypochlorite) = \$3,508
 Alkalinity adjustment - \$5/day x 365 days = \$1,825
Total Cost per Year = \$13,763

Sludge Removal & Disposal
 (4% solids) 1554 gal/day x 365 days/yr x \$0.2/gal = \$113,442
Total Cost per Year = \$113,442

Electrical Costs
 MBR System = \$98,800
 W/WTP = 15,979
 Pumping station = 9,500

Membrane Replacement Costs
 MBR = 28,800

Odor Control
 Activated Carbon - 2,000 lb unit x 2/yr x \$2.5/lb = \$10,000
Total Cost per Year = \$10,000

**Total Operation Costs = \$338,563 Per Year
Per Month**

NO.	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
100	MBR-3	1		
101	MBR-3	1		

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Plumsted Township MUA
Operational Cost Estimate 4/2/2014

**MBR Wastewater Treatment Facility (300,000 GPD)
with Supplemental Reverse Osmosis System**

Generator Fuel
Pumping station generator fuel costs = \$775
1 hr/wk exercise x 52 wks x 4 gal/hr x \$4/gal = \$632
3/4 Load - 24 hrs/yr x 7 gal/hr x \$4/gal = \$672
Total Cost per Year = \$2,479

Operator Costs
20 hrs/week x 52 weeks/yr x \$80/hr = \$83,200
Total Cost per Year = \$83,200

Laboratory Costs
Monthly influent & effluent samples to outside lab. = \$1,900
Monthly influent & effluent samples - onsite testing = \$500
Annual sludge testing = \$200
Annual effluent volatile organics & heavy metals = \$1,000
Total Cost per Year = \$3,600

Chemical Costs
Alum for phosphorus removal - 77 lbs/day x 365 days x \$0.3/lb = \$8,432
RO chemical cleanser (acid and caustic) \$579
RO anti-scalant \$2,201
MBR cleaning (sodium hypochlorite) \$3,506
Alkalinity adjustment - \$5/day x 365 days = \$1,825
Total Cost per Year = \$16,543

Sludge Removal & Disposal
(4% solids) 1654 gal/day x 365 days/yr x \$0.2/gal = \$113,442
Total Cost per Year = \$113,442

Electrical Costs
MBR System \$98,800
WWTP 15,079
Reverse Osmosis System 24,339
Pumping station 9,500

Membrane Replacement Costs
MBR, RO, RO concentrator 63,900

RO Reject Water Disposal (100% flow treated)
6000 GPD x 365 x \$0.17/gal 372,300

Odor Control
Activated Carbon - 2,000 lb unit x 2/yr x \$2.5/lb = \$10,000
Total Cost per Year = \$10,000

**Total Operation Costs = \$774,082 Per Year
Per Month**



Local Data Search

Search State, County, City, ZIP Code, or Area Code

Address / ZIP Code / State Name / Population (2010) / Census Tract / Block Group

Census Block Group 718000-2 in Ocean County, New Jersey

Block Group 718000-2

Basic Information
Population and Race
Income and Careers
Housing
Census Tract 718000
New Egypt, NJ
Ocean County
New Jersey State
New York, Northern New Jersey, Long Island Area

Basic Information	Population and Race	Income and Careers	Housing	Hot Rankings
Population	479 (2010) See Also			
House Units	545 See Also			
Race	White: 97.7% Hispanic: 0.0% Black: 0.0% Asian: 0.0% Other: 0.0% See Also			Top Ranked: Best Overall System Quality Care Services Network Educational System Results Element / Special Operating Cities in NJ Best / Last NJ Cities by Mass Transit Most / Last NJ Cities by Female Employment
Population Density	2,848 / Sq. Mile See Also			Best / Worst Cities by Crime Rate in NJ Most / Worst Cities by Income in NJ Education / Unemployment by City in NJ Most / Least Educated Cities in NJ
Median Household Income	\$46,889 See Also			
Median House Price	\$221,100 See Also			
Time Zone	Eastern-DST, 3:00 with Daylight Saving in the Summer			
Land Area	0.56 sq. mi. See Also			
Water Area	0.00 sq. mi. (0.00%) See Also			
State	New Jersey			
Area	New York-Northern New Jersey-Long Island, NY-NJ-PA			
County	Ocean County			
City	New Egypt			
Census Tract	718000			
School District	Plumsted Township School District View			

Search for Census Records

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Super Search: Your 1-stop shop for finding census records online

Block Group 718000-2 Map, Border, and Nearby Locations

Census Blocks Map View. Full data. Click icon to show name.



Block Group 718000-2 Blocks

5102718000000 New Egypt	5102718000001 New Egypt	5102718000002 New Egypt
5102718000003 New Egypt	5102718000004 New Egypt	5102718000005 New Egypt
5102718000006 New Egypt	5102718000007 New Egypt	5102718000008 New Egypt
5102718000009 New Egypt	5102718000010 New Egypt	5102718000011 New Egypt
5102718000012 New Egypt	5102718000013 New Egypt	5102718000014 New Egypt
5102718000015 New Egypt	5102718000016 New Egypt	5102718000017 New Egypt

*A census block group is a geographic area defined by the United States Census Bureau and used for the census. On average, a census block group has around 1,200 residents. Census block groups, as well as census tracts, are most uniformly distributed in terms of the number of residents than cities or zip codes. Also, the census block groups and the census tract demographic data are nearly 100% complete vs. less than 70% coverage of demographic data for cities and zip codes. Therefore census block groups and the census tracts are an excellent way to understand locations in a smaller scale, for example understanding the different areas of a large city. Census block groups are smaller than census tracts and can be further divided into census blocks for understanding locations at the block and territory level.

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Home / Local Data Search / Ocean County / 718000-1 (2010) / Census Block 718000-1 / Block Group 718000-1

Census Block Group 718000-1 in Ocean County, New Jersey

- Block Group 718000-1
- Basic Information
- Population and Races
- Income and Careers
- Housing
- Census Tract 718000
- New Egypt, NJ
- Ocean County
- New Jersey State
- New York, Northern New Jersey, Long Island Area

Basic Information	Population and Races	Income and Careers	Housing
Population	1,028 (2010) view chart		Hot Rankings
House Units	484 (2010)		The District Block Group Neighbors
Race	White 89.6% Hispanic 1.9% Black 1.4% Asian 1.1%		Maple Brook District, New Jersey
Population Density	730.90 per sq mi		Camden District, New Jersey
Median Household Income	\$64,700 (2010)		Easton / Easton-Glenview Office in NJ
Median House Price	\$225,500 (2010)		Easton / Easton-Glenview Office in NJ
Time Zone	Eastern GMT-5:00 EDT Daylight Saving in the Summer		Easton / Easton-Glenview Office in NJ
Land Area	1.75 sq mi (4.58 sq km)		Easton / Easton-Glenview Office in NJ
Water Area	0.04 sq mi (0.13 sq km)		Easton / Easton-Glenview Office in NJ
State	New Jersey		Easton / Easton-Glenview Office in NJ
Area	New York, Northern New Jersey, Long Island, NY, NJ, PA		Easton / Easton-Glenview Office in NJ
County	Ocean County		Easton / Easton-Glenview Office in NJ
City	New Egypt		Easton / Easton-Glenview Office in NJ
Census Tract	718000		Easton / Easton-Glenview Office in NJ
Census District	Pinelands Township, New Jersey		Easton / Easton-Glenview Office in NJ

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Block Group 718000-1 Map, Border, and Nearby Locations

Census Blocks Map View. Full data. Click icon to show name.



Block Group 718000-1 Blocks

510247180001001 New Egypt	510247180001002 New Egypt	510247180001003 New Egypt
510247180001004 New Egypt	510247180001005 New Egypt	510247180001006 New Egypt
510247180001007 New Egypt	510247180001008 New Egypt	510247180001009 New Egypt
510247180001010 New Egypt	510247180001011 New Egypt	510247180001012 New Egypt
510247180001013 New Egypt	510247180001014 New Egypt	510247180001015 New Egypt
510247180001016 New Egypt	510247180001017 New Egypt	510247180001018 New Egypt
510247180001019 New Egypt	510247180001020 New Egypt	510247180001021 New Egypt
510247180001022 New Egypt	510247180001023 New Egypt	510247180001024 New Egypt
510247180001025 New Egypt	510247180001026 New Egypt	510247180001027 New Egypt
510247180001028 New Egypt	510247180001029 New Egypt	510247180001030 New Egypt
510247180001031 New Egypt	510247180001032 New Egypt	510247180001033 New Egypt
510247180001034 New Egypt	510247180001035 New Egypt	510247180001036 New Egypt
510247180001037 New Egypt	510247180001038 New Egypt	510247180001039 New Egypt
510247180001040 New Egypt	510247180001041 New Egypt	510247180001042 New Egypt
510247180001043 New Egypt	510247180001044 New Egypt	510247180001045 New Egypt

*A census block group is a geographic area defined by the United States Census Bureau and used for the census. On average, a census block group has around 1,500 residents. Census block groups, as well as census tracts, are more uniformly distributed in terms of the number of residents than cities or zip codes. Also, the census block group and the census tract demographic data are nearly 100% complete vs. less than 70% coverage of demographic data for cities and zip codes. Therefore census block groups and the census tracts are an excellent way to understand locations in a smaller scale, for example understanding the different areas of a large city. Census block groups are smaller than census tracts and can be further divided into census blocks for understanding locations at the block and community level.



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Assessing Affordability

By Miranda Kleven

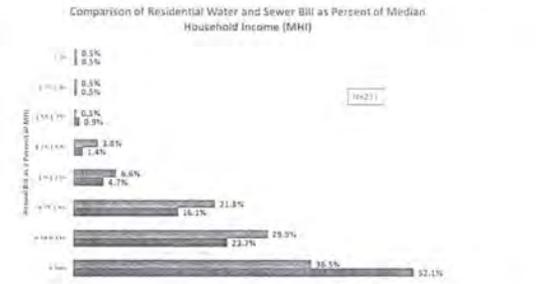
Water is a basic human need. As a result, the cost of an average level of residential water service cannot be fairly compared to the cost of non-essential items such as cable TV, soda pop, and other discretionary items when determining whether the cost is "affordable." Affordability means different things to different communities and varies from one user class to the next within each community. It is entirely subjective and wholly difficult to define. However, affordability is important to utility managers and policy makers, and it is useful to have some index by which to measure and quantify "affordability" when making decisions such as shying from a project or as justification when applying for funding assistance. In this article, we will discuss the Environmental Protection Agency's (EPA's) use of affordability indices and other common industry rules of thumb that can be used to generally gauge affordability.



EPA's "Affordability" Criteria
When the 1996 Safe Drinking Water Act was developed, the EPA established affordability criteria for water and wastewater treatment systems. These indices, although subjective, were developed as a means by which to determine whether treatment techniques to be installed to meet regulatory requirements would place an undue burden on users, therefore becoming "unaffordable" and justifying the implementation of point-of-use devices. For water and wastewater, EPA established a four (4.0) percent benchmark of affordability, measured as total annual water and sewer bill divided by median household income (MHI) for the service area. The four percent benchmark translates to levels of two (2.0) percent each for the individual water bill and individual wastewater bill. In a sense, this is an indication of "worst case scenario", under which a utility would be compelled to consider foregoing treatment plant improvements because they are cost prohibitive.

It is important to understand the proper application of the four percent benchmark. The measure is based on a comparison of water and wastewater system revenues to MHI in the utility's service area, not on individual household income. EPA has noted that it is not accurate to interpret the affordability benchmark as a cap for each household. It is not EPA's intent to give the idea that any individual household should not pay more than four percent of its income for water and wastewater services, as all households will not use the same amount of water and will not have the same household income.

Given this guideline, we were interested in a general assessment of how annual water and wastewater bills in our region measured against the MHI. Based on information obtained from the 2010 AEIS North Central Region Utility Rate Survey, the graphic below was developed to illustrate the spread of total water and wastewater bills as a percentage of MHI. Based on precedent set by the Census Bureau to estimate annual MHI, the 2000 MHI was adjusted to 2009 based on the Consumer Price Index - Research Series from December 1999 to December 2009.





The graphic above indicates that for 211 communities from across Minnesota, Montana, North Dakota, South Dakota, and Wyoming the majority of average residential water and wastewater bills equate to less than 0.75 percent of the MHI for water and 0.5 percent of the MHI for wastewater. The highest values reported as a percent of MHI were 2.03 percent for a water bill and 2.09 percent for a wastewater bill. Again, it should be stressed that affordability is a subjective term. EPA's four percent benchmark for affordability when considering treatment techniques to meet regulatory requirements may not be appropriate when reviewing water rates for general affordability. As such, the graphic above does not necessarily indicate that the majority of water and wastewater rates in the north central region are "affordable".

Industry Rules of Thumb

In addition to EPA's subjective guidelines, there are general rules of thumb found in the literature. Values in the literature tend to be more conservative, generally indicating that the average residential water or wastewater bill should ideally not exceed 0.75 percent of the MHI or 1.5 percent of the MHI for combined water and sewer bills. Using this index, we can surmise from the graphic above that there are likely many systems in our region facing the challenge of maintaining affordable water and wastewater rates.

Conclusion

In summary, affordable water and wastewater rates are extremely important to systems throughout our region. Unfortunately, affordability is not easily measured and varies from one community to the next. While there are general indices by which affordability can be gauged, they should be used with care and with consideration of other factors such as general financial management indicators, system debt, and socioeconomic conditions. Some efforts that can be undertaken to mitigate affordability concerns include reviewing your rate structure for potential modifications, such as "lifeline" rates, offering payment flexibility, or implementing a customer assistance program.

Sources:

- 2006-2008 American Community Survey, 3-Year Estimates, US Census Bureau <http://factfinder.census.gov/>
- "Future Investment in Drinking Water and Wastewater Infrastructure", November 2002. Office of the United States Congress, Congressional Budget Office.
- "Water Rates Affordability and Affordability Programs", Environmental Finance Center, www.efc-unc.edu
- U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements <http://www.census.gov/hhes/www/income/index.html>

If you have any questions concerning the content of this newsletter, please contact Heather Iyerson at 701-364-9111 or Heather.Iyerson@ae2s.com
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24. POINT PLEASANT BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Point Pleasant was incorporated in 1920, and is located in northeast Ocean County. The Borough fronts on the Manasquan River to the north and the Metedeconk River and Barnegat Bay to the south. Point Pleasant is bordered by Brick Township to the west and Bay Head and Point Pleasant Beach Boroughs to the east. At 3.70 square miles (2368 acres) in size, it is entirely within the CAFRA region.

In 2010, the U.S. Census documented Point Pleasant’s population as 18,392. The Census also counted a total of 8,331 housing units, of which 1,058 were vacant. 786 of these vacant housing units were seasonally vacant. NJTPA is projecting the Borough’s population to grow to 20,296 by 2035. Point Pleasant’s municipal wastewater infrastructure is capable of handling any seasonal fluctuations or future growth in population.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Point Pleasant is lined with beaches along the Manasquan River. Freshwater wetlands are present to the east and west; emergent wetlands are located near the lagoons on the mouth of the Metedeconk River. Bald eagle foraging grounds are located further upstream on the Metedeconk, as well as on the Manasquan, and along the Point Pleasant Canal. There are no Natural Heritage Priority Sites or preserved farms.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	59.04	2.19%
Public Open Space/Recreational Areas	39.99	1.48%
Habitat T&E	334.45	12.42%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	53.84	2.00%
Preserved Agriculture	0.00	0.00%
Surface Water	452.39	16.79%

Ordinance	Code	Date Adopted
Zoning	Chapter 19, Article I	3/4/1986
Master Plan		9/25/2007
Stormwater [County - MSWMP]	Chapter 18	2006 [5/31/2006]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 10-6	8/9/1976
Source: http://clerkshq.com/default.ashx?clientsite=PointPleasantBorough-nj		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Point Pleasant is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which enters from Point Pleasant Beach Borough traveling south on Bay Avenue (Route 604). The interceptor turns west near the intersection of Bay and Meadow Avenues then crosses Point Pleasant Canal heading southwest.



The line emerges on the west bank of the canal running parallel to Rue Lafayette. It then turns west at Riviera Parkway, and then south on Beaver Dam Road (Route 630). The line converts to a force main in the vicinity of Hidden Harbor Drive, and exits the municipality along Beaver Dam Road. From there, wastewater is conveyed to OCUA’s NWPCF in Brick Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 25.20 acres of developable land, of which 19.07 acres are zoned as residential and 6.13 acres are zoned as commercial. There is no developable land zoned for industrial uses in Point Pleasant. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Point Pleasant’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Point Pleasant. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Point Pleasant’s drinking water is derived from five wells, two which draw from the Englishtown Aquifer, two from the Potomac-Raritan-Magothy Aquifer, and one from the Kirkwood-Cohansey Aquifer. The system is operated by the Point Pleasant Water Department, and is capable of pumping 3.518 MGD. The Point Pleasant Water Department also purchases potable surface water from outside sources. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
CM	Commercial and Multi Family Mixed Use	21.50	0.00
GC	General Commercial	103.39	2.83
NC	Neighborhood Commercial	18.21	1.45
R-1	Single Family Residential	103.66	2.16
R-1A	Single Family Residential	1346.28	14.74
R-3	Residential and Office	56.67	1.16
RM	Multi Family Residential	85.25	0.55
RMPS	Multi Family Residential/Public Open Space	15.35	0.47
TC	Town Center	26.24	0.00
W	Waterfront Commercial	59.63	1.86



“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Point Pleasant Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 1,904 people by 2035. This equates to a 0.143 MGD increase in wastewater flow being directed to OCUA’s NWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the NWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Point Pleasant. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s NWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
NWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
1.351	0.229	1.580	1.723	0.000	1.723

Public Water Supply Availability

Public water purveyance infrastructure in Point Pleasant is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. The Borough also receives a portion of its potable water supply from the Brick Township MUA. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

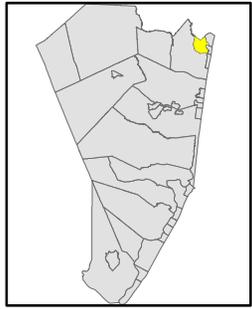
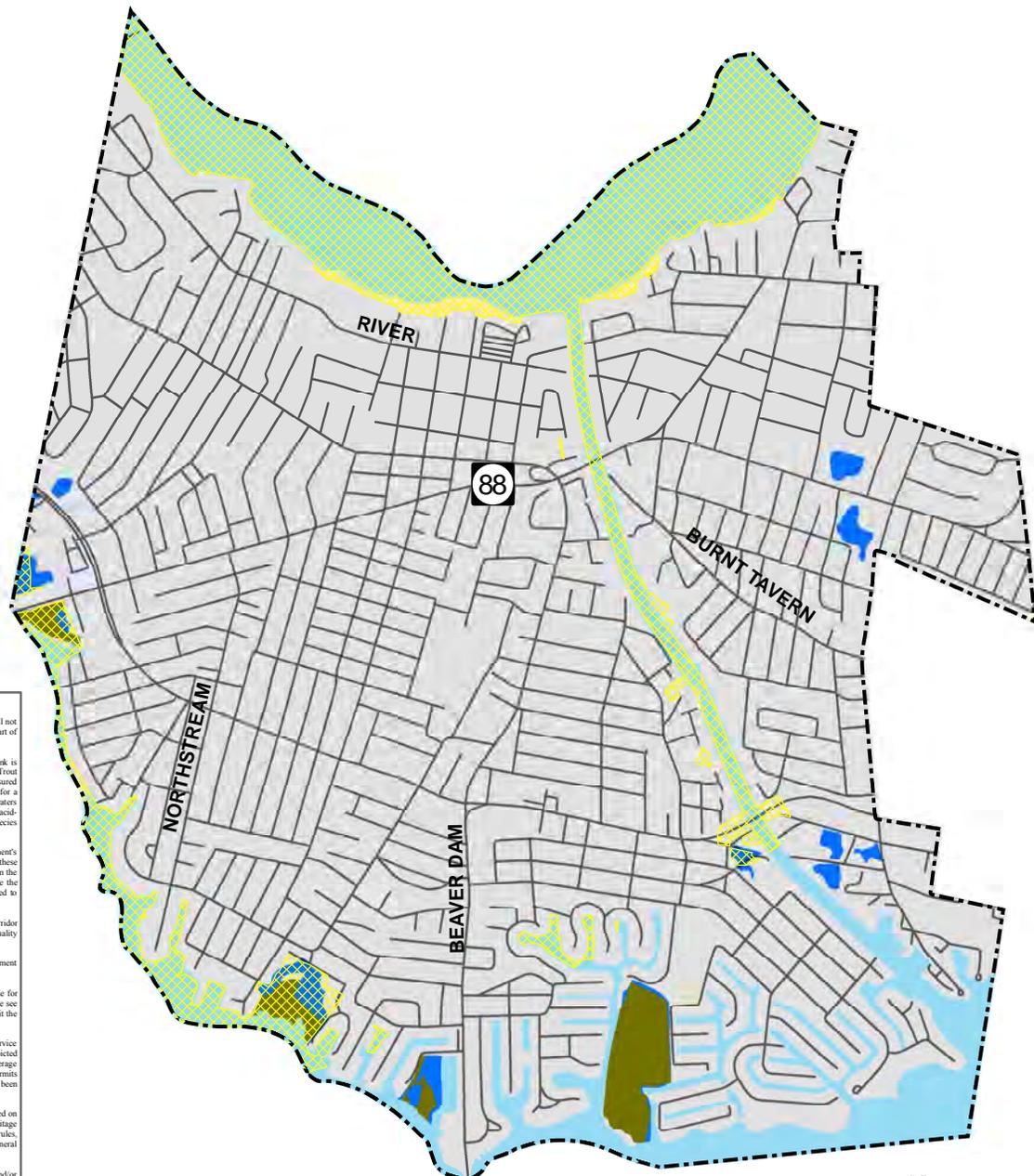
Table 5: Public Water Purveyor Capacity								
Point Pleasant Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
3.518	2.912	0.606	108.600	90.287	18.313	1,029.000	648.081	380.919
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Bald Eagle Foraging
-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 3)
-  Wetlands
-  Surface Water



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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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POINT PLEASANT BOROUGH
OCEAN COUNTY, NJ

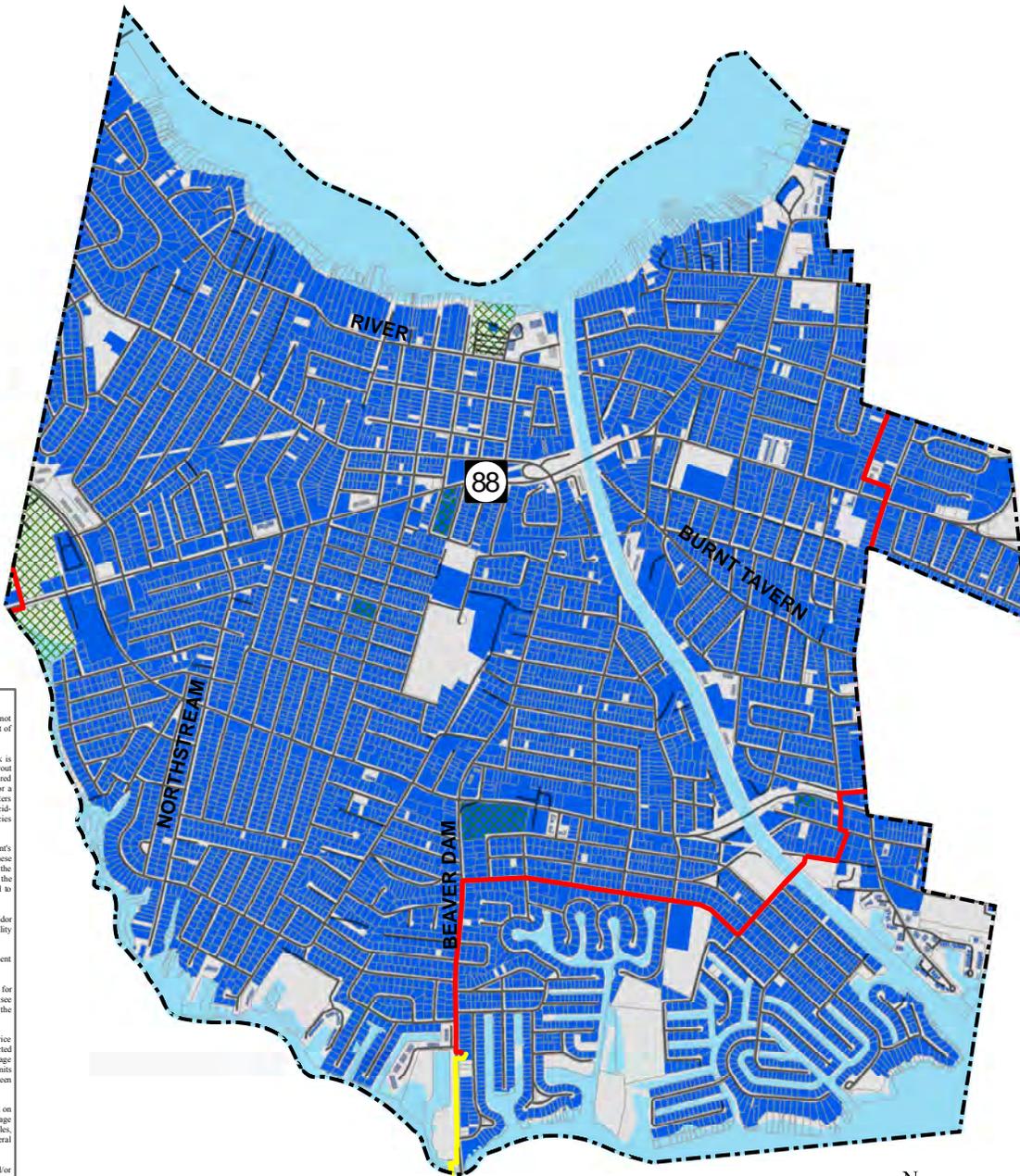
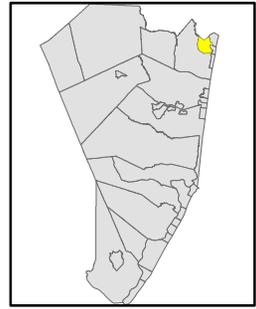
MAP 1

ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- Interceptor
- ForceMain
- Roads
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Northern DSW (NJ0028142)



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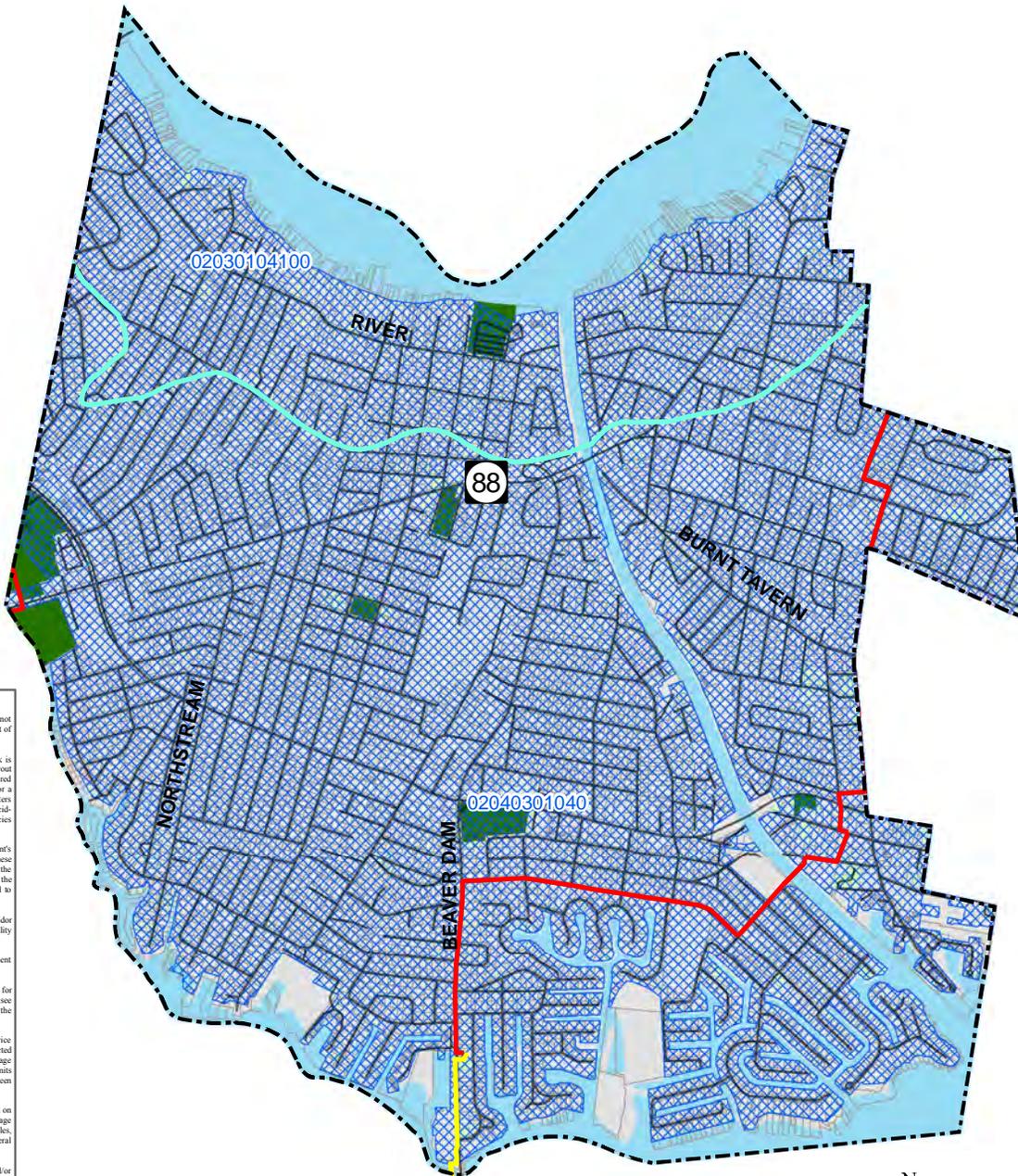
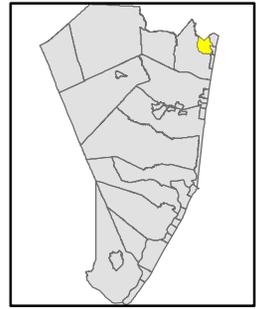
MAP 2

EXISTING SEWERED AREAS

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- HUC 11
- Interceptor
- ForceMain
- Roads
- OCUA Northern DSW (NJ0028142)
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water



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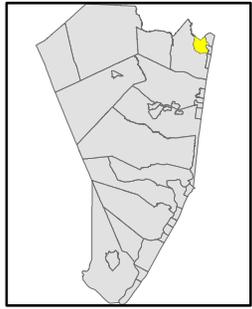
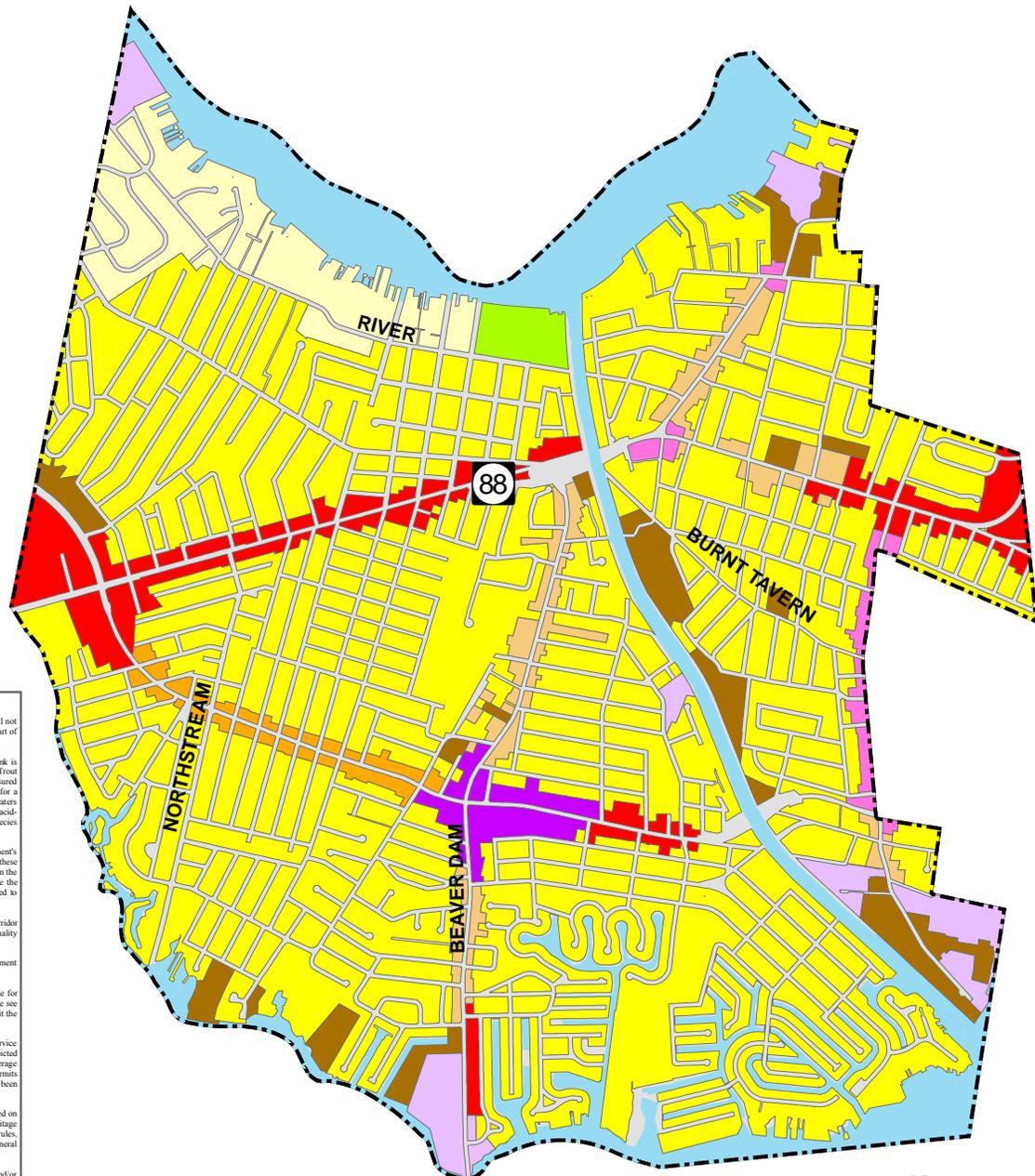
POINT PLEASANT BOROUGH
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MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- CM (Commercial and Multi Family Mixed Use)
- GC (General Commercial)
- NC (Neighborhood Commercial)
- R-1 (Single Family Residential)
- R-1A (Single Family Residential)
- R-3 (Residential and Office)
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1 inch = 2,100 feet

POINT PLEASANT BOROUGH
OCEAN COUNTY, NJ

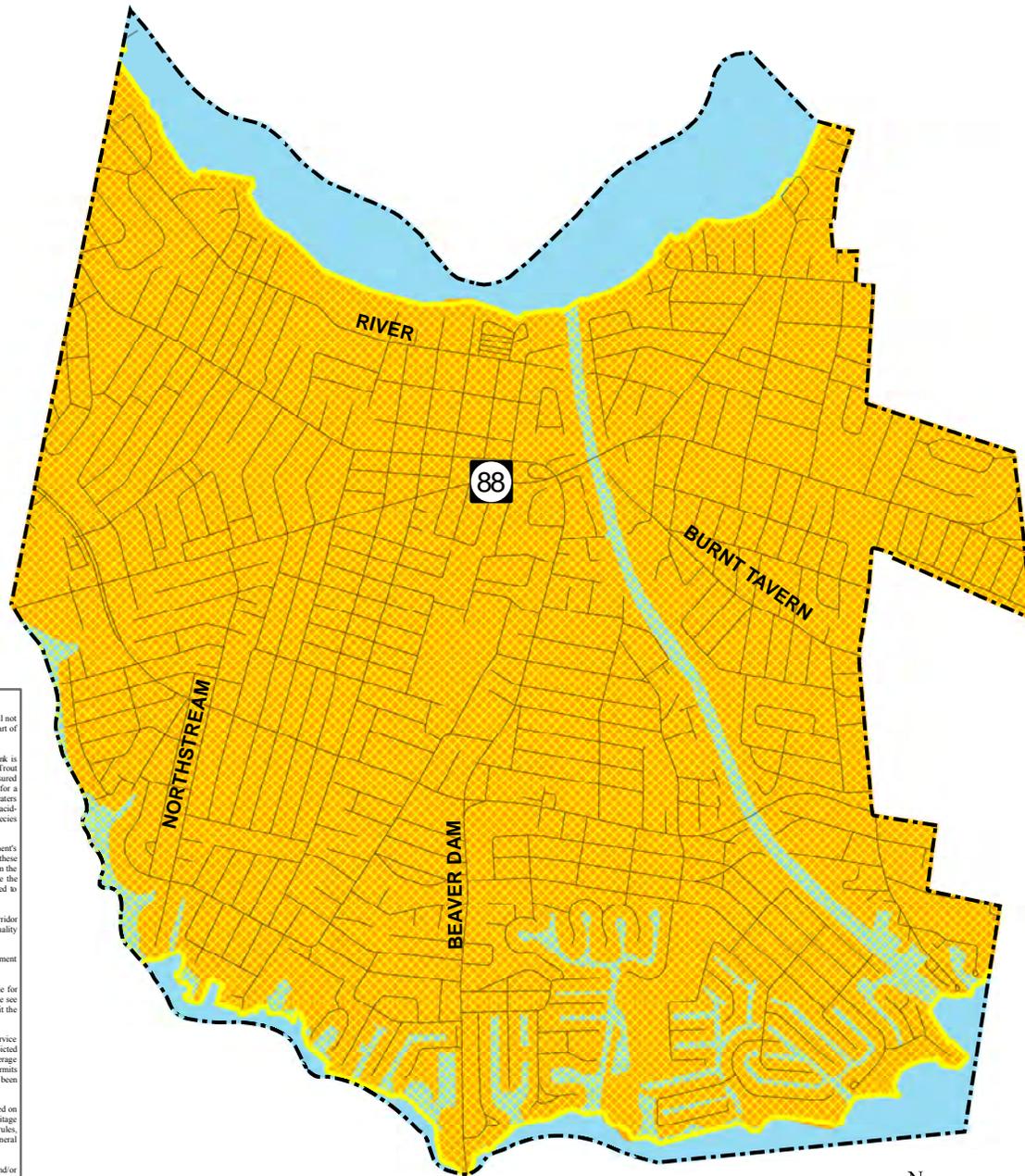
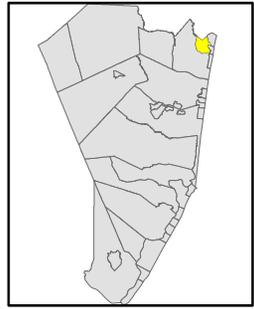
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Point Pleasant; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Northern Planning Area



*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

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Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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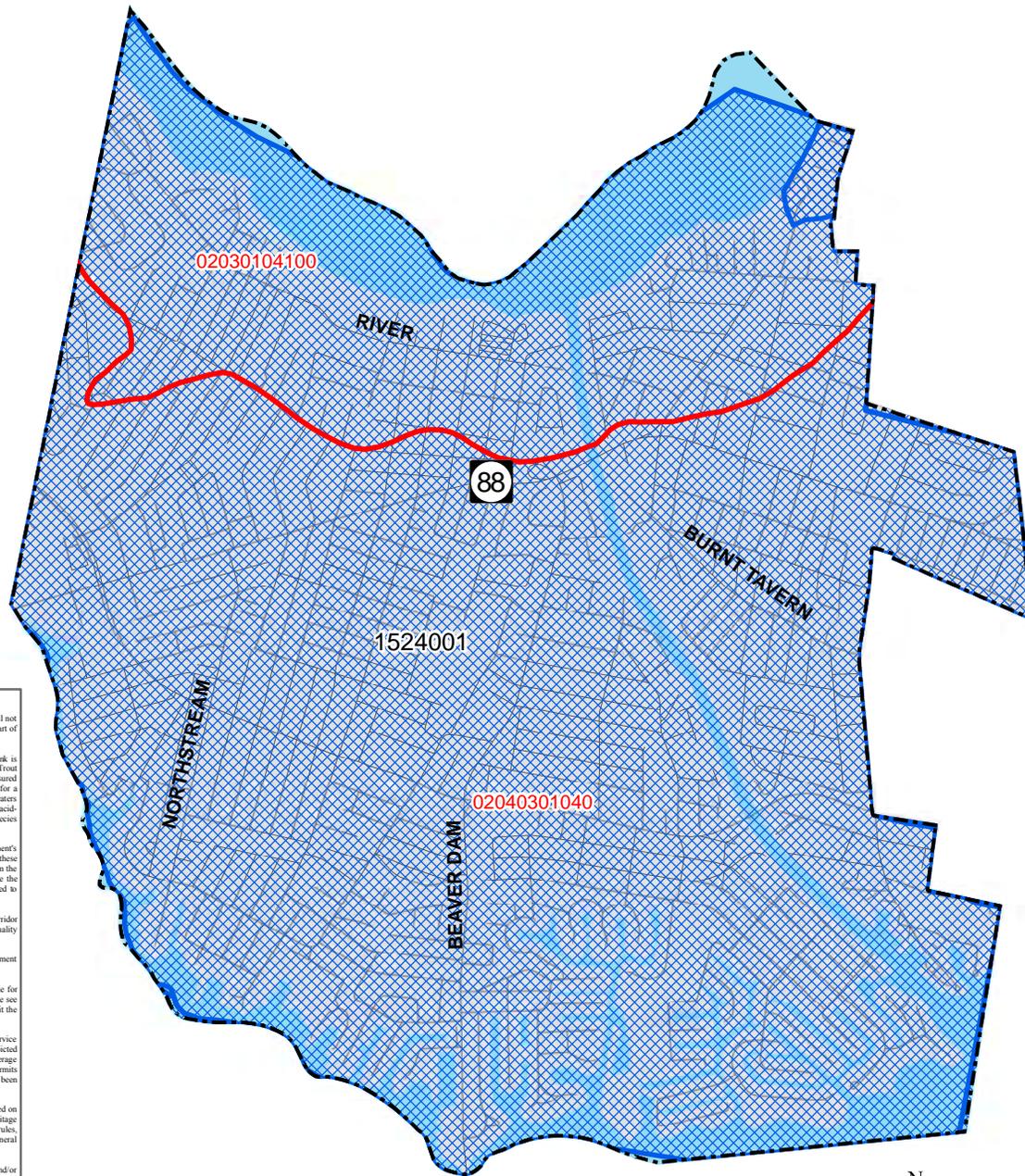
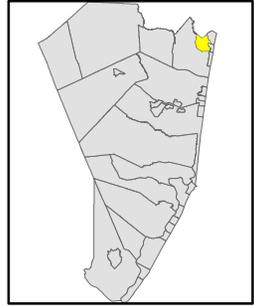
MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1524001	POINT PLEASANT WATER DEPARTMENT

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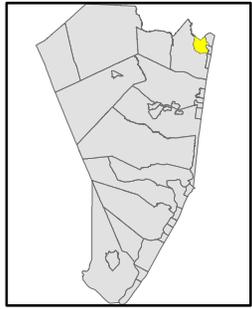
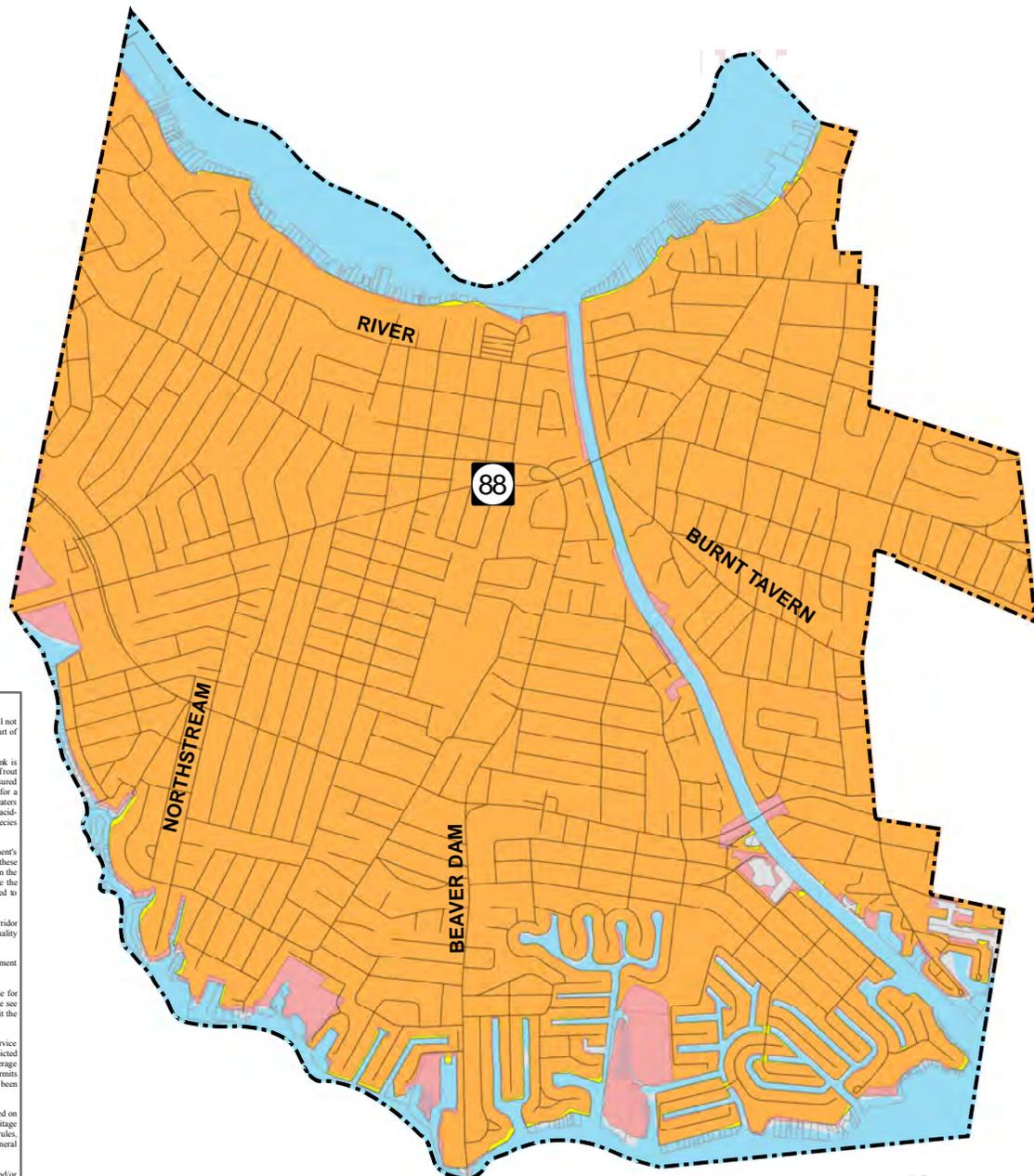
MAP 6

WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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1 inch = 2,100 feet

POINT PLEASANT BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

25. POINT PLEASANT BEACH BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Point Pleasant Beach was incorporated in 1886, and has a total land area of 1.50 square miles (960 acres). Located in northeastern Ocean County, Point Pleasant Beach fronts on the Atlantic Ocean to its east. On land, the Borough is bordered by Point Pleasant Borough to the west and Bay Head Borough to the south. The Manasquan River is to the north. The entire Borough is in the CAFRA region.

According to the 2010 U.S. Census, Point Pleasant Beach had a total population of 4,665 people and 3,373 housing units. Of these units, 1,338 were found to be vacant, and 1,131 of these were seasonal vacancies. NJTPA currently projects the Borough’s population to grow to 5,182 by the year 2035. Neither the seasonal fluctuations nor the forecasted population growth are likely to stress the Borough’s wastewater infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Point Pleasant Beach Borough is lined with beaches along its eastern edge. Additional beaches are located along the Manasquan River to the north. Bald eagle foraging grounds are also present along the Manasquan, as well as on Lake Louise and Lake of the Lilies. Wetlands are located in the Gull Island County Conservation Area, in the southwest corner of the municipality, and on the southeastern shore of Lake of the Lilies—a water body which lies entirely within a Natural Heritage Priority Site. There are no preserved farms.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	33.48	2.80%
Public Open Space/Recreational Areas	156.33	13.07%
Habitat T&E	337.79	28.24%
Natural Heritage Priority Sites	32.56	2.72%
Riparian Zones	9.07	0.76%
Preserved Agriculture	0.00	0.00%
Surface Water	245.98	20.56%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Chapter 19	5/3/2005
Master Plan		9/6/2007
Stormwater [County - MSWMP]	N/A	N/A [11/20/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 11	2009

Source: <http://clerkshq.com/default.ashx?clientsite=pointpleasantbeach-nj>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Point Pleasant Beach is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which originates on Ocean Avenue (Route 635) near Lake Louise. This interceptor flows south along Ocean Avenue, passing through the Point Pleasant Beach Lift Station (NPS-8) on the way. The line turns



west when it reaches New Jersey Avenue, then turns south along Bay Avenue (Route 604), by which it enters Point Pleasant Borough. From there, wastewater is conveyed to OCUA’s NWPCF in Brick Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 18.86 acres of developable land, of which 10.20 acres are zoned as residential and 8.51 acres are zoned as commercial. An additional 0.14 acres is zoned for “recreation and open space.” There is no developable land zoned for industrial uses in Point Pleasant Beach. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Point Pleasant Beach’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Point Pleasant Beach. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Point Pleasant Beach’s drinking water is diverted from the Atlantic City 800-Foot Sand aquifer via one well. The system is operated by the Point Pleasant Beach Borough Water Department, which also purchases potable surface water from outside sources. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
GC	General Commercial	26.88	0.20
HC	Highway Commercial	49.67	4.03
HR	High Density Residential	20.22	0.67
LC	Limited Commercial	8.80	0.29
LR	Low Density Residential	81.81	0.34
MC	Marine Commercial	55.61	3.83
RC	Resort Commercial	59.78	0.16
ROS	Recreation and Open Space	158.97	0.14
RR1	Resort Residential	18.50	0.00
RR2	Resort Residential	7.85	0.53
RR3	Resort Residential	10.68	0.00
SF5	Single Family Residential	349.99	8.67

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Point Pleasant Beach Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document, Point Pleasant Beach is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology produced figures for current flow which account for heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 517 people by 2035. This equates to a 0.039 MGD increase in wastewater flow being directed to OCUA’s NWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the NWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in the Borough. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s NWPCF can be found in the County Document of this WMP.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
NWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.720	0.149	0.869	0.908	0.000	0.908

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Point Pleasant Beach Borough								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1,700	1,392	0.308	52,700	43,143	9,557	620,500	248,321	372,179

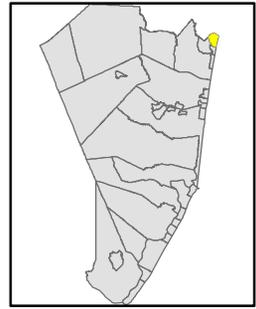
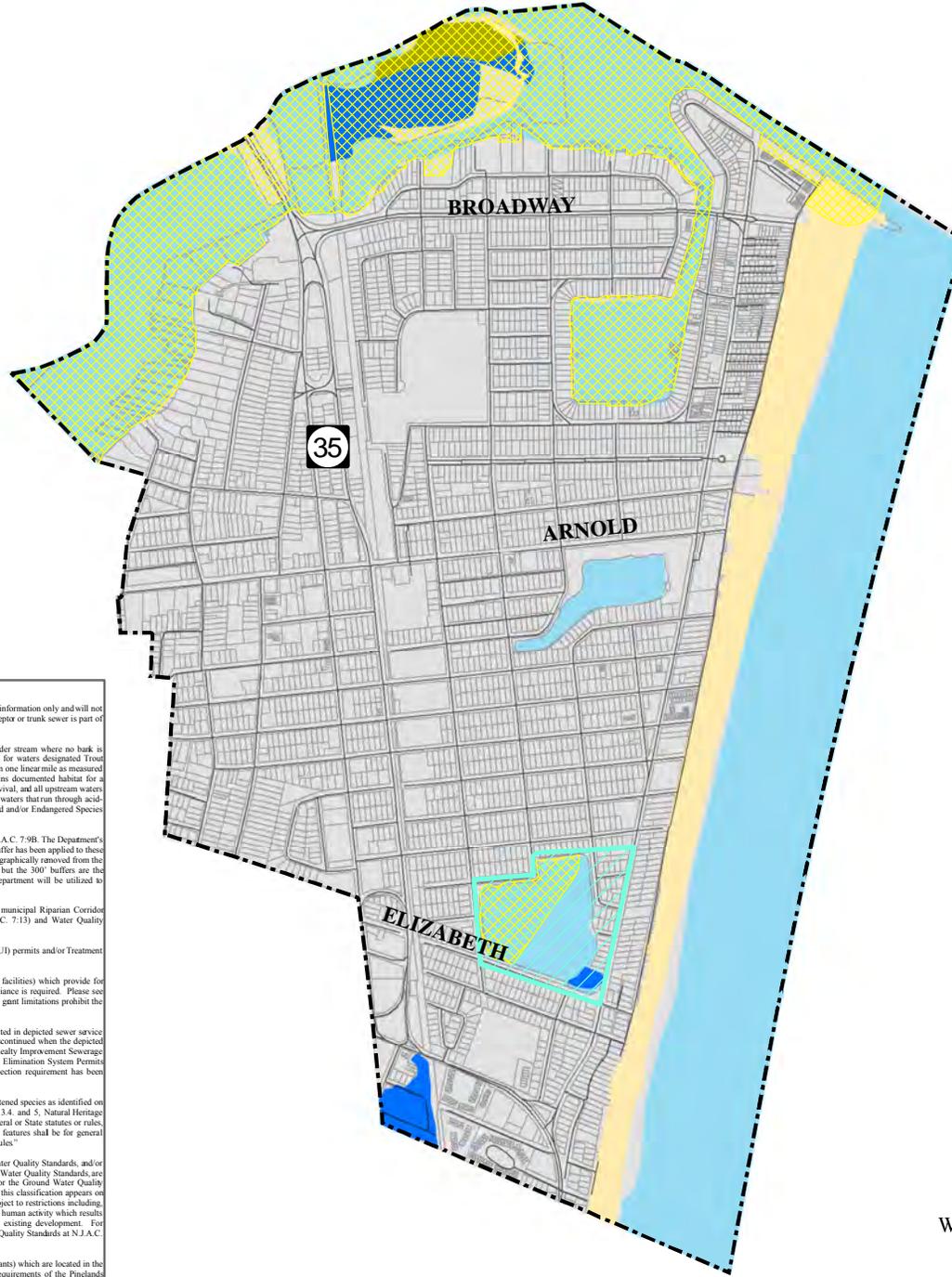
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Natural Heritage Priority Sites
-  Bald Eagle Foraging
-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



0 650 1,300 2,600 Feet

1 inch = 1,600 feet

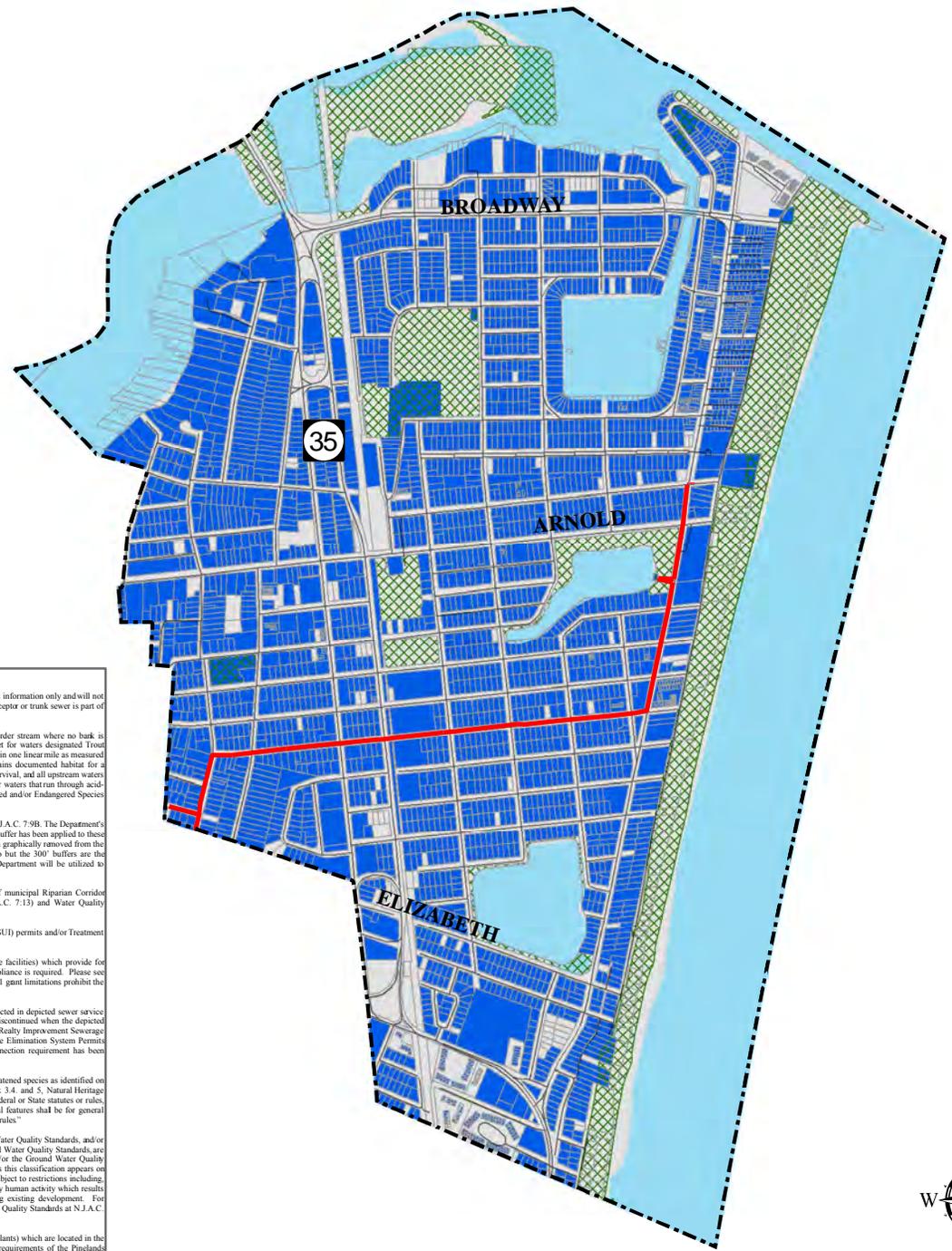
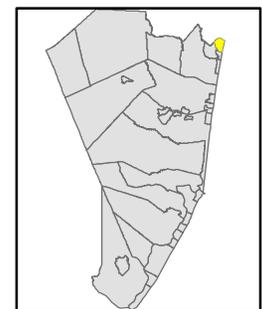
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
 -  Roads
 -  Public Open Space & Recreation Areas
 -  Surface Water
- Sewered Areas**
-  OCUA Northern DSW (NJ0028142)



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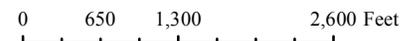
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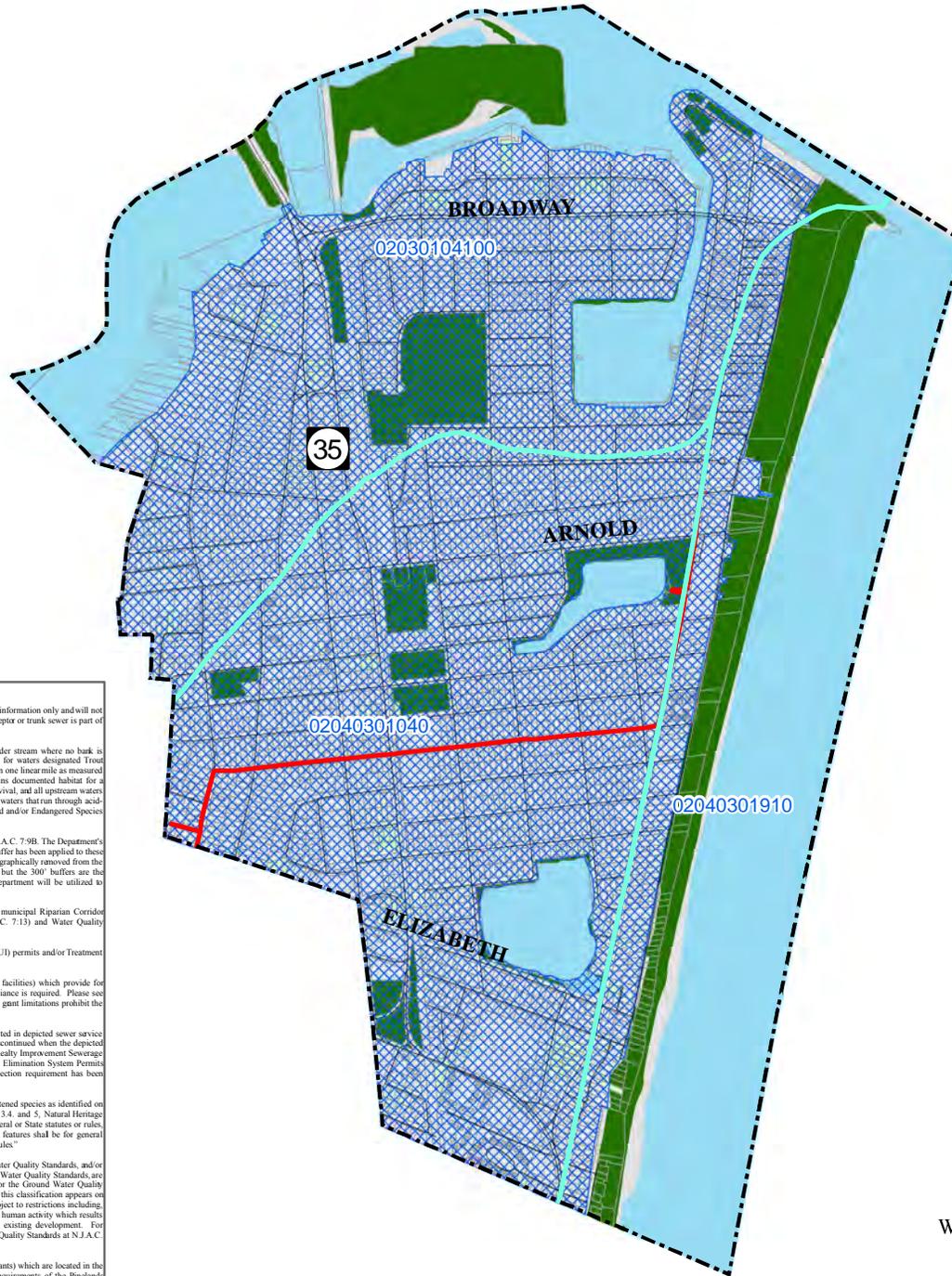
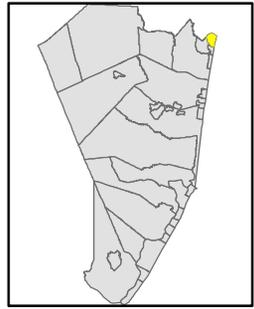
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREAS

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Northern DSW (NJ0028142)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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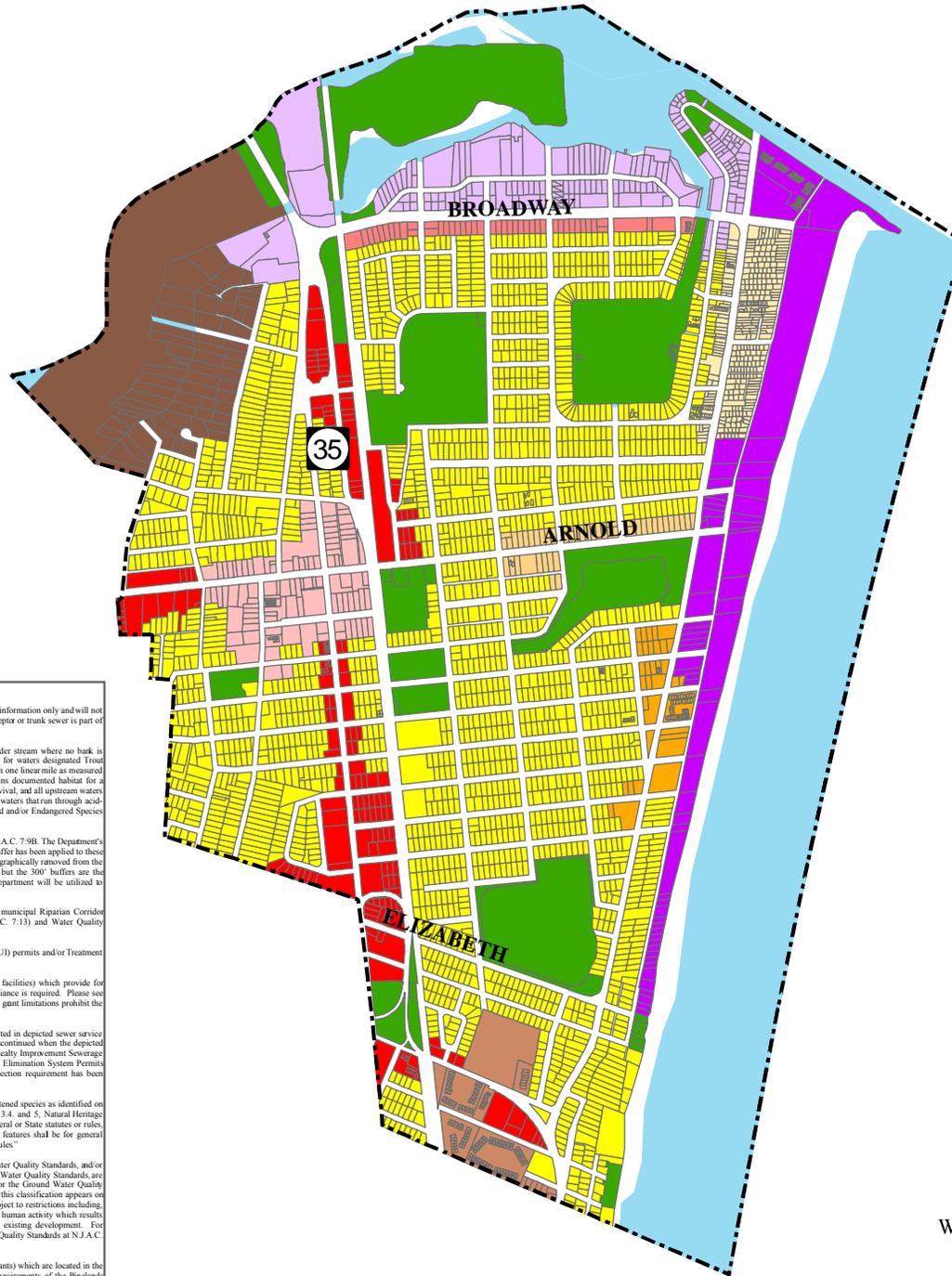
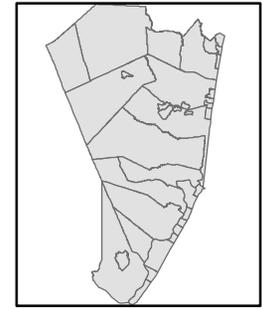
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- GC (General Commercial)
- HC (Highway Commercial)
- HR (High Density Residential)
- LC (Limited Commercial)
- LR (Low Density Residential)
- MC (Marine Commercial)
- RC (Resort Commercial)
- ROS (Recreation and Open Space)
- RR1 (Resort Residential)
- RR2 (Resort Residential)
- RR3 (Resort Residential)
- SF5 (Single Family Residential)



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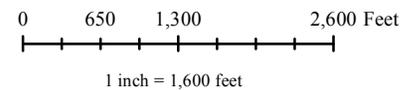
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Sources: Borough of Point Pleasant Beach; Ocean County Tax Board

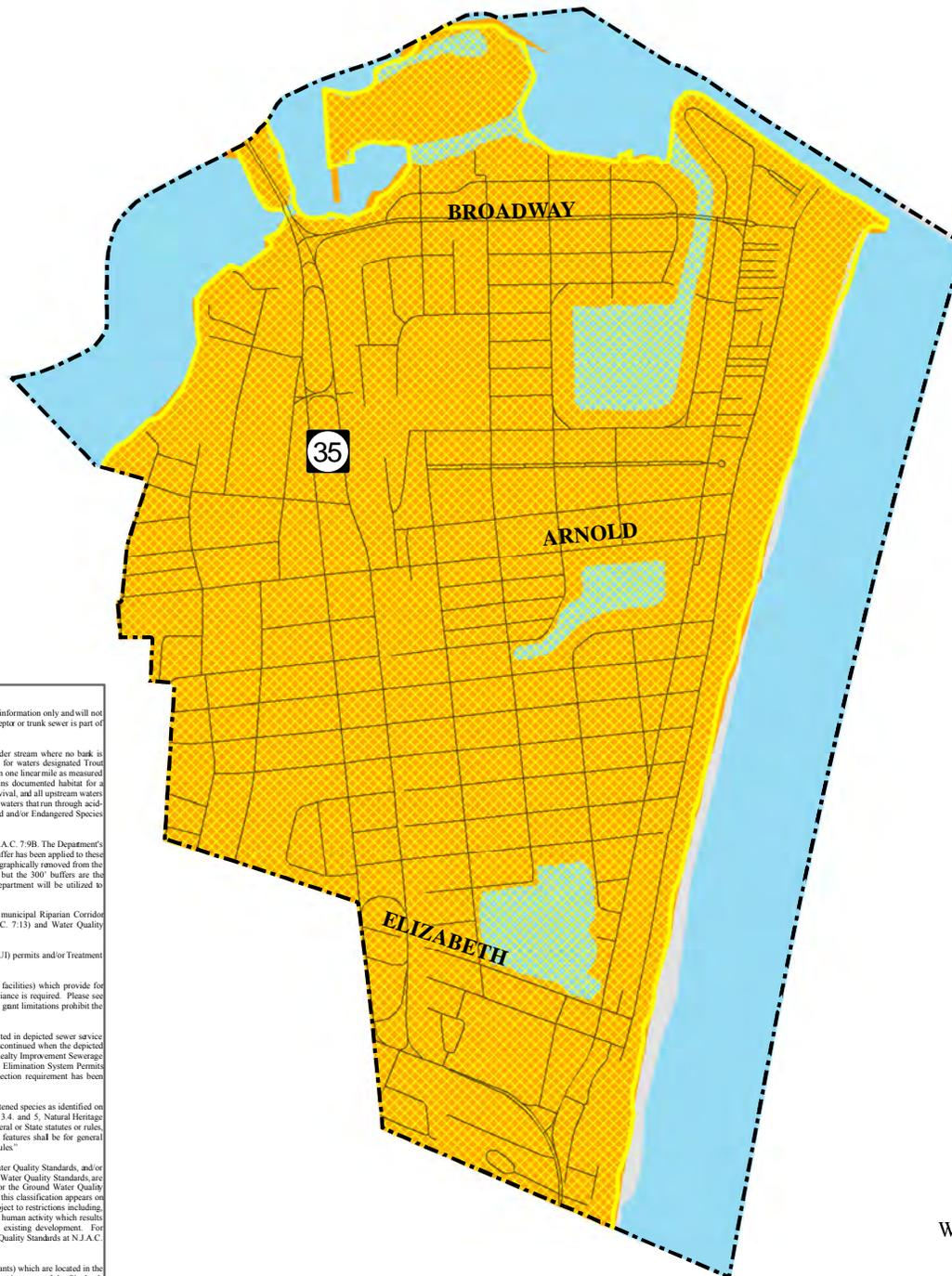
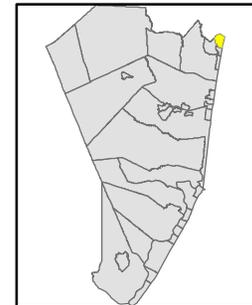
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Northern Planning Area



*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

*Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974.

*All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent.

*Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service.

*Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (NJSA 58:11-25) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Point Pleasant Beach municipal code Chapter 11.

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Prepared by: Ocean County Department of Planning, December 2012

Sources: New Jersey Department of Environmental Protection



0 650 1,300 2,600 Feet



1 inch = 1,600 feet

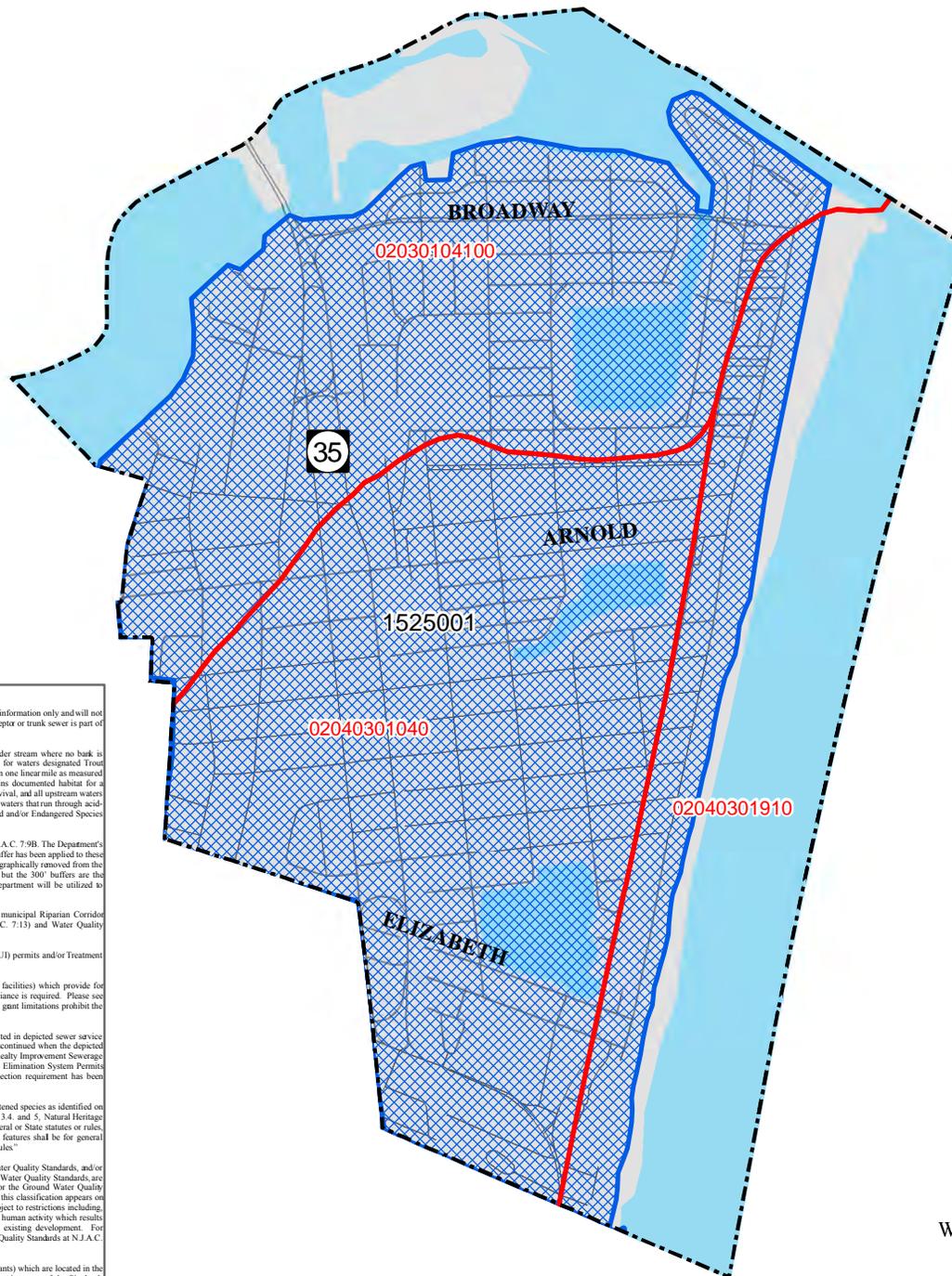
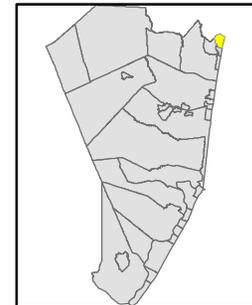
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1525001	POINT PLEASANT BEACH BOROUGH

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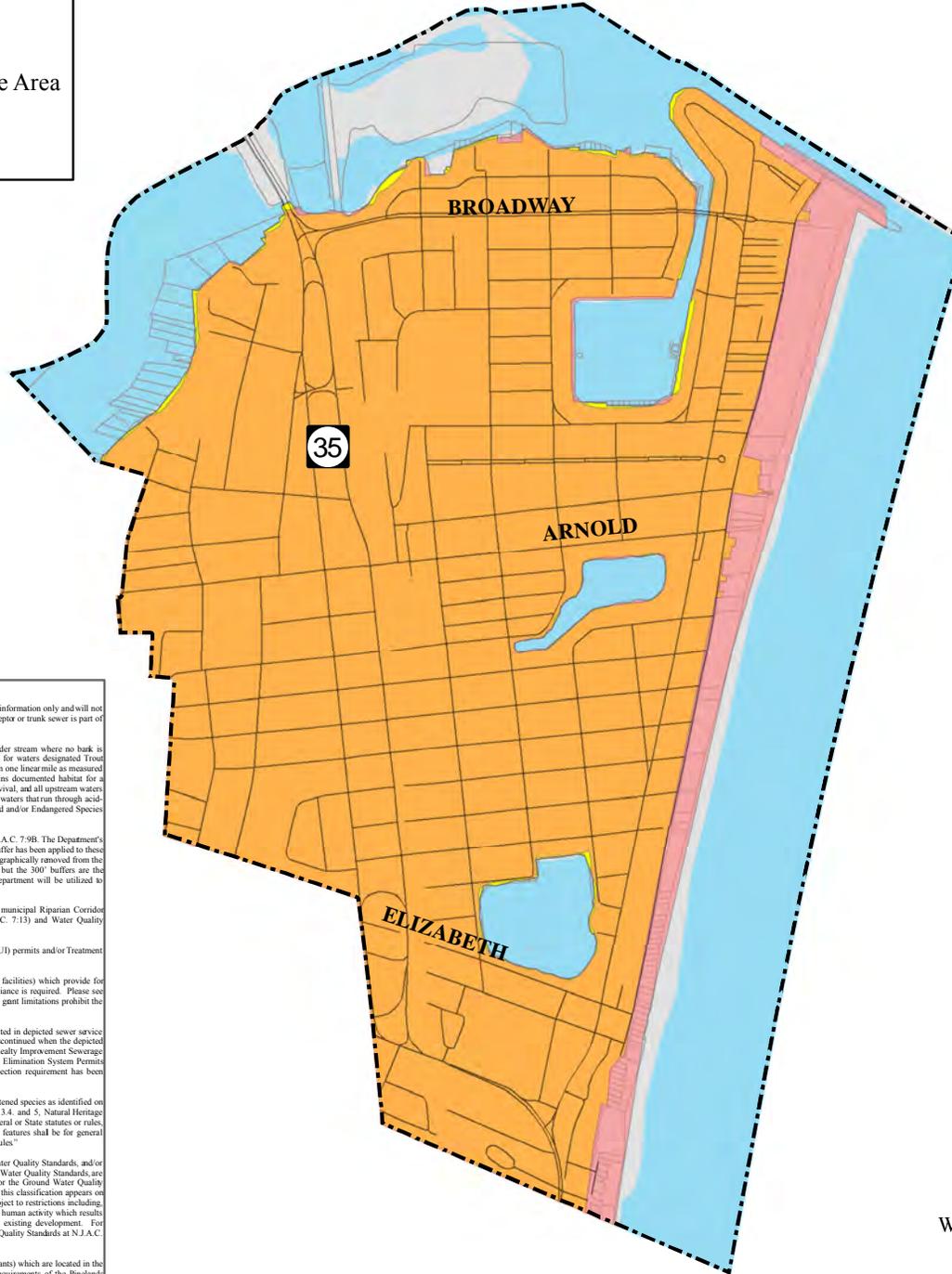
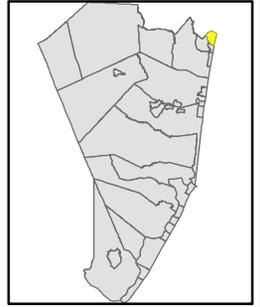
POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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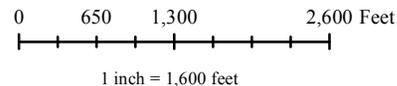
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



POINT PLEASANT BEACH BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

26. SEASIDE HEIGHTS BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

At 0.35 square miles of land mass (224 acres), the Borough of Seaside Heights is the smallest municipality in Ocean County. Incorporated in 1913, the Borough is situated on Barnegat Peninsula, to the east of the mouth of the Toms River. Seaside Heights fronts on the Atlantic Ocean to the east, and Barnegat Bay to the west. The Borough is bordered by Toms River Township to the north and Seaside Park Borough to the south. The whole municipality is within the CAFRA region.

The 2010 U.S. Census reported that Seaside Heights had a total population of 2,887 and 3,003 housing units, of which 1,627 were vacant. Of these vacant units, 1,153 were seasonally vacant. NJTPA is projecting that the population will grow by less than five percent by 2035, to a total of 3,036. Seaside Heights' current municipal wastewater infrastructure is capable of handling both seasonal fluctuations and future growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Seaside Heights' main landmass is lined with beaches to the east and west. Mike's Island—located in the far northwestern corner of the municipality—is covered by both emergent and non-emergent wetlands. Just to the south of Mike's Island, the much larger Harbor Island is covered entirely by emergent wetlands. There are no preserved farms or Natural Heritage Priority Sites in Seaside Heights.

Table 1 provides a breakdown of the Borough's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	86.30	18.18%
Public Open Space/Recreational Areas	124.74	26.27%
Habitat T&E	111.42	23.46%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	66.60	14.03%
Preserved Agriculture	0.00	0.00%
Surface Water	80.68	16.99%

Ordinance	Code	Date Adopted
Zoning	Chapter 246, Article V	12/16/2009
Master Plan		2005
Stormwater [County - MSWMP]	Chapter 199	5/21/2008 [11/25/2008]
Riparian Zone	Chapter 246, Article V, 246-43	4/16/1997
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 219, Article IV	3/15/2006

Source: <http://www.ecode360.com/SE1678>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Seaside Heights is connected to the existing sewer system. Wastewater is collected through the Borough's lateral lines. The municipal system connects to an OCUA interceptor which enters from Seaside Park Borough heading north along Central Avenue (Route 35). This interceptor turns west



along Grant Avenue and into the Seaside Heights Lift Station (CPS-2), then turns north on Bay Boulevard (Route 629), ultimately leaving the Borough through Toms River Township. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 10.05 acres of developable land of which 3.55 acres are zoned as residential and 6.50 acres are zoned as commercial. There is no developable land zoned for commercial or industrial uses in Seaside Heights. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Seaside Heights’ sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Seaside Heights. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Seaside Heights’ drinking water is derived from four wells, two which draw from the Kirkwood-Cohansey Aquifer, one which draws from the Piney Point Aquifer, and one which draws from the Potomac-Raritan-Magothy Aquifer. The system is operated by the Seaside Heights Water Department, and is capable of pumping 3.168 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
LDR	Low Density Residential	56.44	0.94
PUB	Public	158.17	0.00
R	Residential	35.13	1.78
R&RB	Residential and Retail Business	3.85	0.83
RB	Retail Business	45.76	5.52
RR	Resort Recreational	11.67	0.24
RRA	Resort Recreational	9.25	0.74
SF	Single Family Residential	6.34	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Seaside Heights Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Seaside Heights is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 149 people by 2035. This equates to a 0.011 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Seaside Heights. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.650	0.136	0.786	0.797	0.000	0.797

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Seaside Heights Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
3.168	1.689	1.479	72.000	52.357	19.643	475.000	301.497	173.503

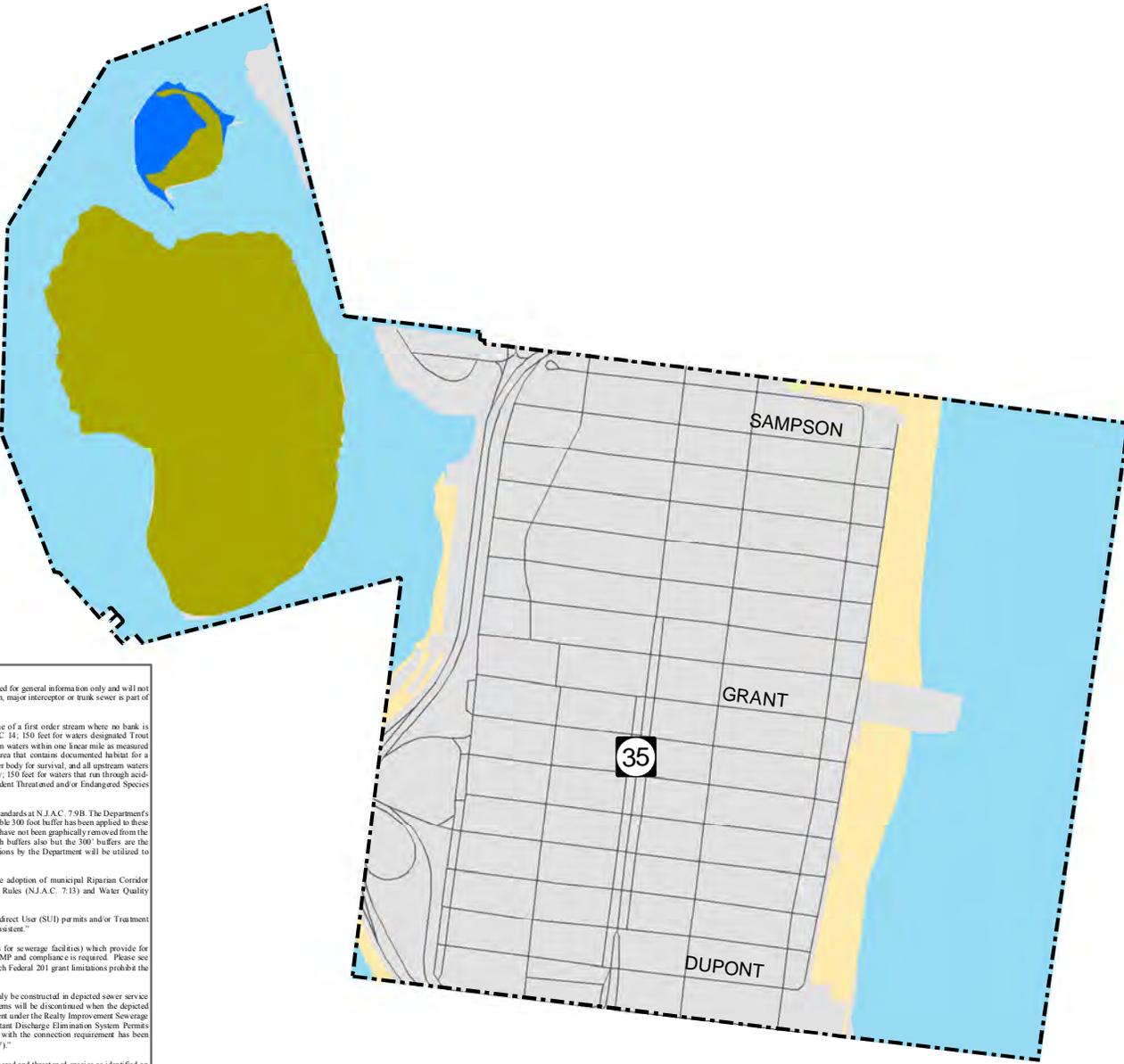
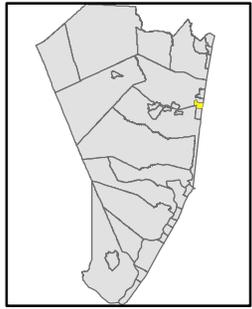
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



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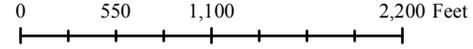
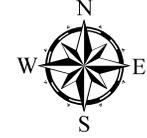
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,100 feet

SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

MAP 1

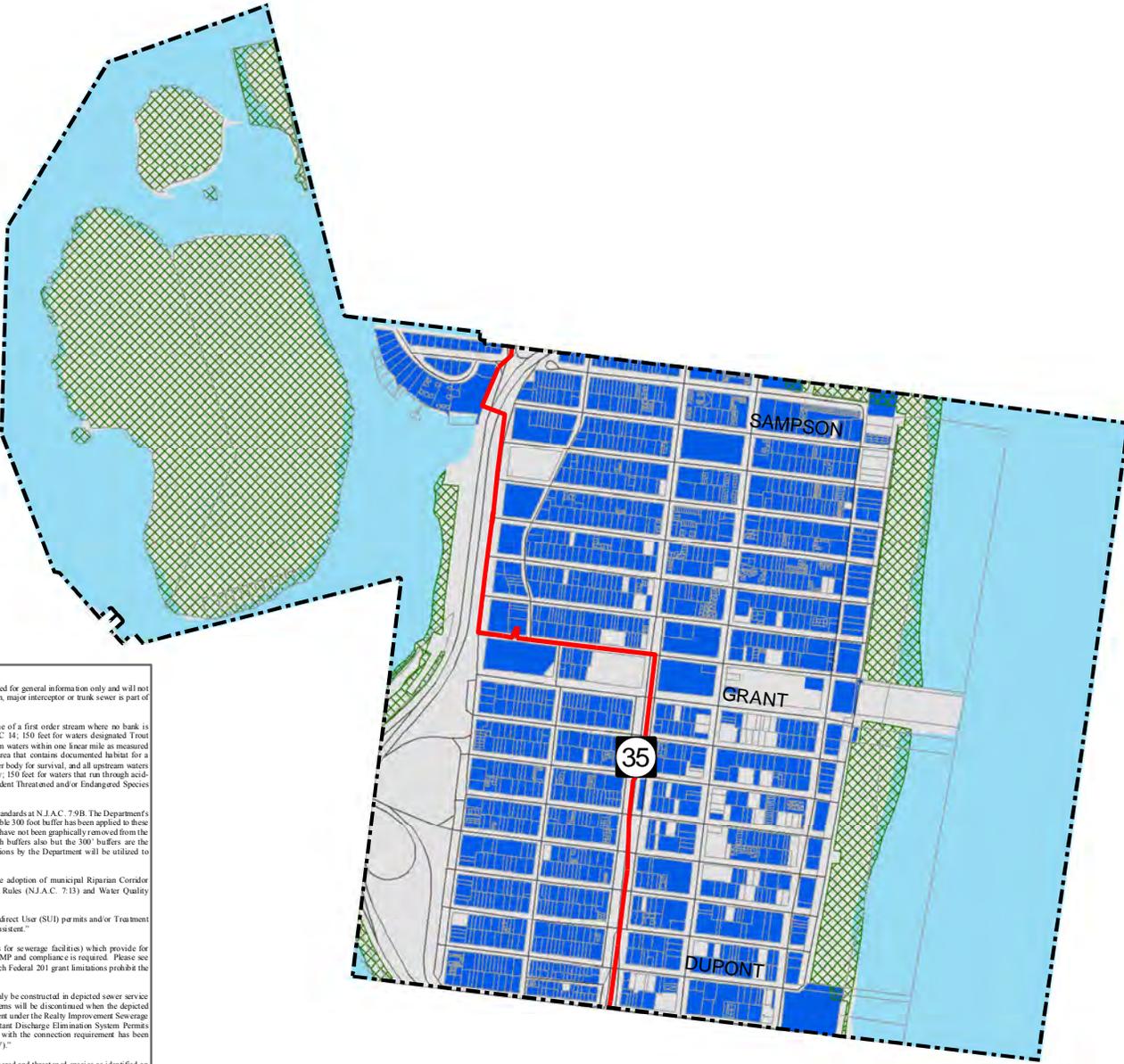
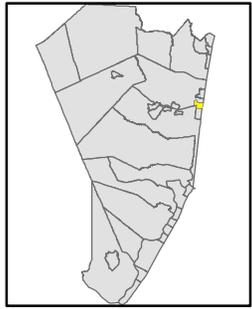
ENVIRONMENTAL FEATURES

Legend

-  Interceptor
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water

Sewered Areas

-  OCUA Central DSW (NJ0029408)



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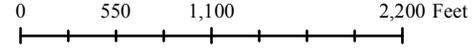
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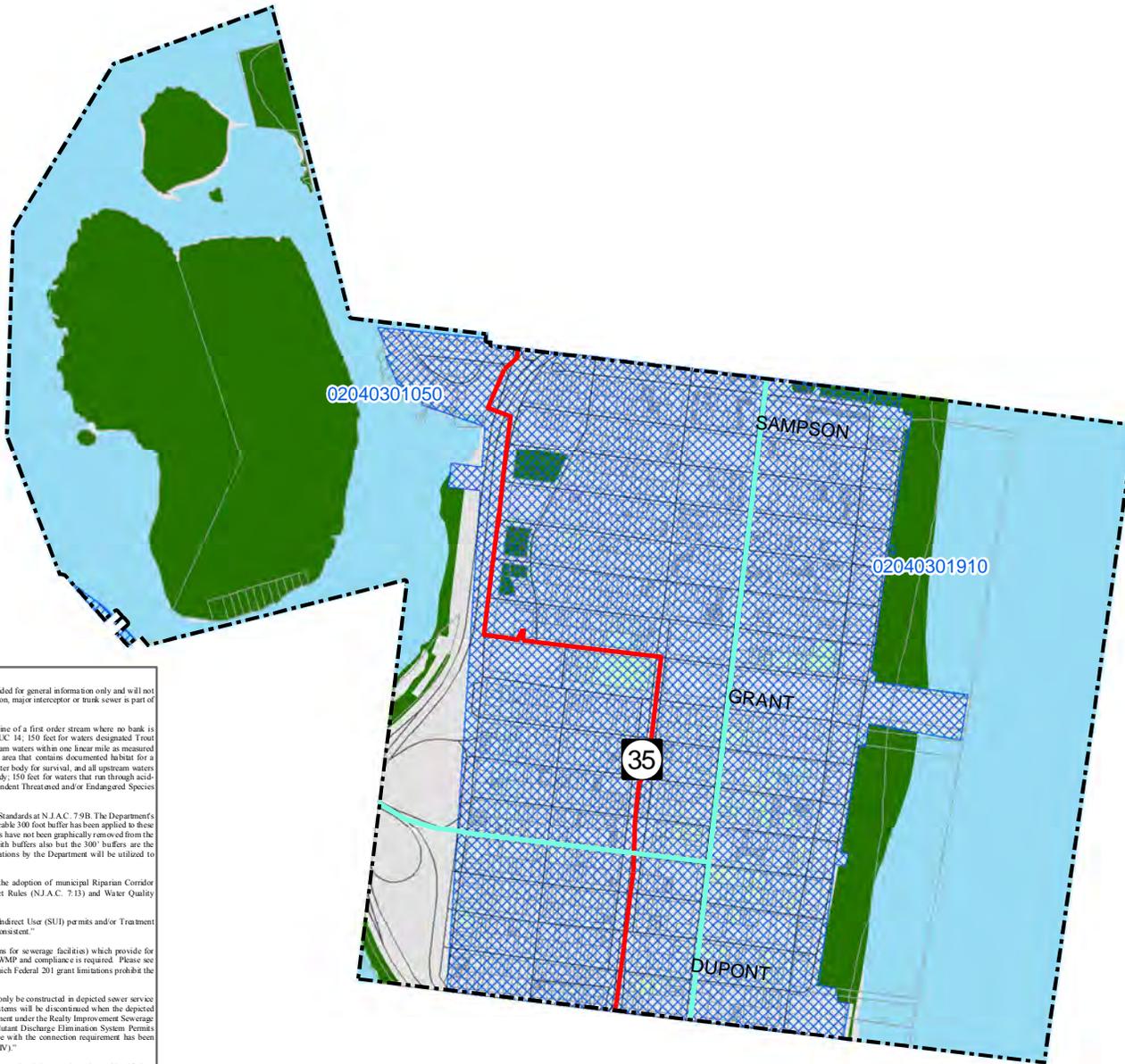
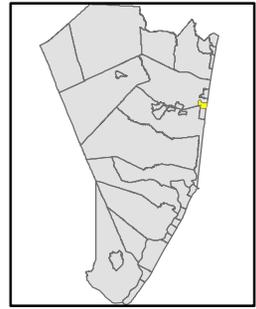
SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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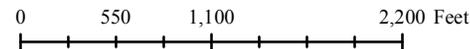
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SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

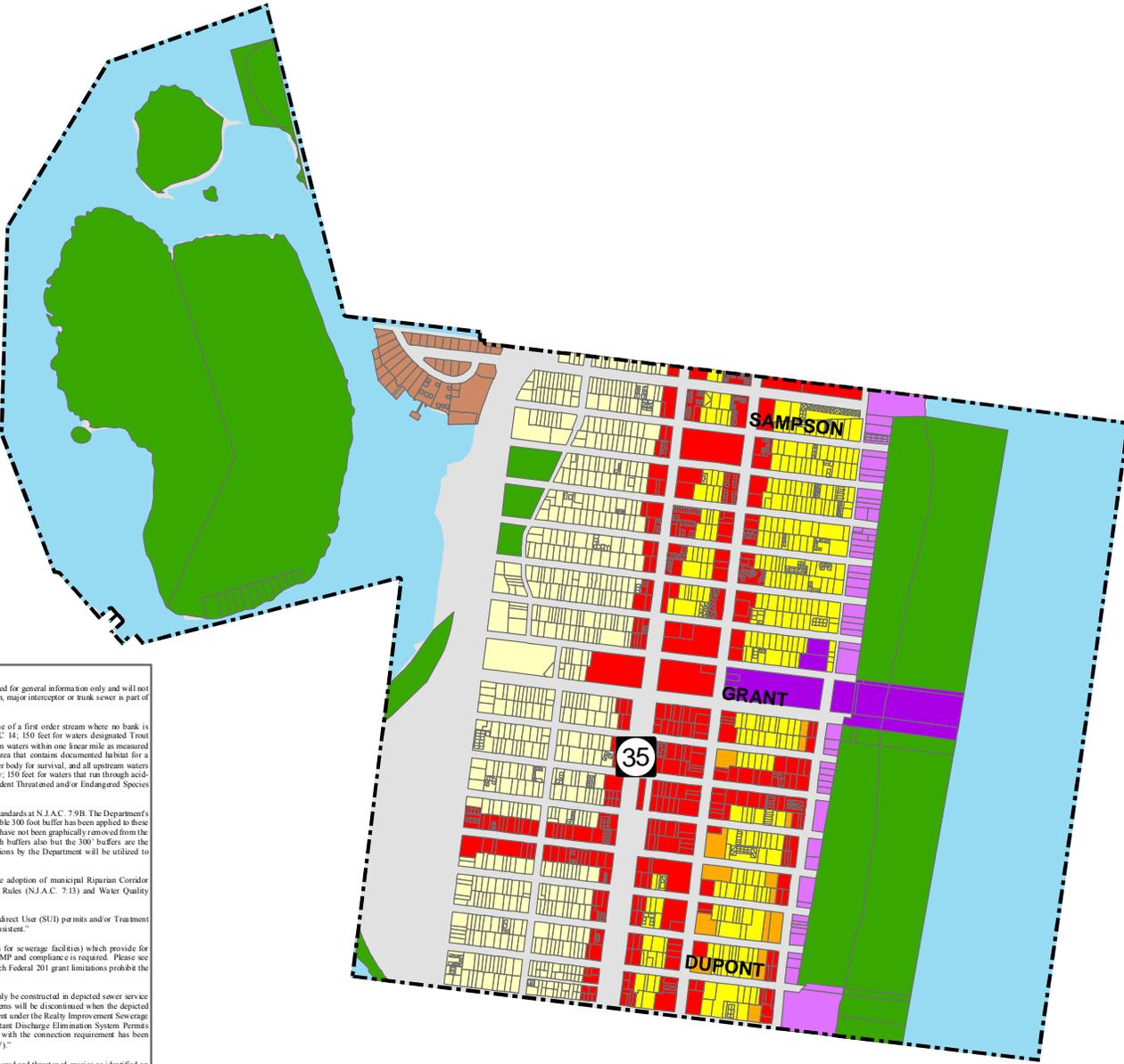
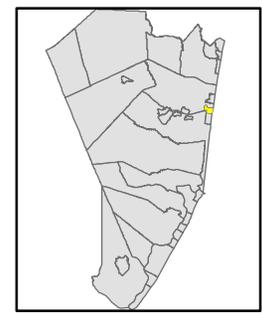
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- LDR (Low Density Residential)
- PUB (Public)
- R (Residential)
- R&RB (Residential and Retail Business)
- RB (Retail Business)
- RR (Resort Recreational)
- RRA (Resort Recreational)
- SF (Single Family Residential)



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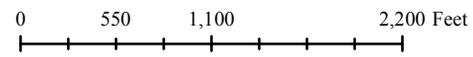
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Seaside Heights; Ocean County Tax Board



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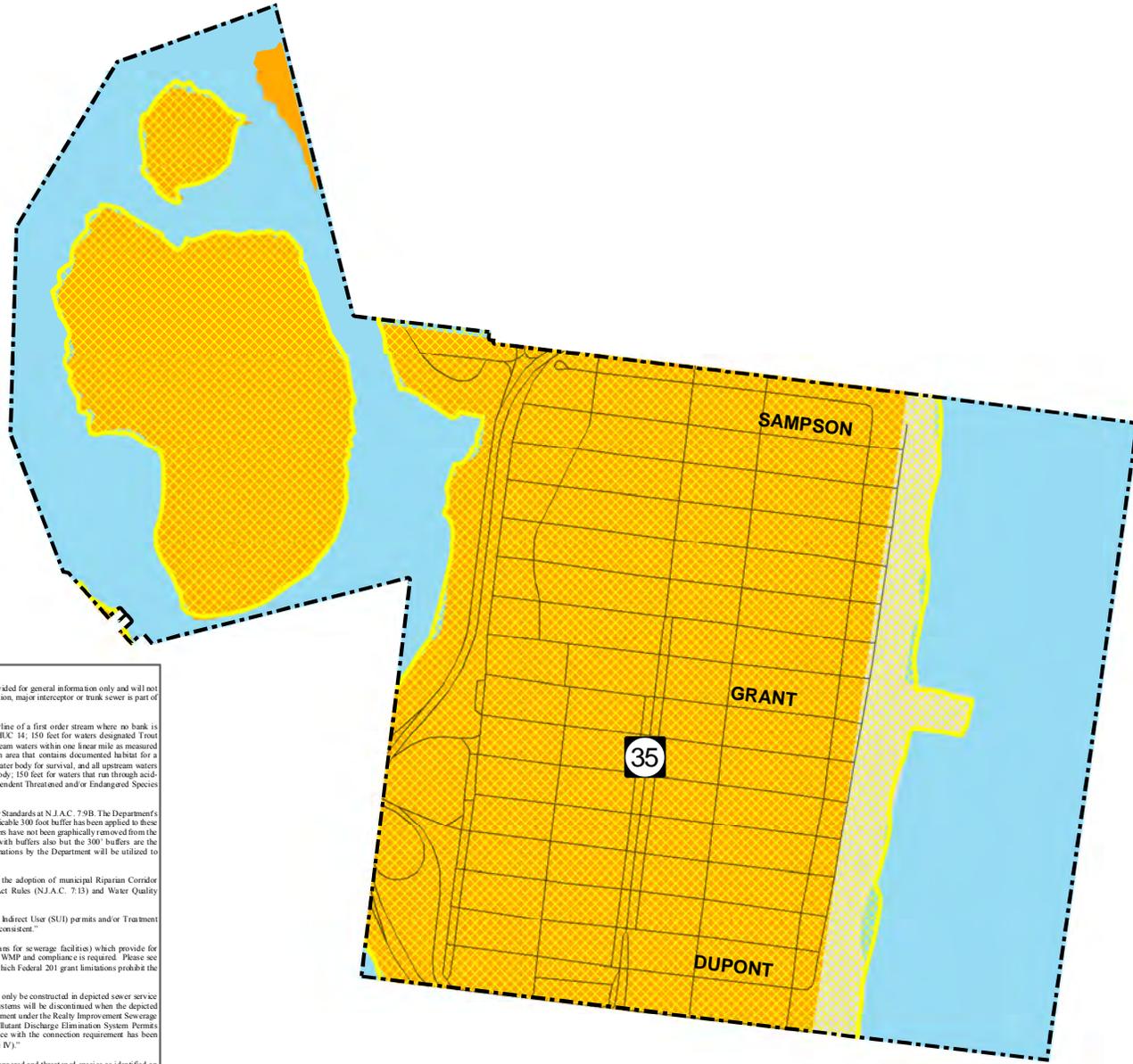
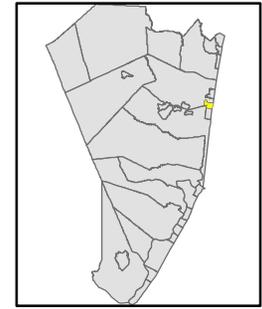
SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Really Improved Sewerage and Facilities Act (N.J.S.A. 13:123) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Seaside Heights Ordinance (Chapter 219, Article IV)."

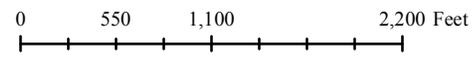
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,100 feet

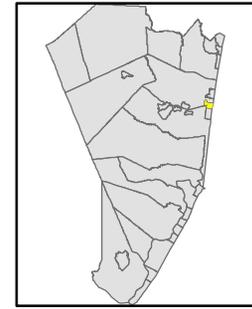
SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1526001	SEASIDE HEIGHTS WATER DEPARTMENT

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1 inch = 1,100 feet

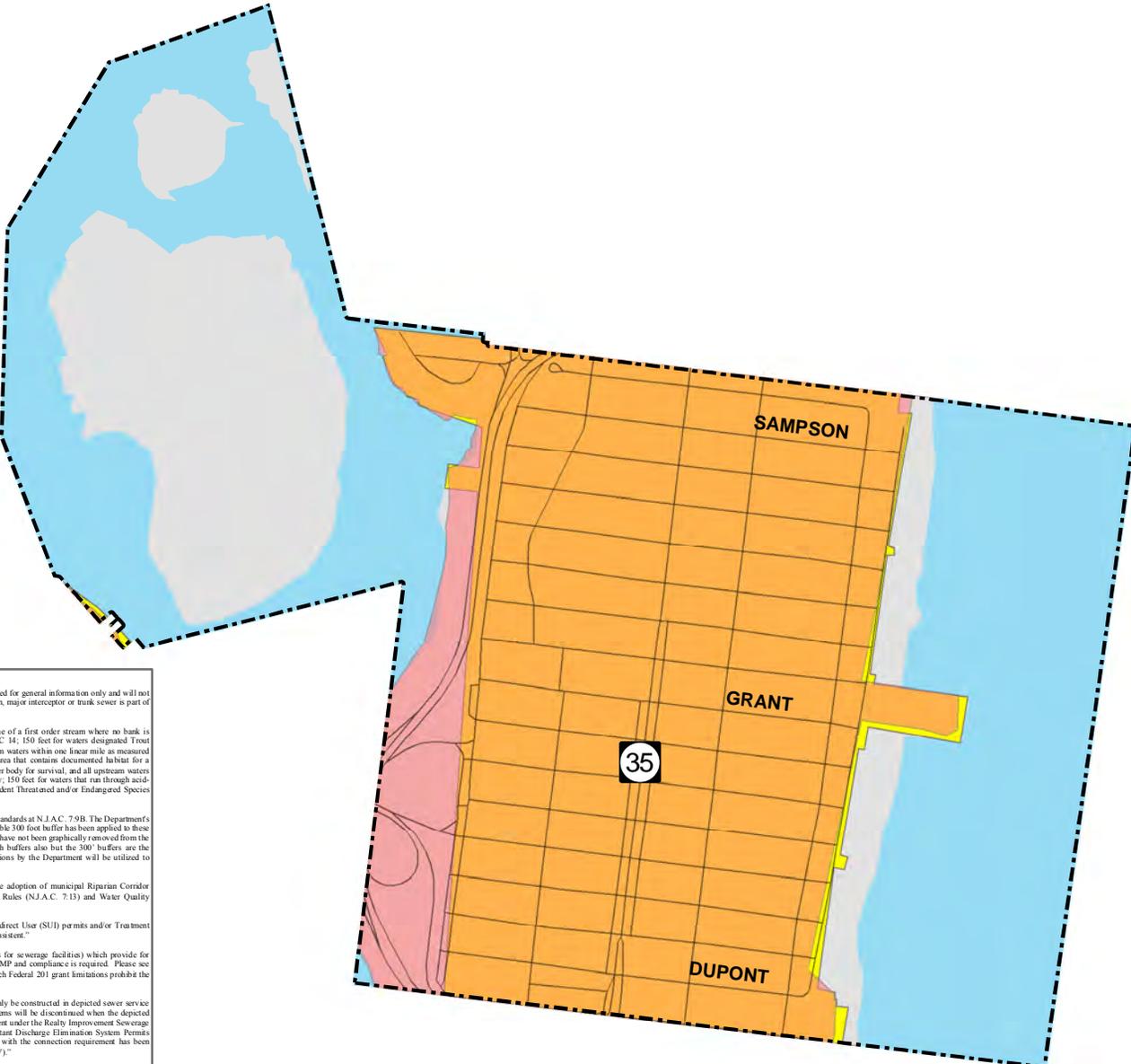
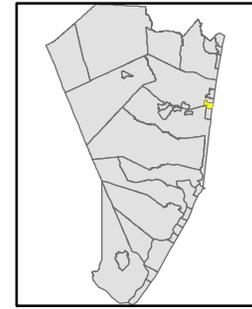
SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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1 inch = 1,100 feet

SEASIDE HEIGHTS BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

27. SEASIDE PARK BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Seaside Park was incorporated in 1898. It is located in the eastern central portion of Ocean County, along a stretch of Barnegat Peninsula east of the mouth of the Toms River. The Borough fronts on the Atlantic Ocean to the east and Barnegat Bay to the west. On land, Seaside Park shares a border with Seaside Heights Borough to the north and Berkeley Township to the south. It is approximately 0.60 square miles (384 acres) in size on land, and lies within the CAFRA region.

In 2010, the U.S. Census documented Seaside Park’s population as 1,579. The same Census identified 2,703 housing units, of which 1,870 were vacant. Of these vacant units, 1,639 were seasonally vacant. NJTPA projects that the population will grow by 1.40% by the year 2035, to 1,601 year-round residents. The existing municipal wastewater infrastructure is capable of handling seasonal fluctuations and growth in population.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

To the east and west, Seaside Park’s frontages on the Atlantic Ocean and Barnegat Bay, respectively, are lined with beaches. Just inland of the Borough’s ocean side beaches is a parallel stretch of emergent wetlands. There are no Natural Heritage Priority Sites, riparian zones, or preserved farms in the municipality.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	0.00	0.00%
Public Open Space/Recreational Areas	67.11	9.67%
Habitat T&E	81.16	11.70%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.00	0.00%
Preserved Agriculture	0.00	0.00%
Surface Water	257.63	37.13%

Ordinance	Code	Date Adopted
Zoning	Chapter 200, Article VII	9/1/2009
Master Plan		12/12/2006
Stormwater [County - MSWMP]	Chapter 399	7/28/2011 [3/1/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 450, Article II	12/20/2001
Source: http://www.ecode360.com/SE0265		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Seaside Park is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to the OCUA interceptor which runs north along Barnegat Avenue from the boundary with Berkeley Township in the south. At 12th Avenue, the line converts to a force main and turns east. At Central Avenue (Route 35) the force main turns north, reverting



back to an interceptor at the crossing of 7th Avenue. From here, the interceptor continues northward along Central Avenue until it leaves the municipality through Seaside Heights Borough. From there, wastewater is conveyed to OCUA’s CWPCF in Berkeley Township. There are no lift or pump stations in Seaside Park.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 3.87 acres of developable land, of which 2.66 acres are zoned as residential and 1.27 acres are zoned as commercial. There is no developable land zoned for industrial uses in Seaside Park. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Seaside Park’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Seaside Park. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Seaside Park’s drinking water is diverted from the Piney Point Aquifer via four wells. The system is operated by the Seaside Park Water Department, and is capable of pumping 1.008 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B	Boardwalk	9.16	0.00
C	Commercial	12.73	1.27
H	Hotels	3.31	0.00
P	Public	222.24	0.00
R-1	Residential	114.13	1.63
R-2	Residential	39.30	0.00
R-3	Residential	48.50	0.98

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Seaside Park Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Seaside Park is one of twelve municipalities for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by a mere 22 people by 2035. This equates to a 0.002 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the CWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Barnegat Light. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.664	0.066	0.730	0.732	0.000	0.732

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of monthly and yearly demands. Daily deficits in water supply have been recorded. While there is adequate infrastructure to supply water to towns running deficits, there is also ongoing coordination with the NJDEP to address deficits through additional conservation measures and or increased water supply allocation where appropriate.

Table 5: Public Water Purveyor Capacity								
Seaside Park Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.432	0.761	-0.329	34.000	23.602	10.398	258.000	171.645	86.355

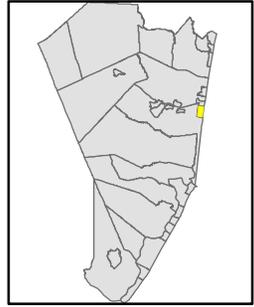
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 4)
-  Emergent Wetlands (Rank 5)
-  Surface Water



1 inch = 1,300 feet

SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

*Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974.

*All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent.

*Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service.

*Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Ready Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Seaside Park municipal code Chapter 459, Article II.

*Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4 and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules.

*Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A6.

*For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP.

*Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:27E-3.27), Wetlands Buffers (N.J.A.C. 7:27E-3.30), Secondary Impacts (N.J.A.C. 7:27E-6.3), Public Facility Use Policies (N.J.A.C. 7:27E-7.6), Water Quality (N.J.A.C. 7:27E-8.4), Ground Water Use (N.J.A.C. 7:27E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B.

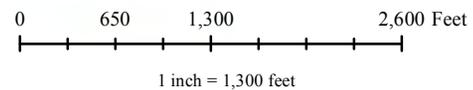
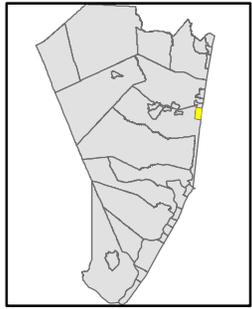
Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Force Main
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water

Sewered Areas

-  OCUA Central DSW (NJ0029408)



SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Ready Improvement Sewerage and Facilities Act (NJSA 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Seaside Park municipal code Chapter 459, Article II."

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"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class I-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation status shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A6."

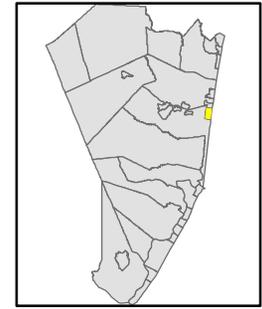
"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:27E-3.27), Wetlands Buffers (N.J.A.C. 7:27E-3.30), Secondary Impacts (N.J.A.C. 7:27E-6.3), Public Facility Use Policies (N.J.A.C. 7:27E-7.6), Water Quality (N.J.A.C. 7:27E-8.4), Ground Water Use (N.J.A.C. 7:27E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



1 inch = 1,300 feet

SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3,4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules"

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:4B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9a6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9a6."

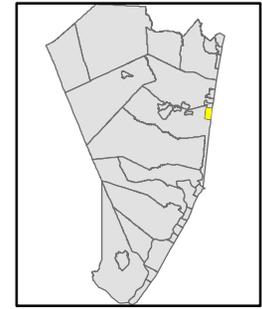
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

- B (Boardwalk)
- C (Commercial)
- H (Hotels)
- P (Public)
- R-1 (Residential)
- R-2 (Residential)
- R-3 (Residential)



1 inch = 1,300 feet

SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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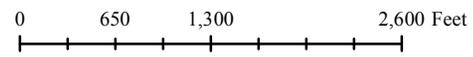
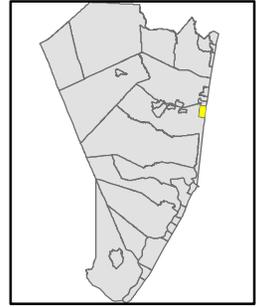
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of Seaside Park; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Central Planning Area



1 inch = 1,300 feet

SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ
MAP 5
REGIONAL PLANNING AREA

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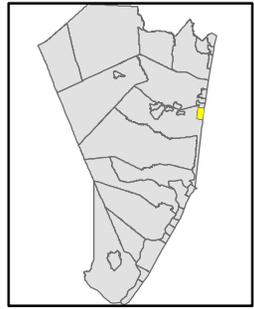
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



PWSID	PURVEYOR NAME
1527001	SEASIDE PARK WATER DEPARTMENT

*Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.

*Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

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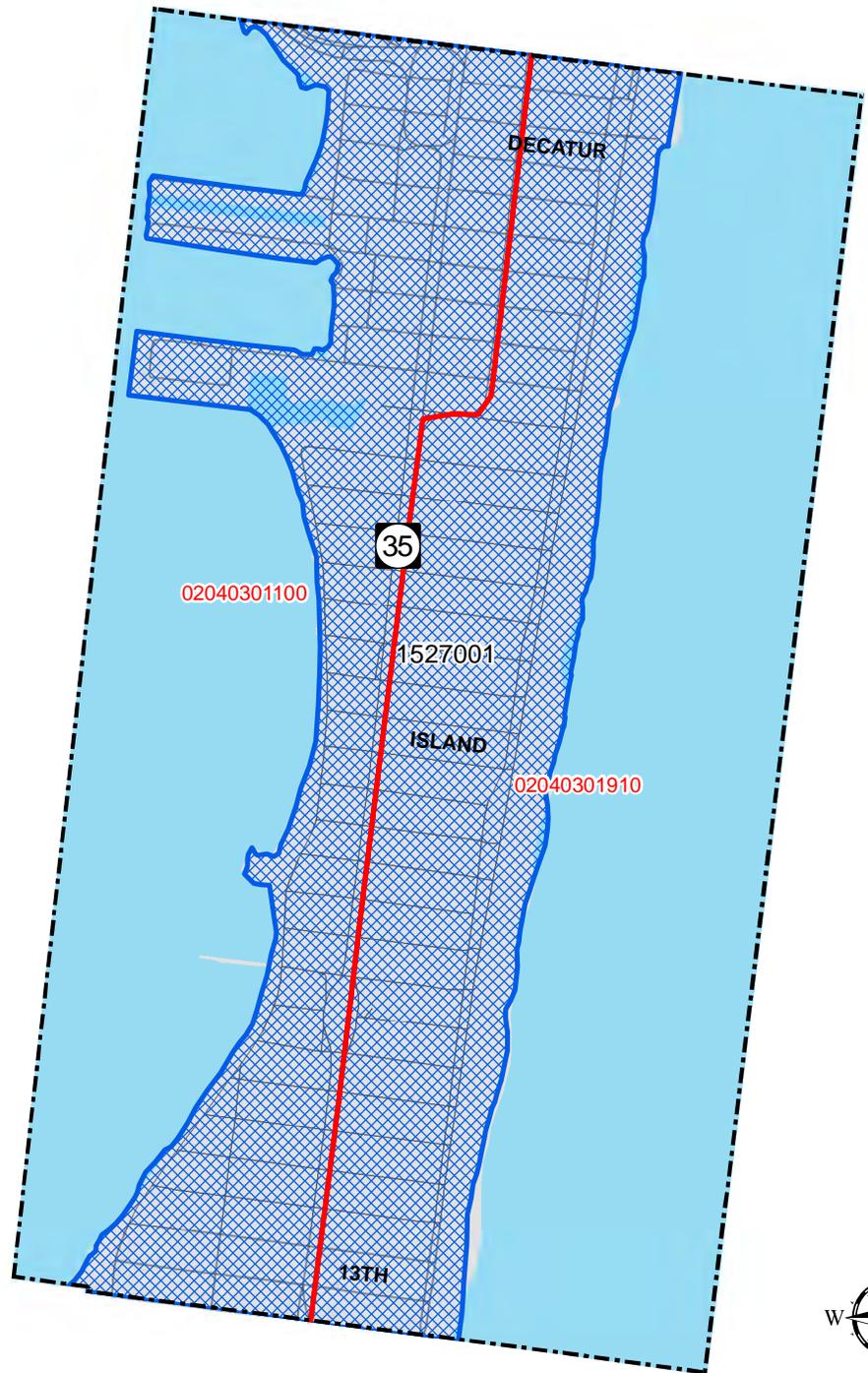
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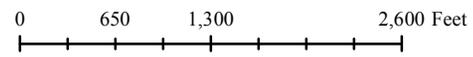
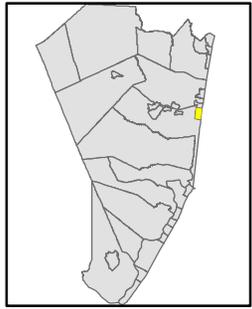
1 inch = 1,300 feet

SEASIDE PARK BOROUGH
 OCEAN COUNTY, NJ
 MAP 6
 WATER SUPPLY

Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



1 inch = 1,300 feet

**SEASIDE PARK BOROUGH
OCEAN COUNTY, NJ**

DELTA MAP

SIGNIFICANT CHANGES

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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

28. SHIP BOTTOM BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Ship Bottom was incorporated in 1925, and is located on Long Beach Island in the southeastern portion of Ocean County. It fronts on the Atlantic Ocean to the east and Manahawkin Bay to the west. On land, it is bordered by Surf City Borough to the north and Long Beach Township to the south. Situated near the midpoint of Long Beach Island, Ship Bottom is the single point of roadway access to the island, via the Manahawkin Bay Bridge which connects to the mainland in Stafford Township. At 0.71 square miles of land (454.4 acres) in size, this shore community is entirely within the CAFRA region.

The 2010 U.S. Census documented Ship Bottom’s population as 1,156 people, and identified 2,066 housing units, of which 1,511 were vacant. Of these vacant units, 1,323 were seasonally vacant. NJTPA projects that the population will grow by 8.64% by the year 2035, to 1,265 year-round residents. The existing municipal wastewater infrastructure is capable of handling seasonal fluctuations and the expected population growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Ship Bottom has a stretch of emergent and non-emergent wetlands along its eastern edge, just inland of the beaches which front on the Atlantic Ocean. Another small beach is located on the bay side, just south of the Barnegat Bay Bridge. There are no preserved farms or Natural Heritage Priority Sites in the municipality.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	44.28	7.06%
Public Open Space/Recreational Areas	40.97	6.53%
Habitat T&E	44.72	7.13%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.57	0.09%
Preserved Agriculture	0.00	0.00%
Surface Water	178.39	28.44%

Ordinance	Code	Date Adopted
Zoning	Chapter 16.12	1999
Master Plan		2008
Stormwater [County - MSWMP]	Chapter 16.92	2006 [4/19/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 13.08	10/26/2010

Source: Municipal Clerk, <http://library.municode.com/index.aspx?clientId=16772>

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Ship Bottom is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which flows from south to north along Long Beach Boulevard, entering from Long Beach Township at 31st Street, and



leaving at 3rd Street into Surf City Borough. This line reenters the municipality from Surf City Borough as a force main, heading south along Barnegat Avenue. It then turns west along 5th Street and passes out of town under Manahawkin Bay. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 7.23 acres of developable land, of which 3.58 acres are zoned as residential and 3.65 acres are zoned as commercial. There is no developable land zoned for industrial uses in Ship Bottom. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Ship Bottom’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Ship Bottom. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Ship Bottom’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via two wells. The system is operated by the Ship Bottom Water Department, and is capable of pumping 1.152 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones				
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)	
EC	Environmentally Critical	0.34	0.00	
GC	General Commercial	25.26	2.48	
MFR	Multi Family Residential	9.53	0.00	
OR	Office Residential	22.08	0.88	
P	Public	28.08	0.00	
R1	Single Family Residential	82.92	2.10	
R2	Single Family Residential	48.72	8.45	
R3	Single and Two Family Residential	48.80	0.62	
SC	Shore Commercial	23.30	1.25	

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Ship Bottom Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Ship Bottom is one of twelve municipalities which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough's heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 109 people by 2035. This equates to a 0.008 MGD increase in wastewater flow being directed to OCUA's SWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, "Additional Approved Commercial Flow" accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Ship Bottom. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA's SWPCF can be found in the County Document of this WMP.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.417	0.045	0.462	0.470	0.000	0.470

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough's residents in excess of daily and yearly demands. Monthly deficits in water supply have been recorded. While there is adequate infrastructure to supply water to towns running deficits, there is also ongoing coordination with the NJDEP to address deficits through additional conservation measures and or increased water supply allocation where appropriate.

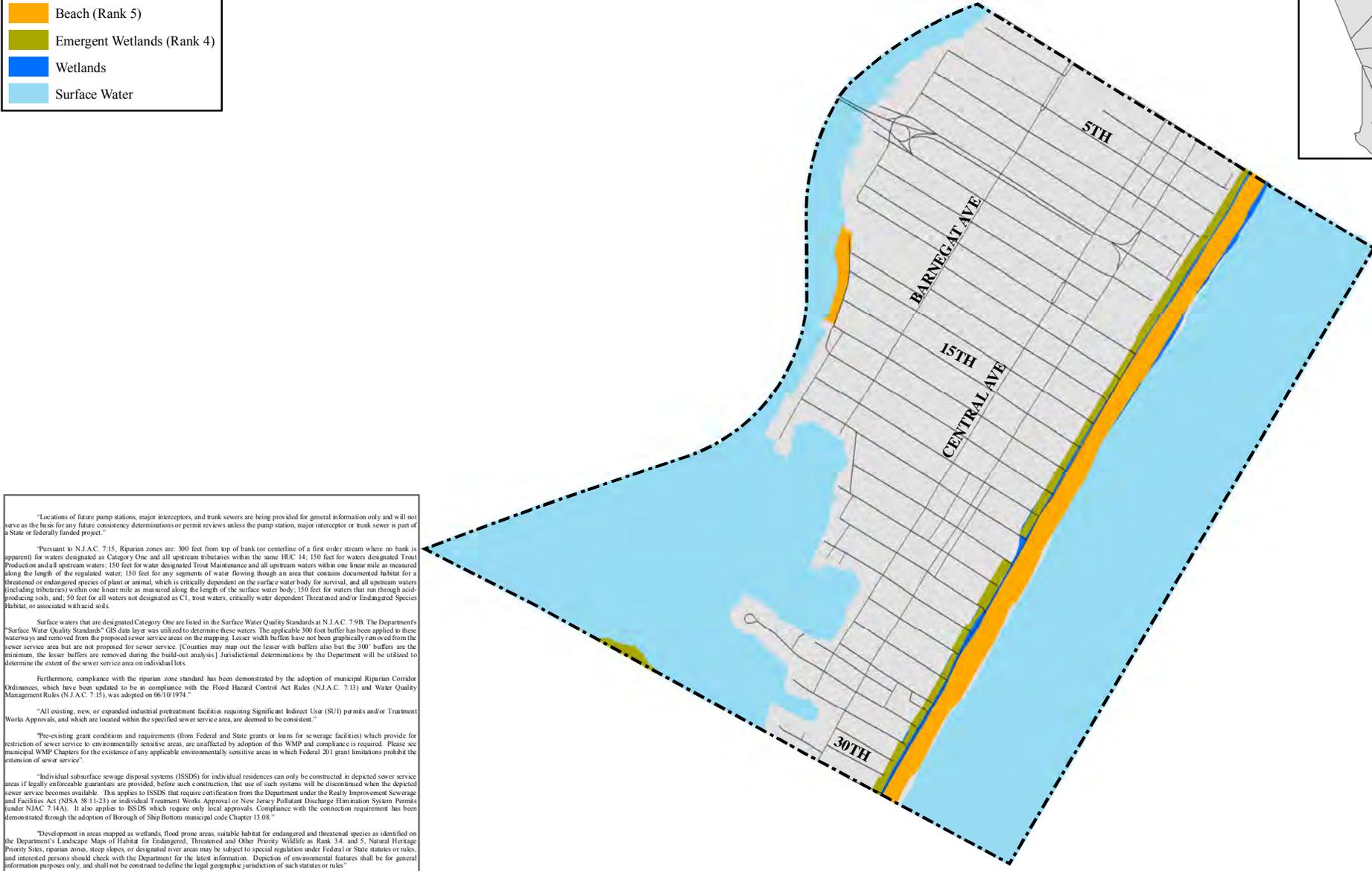
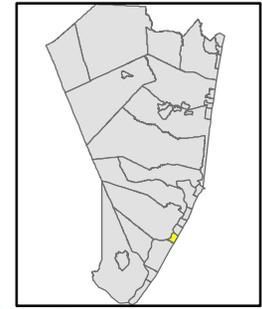
Table 5: Public Water Purveyor Capacity								
Ship Bottom Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.152	0.931	0.221	26.000	28.875	-2.875	180.000	151.933	28.067
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



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Prepared by: Ocean County Department of Planning, November 2012
Sources: New Jersey Department of Environmental Protection



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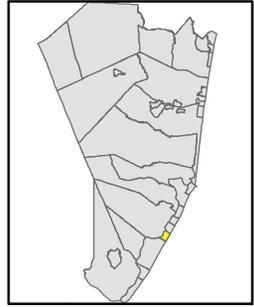
SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

- Interceptor
- Force Main
- Roads
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Southern DSW (NJ0026018)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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Prepared by: Ocean County Department of Planning, November 2012
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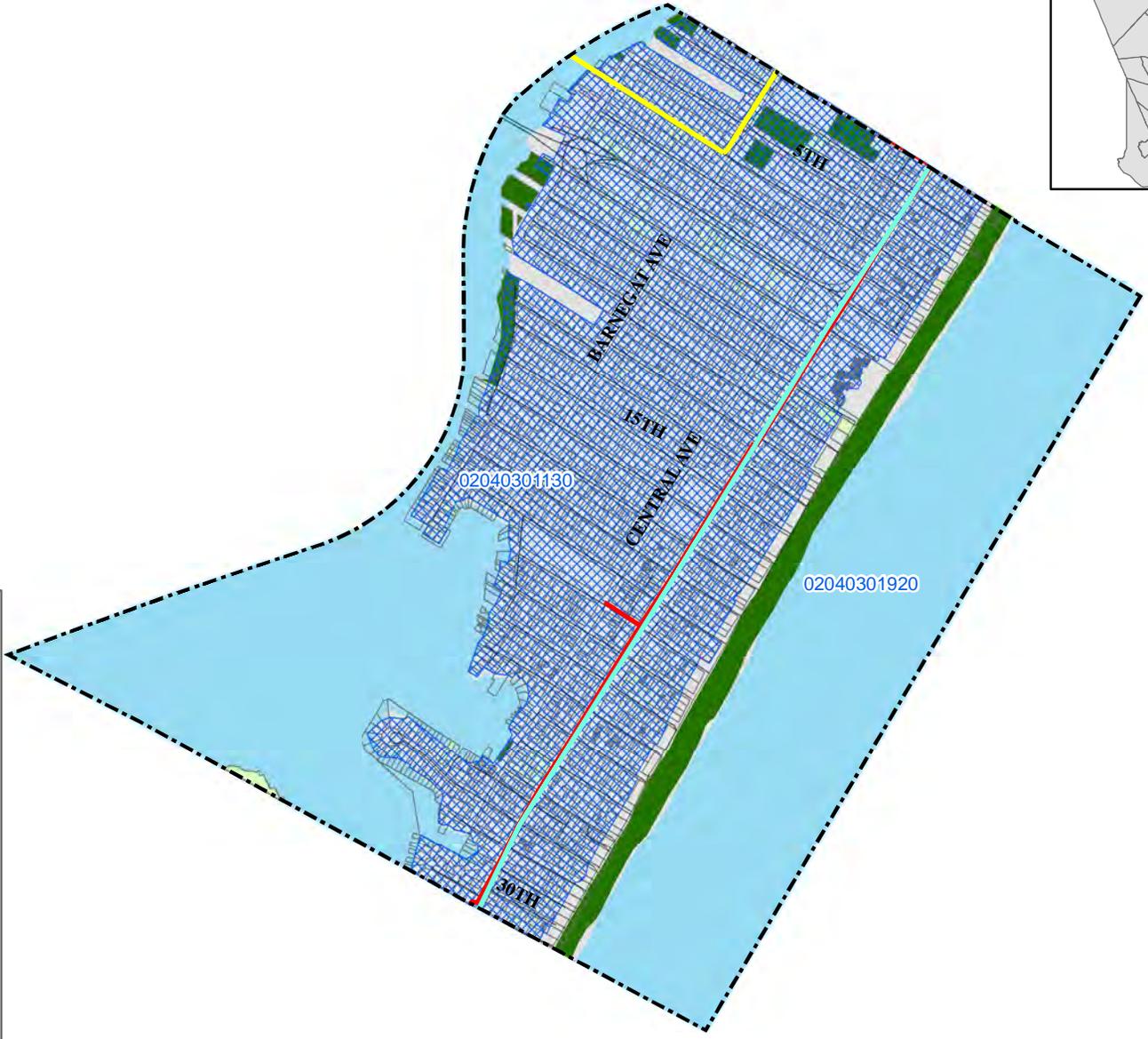
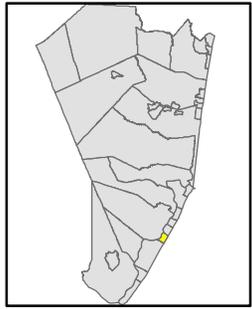
SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



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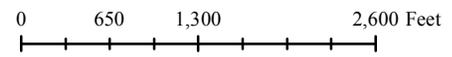
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SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

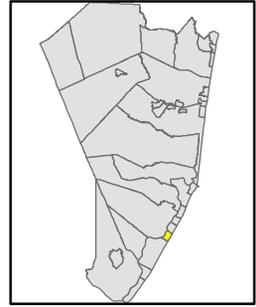
MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, November 2012
 Sources: New Jersey Department of Environmental Protection

Legend

- EC (Environmentally Critical)
- GC (General Commercial)
- MFR (Multi Family Residential)
- OR (Office Residential)
- P (Public)
- R1 (Single Family Residential)
- R2 (Single Family Residential)
- R3 (Single Family Residential)
- SC (Shore Commercial)



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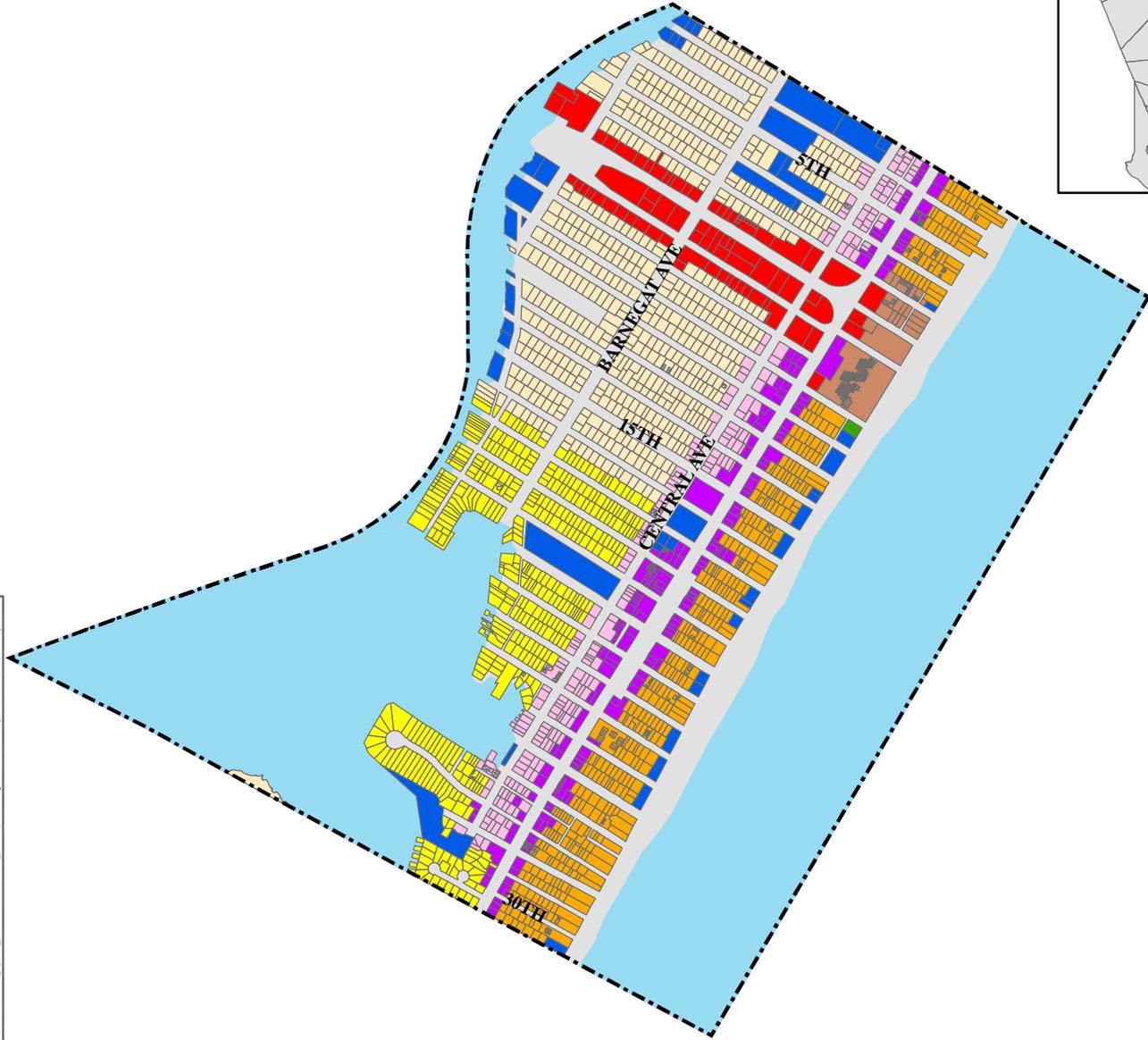
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Prepared by: Ocean County Department of Planning, November 2012
Sources: Borough of Ship Bottom, Ocean County Tax Board



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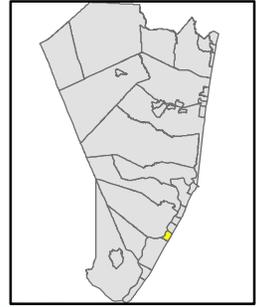
SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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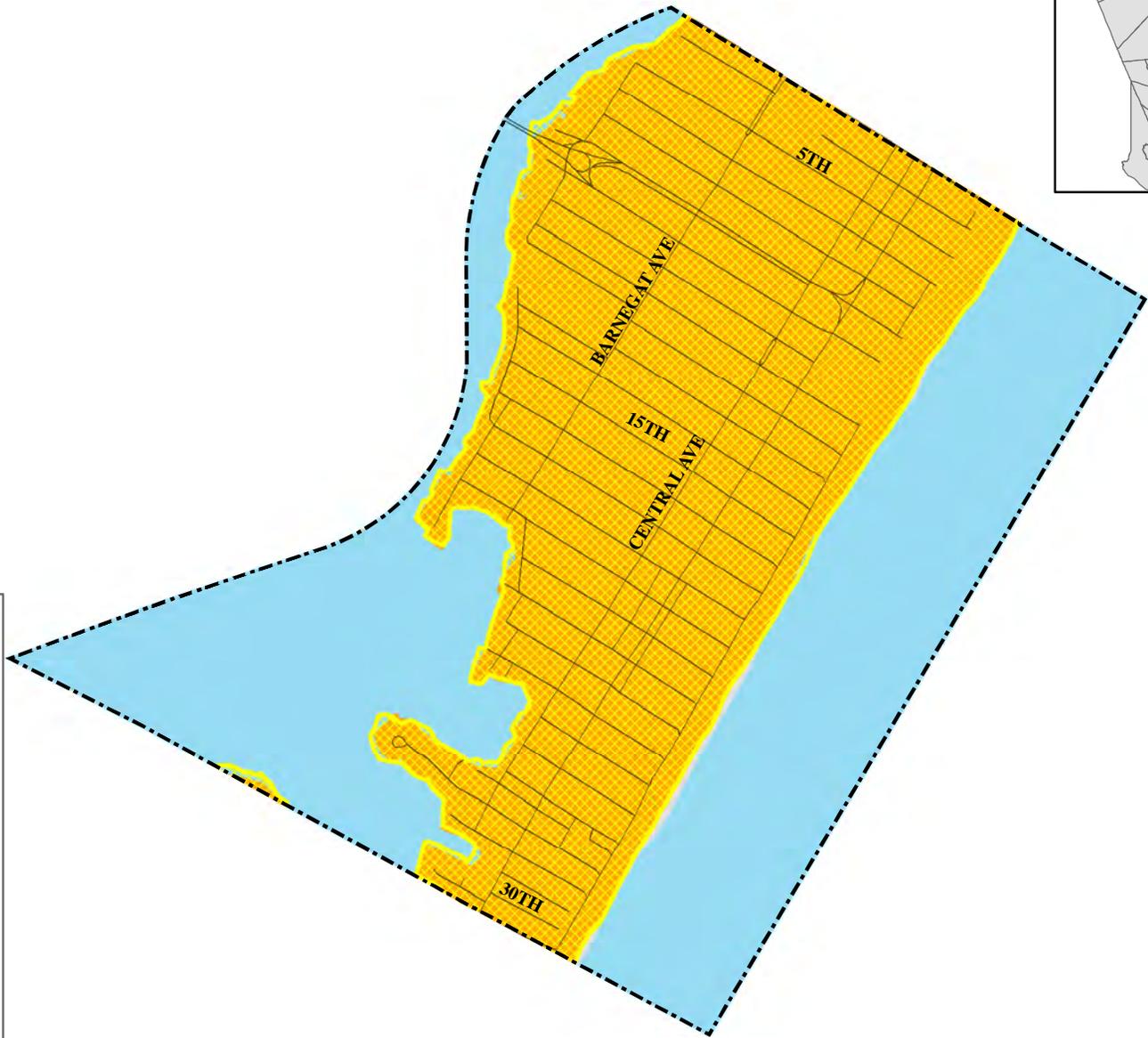
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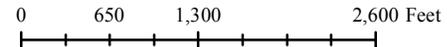
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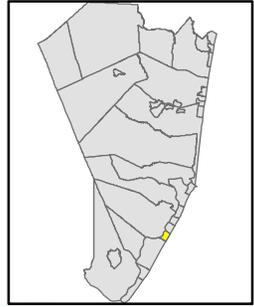
SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1528001	SHIP BOTTOM WATER DEPARTMENT

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (RISFA, S8:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under NJAC 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Ship Bottom (2010-19)"

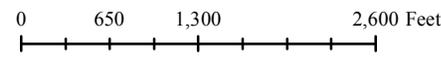
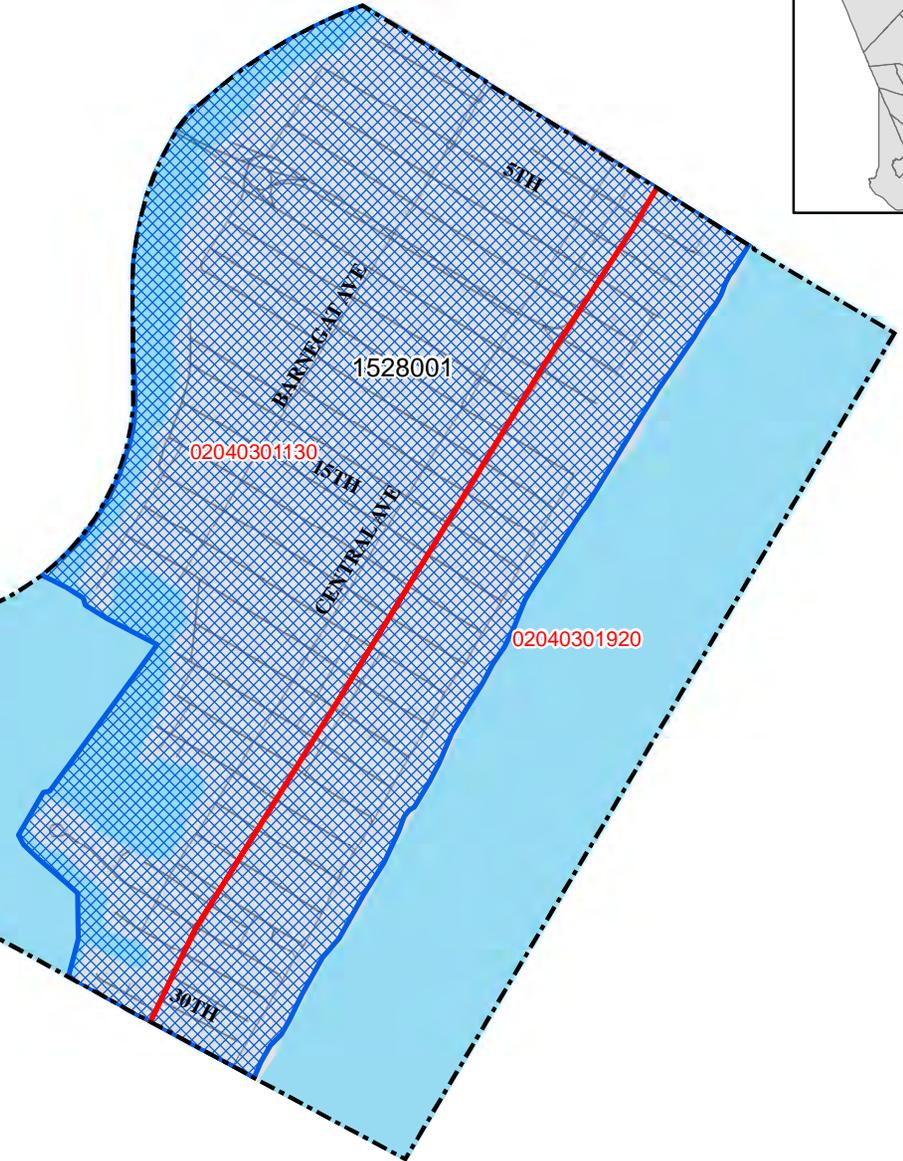
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules"

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:1B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process, this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

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"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, November 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,400 feet

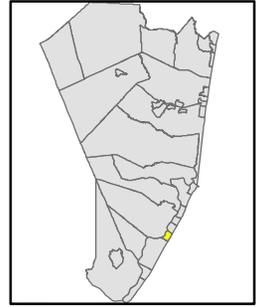
SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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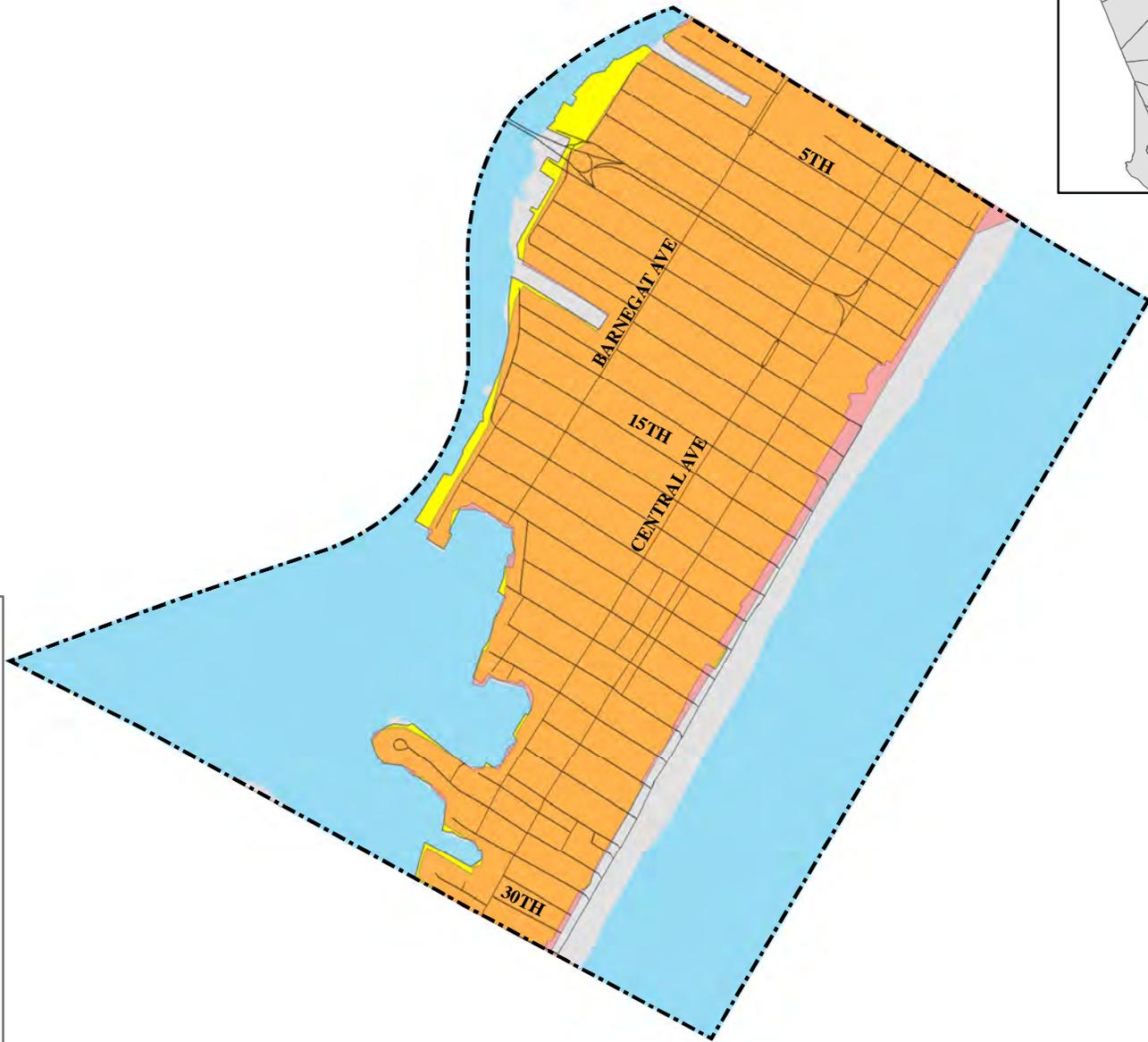
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Prepared by: Ocean County Department of Planning, November 2012
Sources: New Jersey Department of Environmental Protection



0 650 1,300 2,600 Feet

1 inch = 1,400 feet

SHIP BOTTOM BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

29. SOUTH TOMS RIVER BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

Founded in 1927, the Borough of South Toms River is the most recently incorporated municipality in Ocean County. Located in the central portion of the County, the Borough is situated on the south bank of the Toms River. It is bordered by Berkeley Township to the north and west, and by Beachwood Borough to the south. Toms River Township lies across the Toms River to the northeast. The Borough covers 1.20 square miles (766.12 acres) of land.

South Toms River is bifurcated by the boundary of the Pinelands Comprehensive Management Plan Area. This boundary runs north from the municipal border with Beachwood Borough along the Garden State Parkway. Upon reaching the Parkway's Exit 80 interchange, the boundary turns west and proceeds out of the Borough along a disused railroad line at its northern border with Berkeley Township. All land west and south of this boundary (359.31 acres) lies within a Pinelands Regional Growth Area. The balance of the Borough's land, to the east and north of this boundary, lies with the CAFRA zone.

In 2010, South Toms River had a population of 3,684 people according to the U.S. Census Bureau. The Borough experiences almost no seasonal fluctuation in population; the 2010 Census recorded a total of 1,160 housing units, of which there were 62 vacant units, and of these, only 4 were seasonally vacant units. NJTPA currently projects that South Toms River's population will increase to 4,597 by 2035. The Borough's current wastewater conveyance infrastructure should be sufficient for the foreseeable future.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

South Toms River is forested on the outskirts of its developed areas, and most extensively along its southern boundary with Beachwood Borough. Wetlands are also present in this southern portion of the municipality, mostly along the course of Jakes Branch. Additional wetlands are located proximate to the Toms River. There are no preserved farms or Natural Heritage Priority Sites in the Borough.

Table 1 provides a breakdown of the Borough's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	101.73	12.88%
Public Open Space/Recreational Areas	11.73	1.49%
Habitat T&E	118.05	14.95%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	42.91	5.43%
Preserved Agriculture	0.00	0.00%
Surface Water	51.46	6.52%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Chapter 26, Article VI	1975
Master Plan		2012
Stormwater [County - MSWMP]	Chapter 24	9/19/2011 [10/20/2006]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 18.4	1975

Source: <http://clerkshq.com/default.aspx?clientsite=SouthTomsRiver-nj>



III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in South Toms River is connected to the existing sewer system. Wastewater is collected through the Borough's lateral lines, which connect to one of two OCUA interceptors. The first of these interceptors enters the Borough from Berkeley Township just north of where the Garden State Parkway crosses Magnolia Avenue, and just south of the Toms River. This interceptor carries wastewater east along Magnolia Avenue and Center Street, turns southeast near Flint Road, and converges with a second interceptor near the municipal boundary with Beachwood Borough. This second interceptor originates where Jakes Branch is crossed by Double Trouble Road (Route 619). It then roughly follows the course of Jakes Branch heading northeast, converges with the first line near the intersection of Surf Avenue and Flint Road. From this point of convergence, a force main carries the municipality's wastewater southeast into Beachwood Borough. From there, wastewater is conveyed to OCUA's CWPCF in Berkeley Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. "Sewered Areas" denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 40.83 acres of developable land, of which 14.68 acres are zoned as residential and 26.15 acres are zoned as commercial. There is no developable land zoned for industrial uses in South Toms River. All development west of the Garden State Parkway is under the jurisdiction of the Pinelands Commission. Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to South Toms River's sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in South Toms River. However, because South Toms River is a non-urban municipality, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

South Toms River's drinking water is diverted from the Kirkwood-Cohansey Aquifer via two wells. The system is operated by the New Jersey American Water Company, which is based in the Ortlely Beach section of Toms River Township. Map 6 shows the Borough's current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.



V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B1	Commercial	42.65	0.95
BD	Commercial	17.98	4.50
HD	Highway Commercial	53.10	20.48
ML	Public	171.37	0.00
MR	Marina	4.96	0.00
R10	Residential	52.50	10.35
R15	Residential	31.06	1.11
R7	Residential	209.05	3.44

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to formulate growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 4: Wastewater Flow Directed to OCUA Facilities

CWPCF	
Source	(MGD)
Existing Flow	0.206
Projected Residential	0.012
Projected Commercial	0.001
Total Future Planning Flow	0.219

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, South Toms River Borough was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.

Future Wastewater from Sewer Service Areas

In designated sewer service areas, the following features have been removed prior to the application of zoning to the undeveloped land area because they are unlikely to generate wastewater in the future: wetlands, riparian zones, permanently preserved farmland, permanently preserved open space, and cemeteries. The existing zoning is then applied to the remaining developable land area within the sewer service areas to project a build-out condition for use in estimating the future wastewater management needs of each sewer service area. The build-out data is then converted to a projected future wastewater flow by applying the planning flow criteria from N.J.A.C. 7:14A based on the type of development projected.

Table 5 provides a breakdown of the acreage of land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on the build-out analysis.

Table 5: Additional Development at Build Out (Sewer)				
Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Central	8.48	8.10	38.45	16,640.35

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. South Toms River Borough has adopted municipal ordinance Chapter 18.4, which is applicable to septic connection (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district's density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{((\text{Square Feet}) \times (\text{Building Lot Coverage})) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

Table 6: Additional Development at Build Out (Septic)						
HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301080	5.60	22.89	1.87	7.11	7.47	30.00

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP's nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:



Table 7: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301080	4.9	6.14	1.25	30.00

The Borough, the County of Ocean, and the NJDEP are aware of the discrepancy between current municipal zoning regulations and nitrate dilution capacity in South Toms River's portion of HUC11 02040301080. However, rezoning or other restrictions on future septic development may not be necessary. For the purposes of this analysis, it is inconsequential if one municipality's zoning exceeds its allocation, provided that the larger HUC11 does not exceed the total sustainable development. This is the case in 02040301080; the cumulative number of non-sewered units allowed by current municipal zoning throughout the HUC11, inclusive of South Toms River Borough, is less than the HUC11's total capacity for development while maintaining optimal nitrate dilution. Information on this HUC11's septic build out projections, including zoning and assimilative capacity for each component municipality, is presented in the County Document of this WMP.

Public Water Supply Availability

There are no public water utilities based in South Toms River Borough. United Water Toms River, based in Toms River Township, supplies the municipality with potable water.

Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

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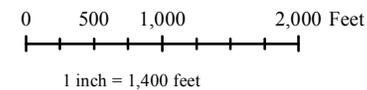
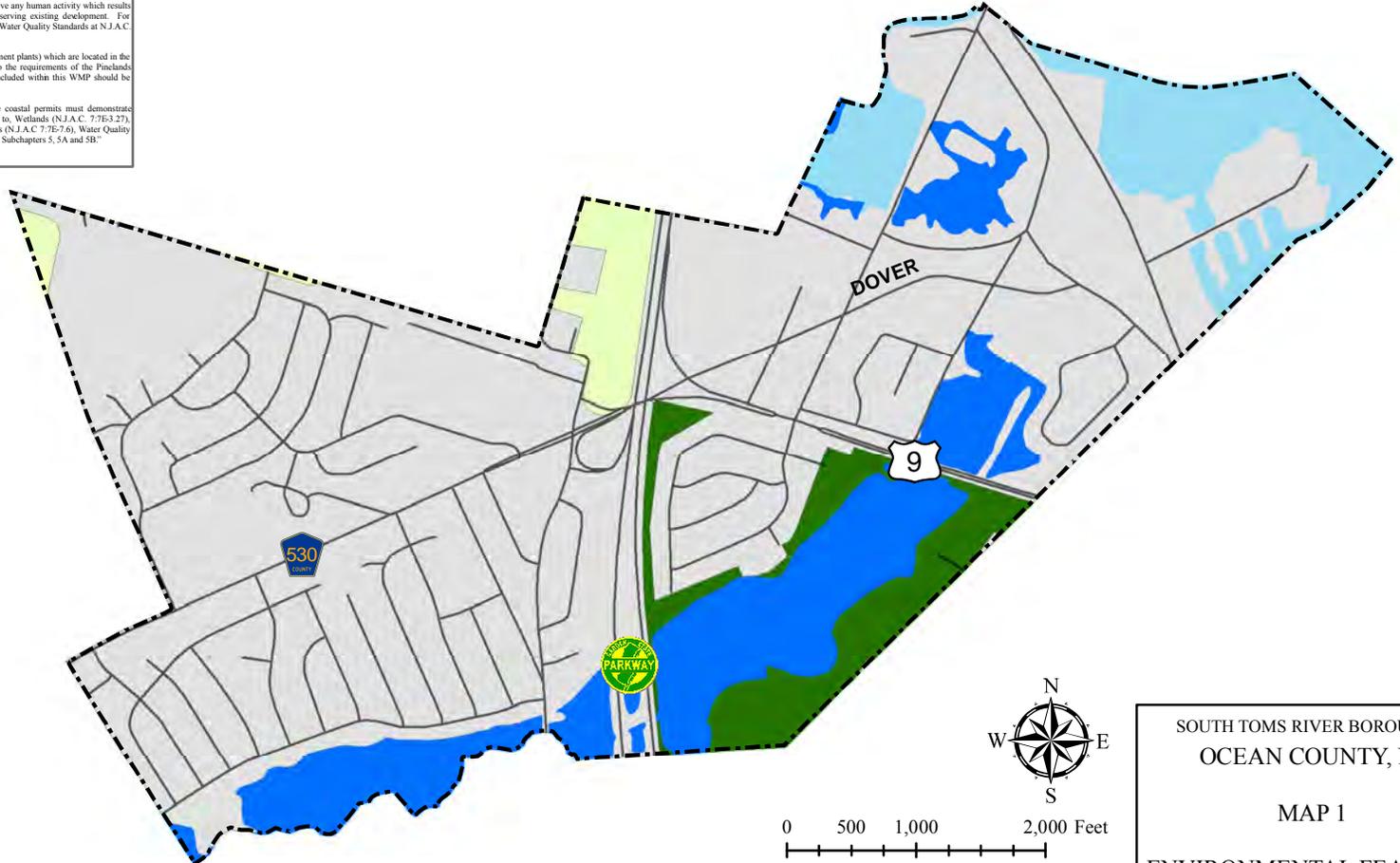
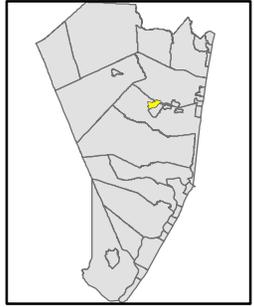
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water



SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

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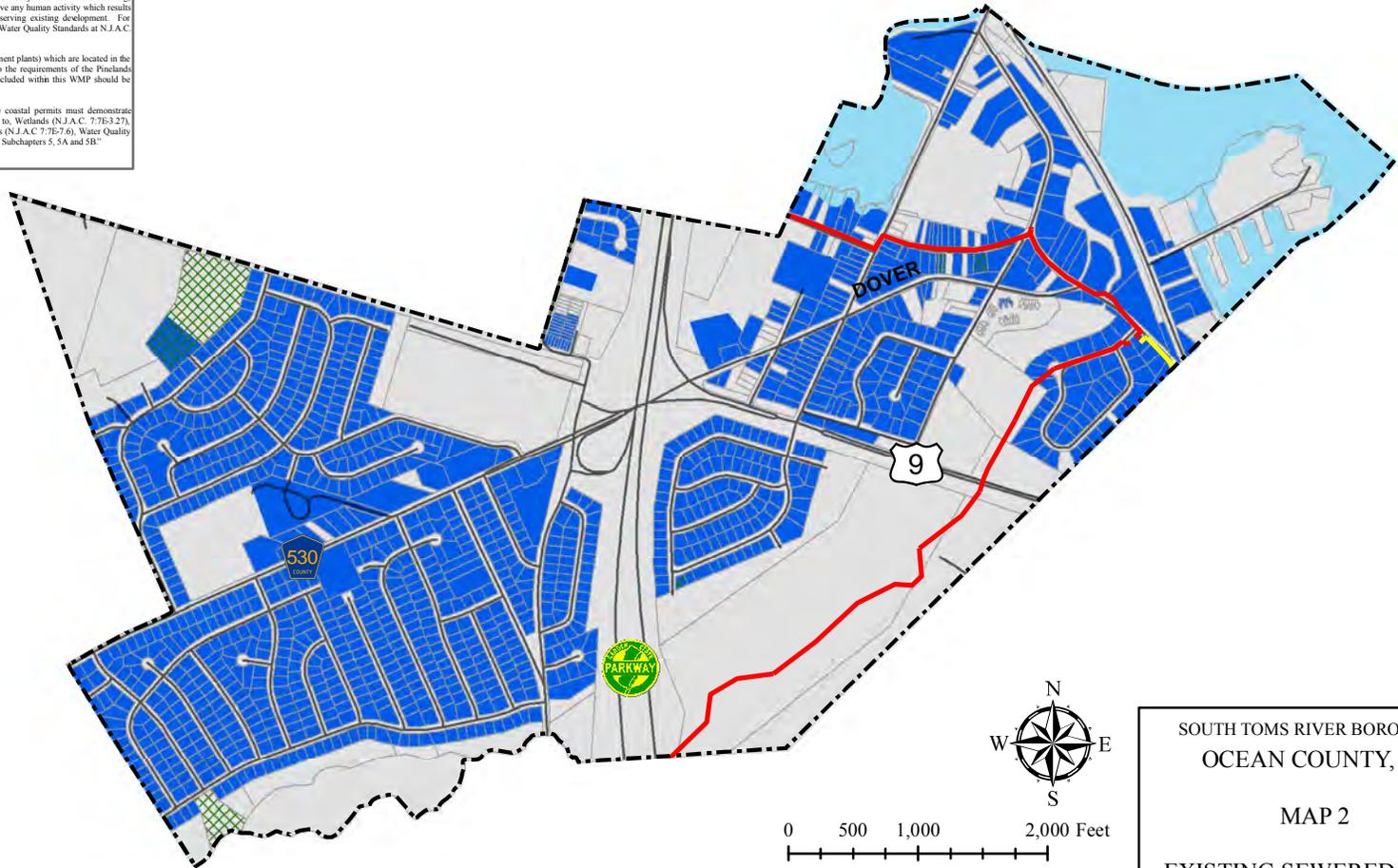
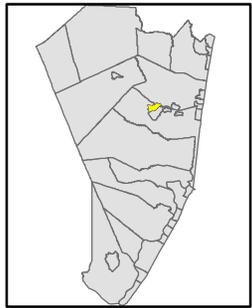
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Interceptor
-  Force Main
-  Roads
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)



0 500 1,000 2,000 Feet

1 inch = 1,400 feet

SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

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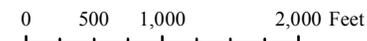
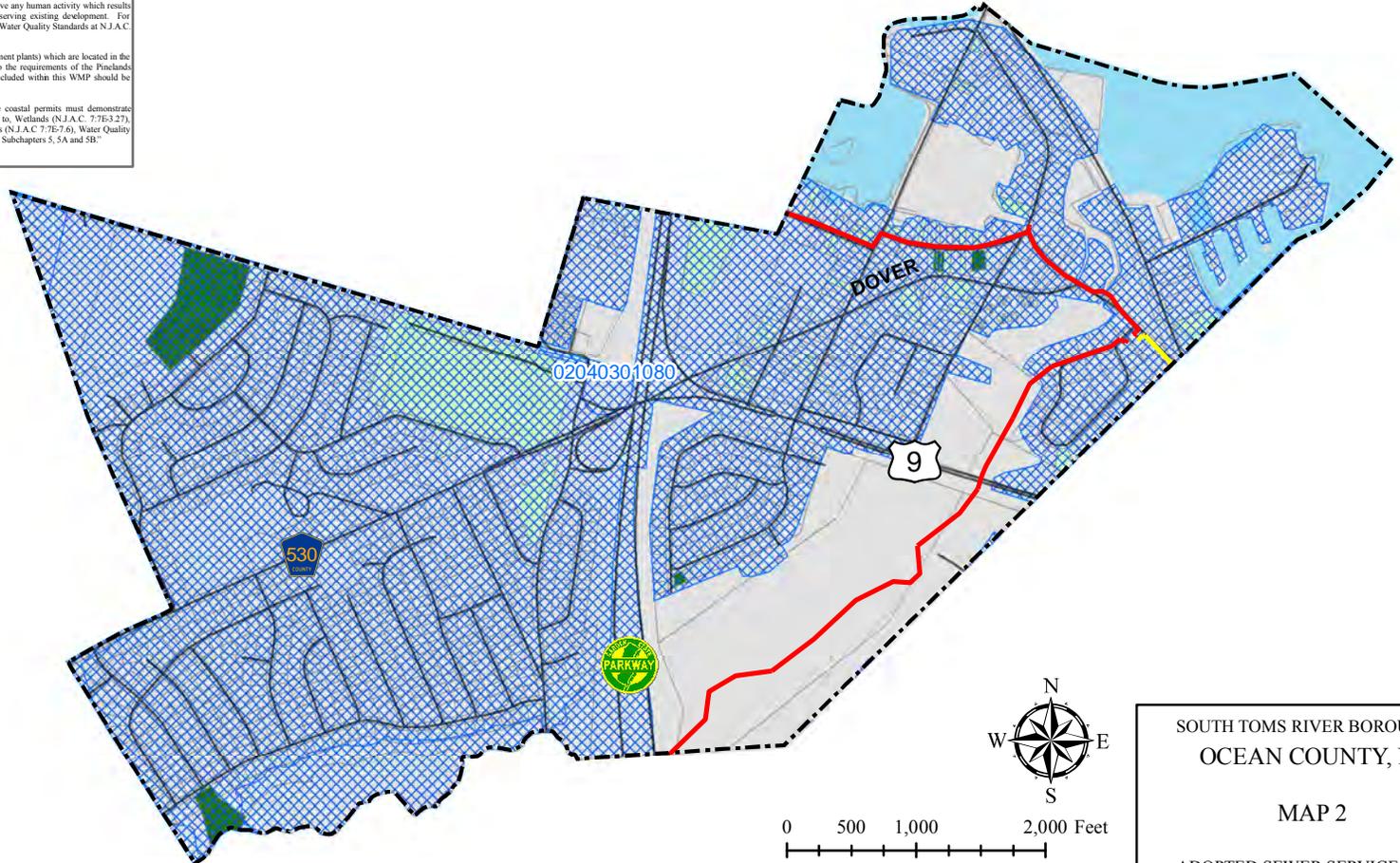
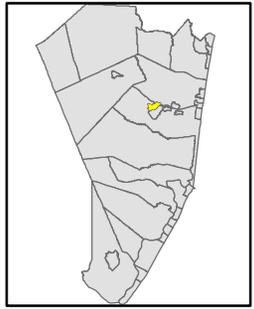
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Prepared by: Ocean County Department of Planning, December 2012

Sources: New Jersey Department of Environmental Protection

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Central DSW (NJ0029408)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



1 inch = 1,400 feet

SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

MAP 2

ADOPTED SEWER SERVICE AREA

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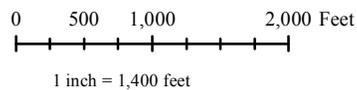
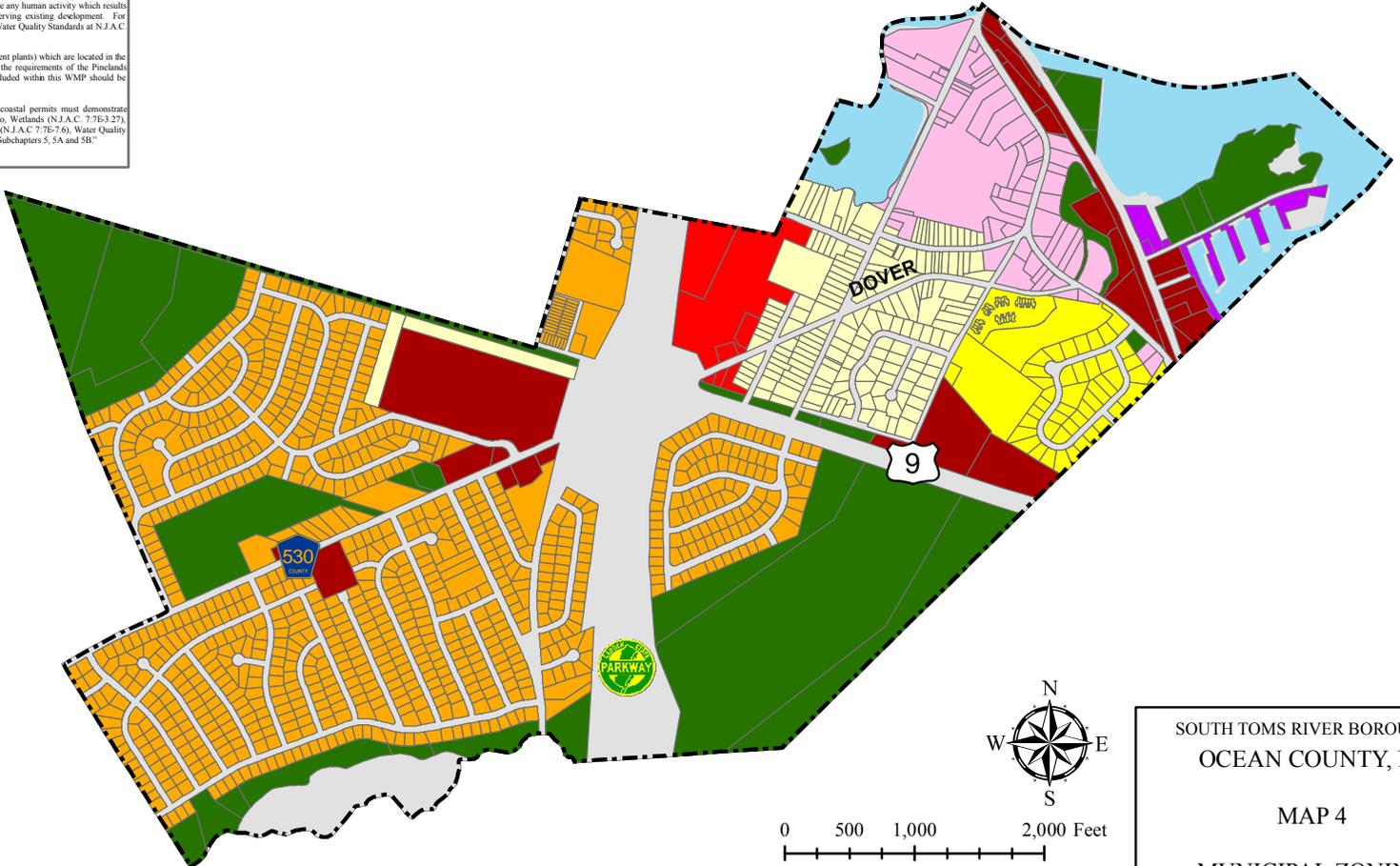
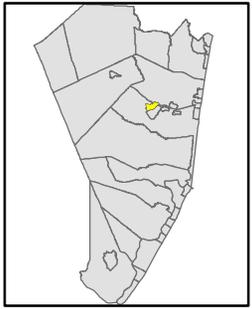
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Prepared by: Ocean County Department of Planning, December 2012
Sources: Borough of South Toms River; Ocean County Tax Board

Legend

- B1 (Commercial)
- BD (Commercial)
- HD (Highway Commercial)
- ML (Public)
- MR (Marina)
- R10 (Residential)
- R15 (Residential)
- R7 (Residential)



SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

MAP 4

MUNICIPAL ZONING

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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:7B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6." Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

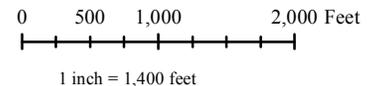
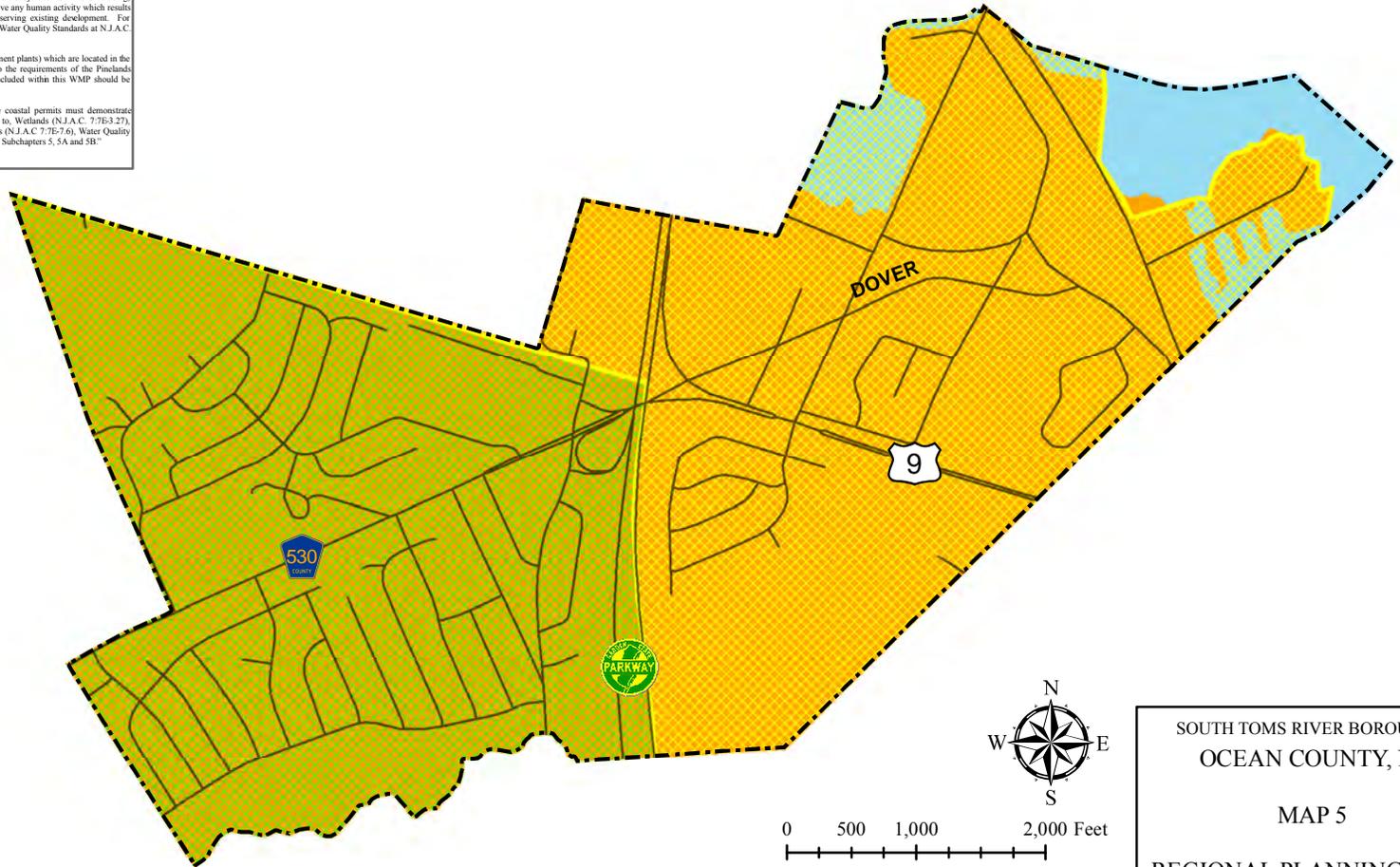
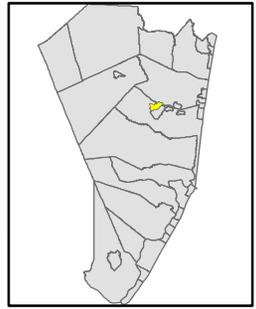
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"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.2), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

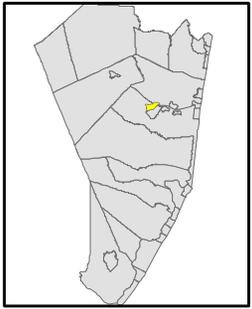
MAP 5

REGIONAL PLANNING AREA

PWSID	PURVEYOR NAME
1507005	UNITED WATER TOMS RIVER

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 11; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to those waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum; the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

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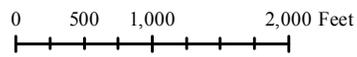
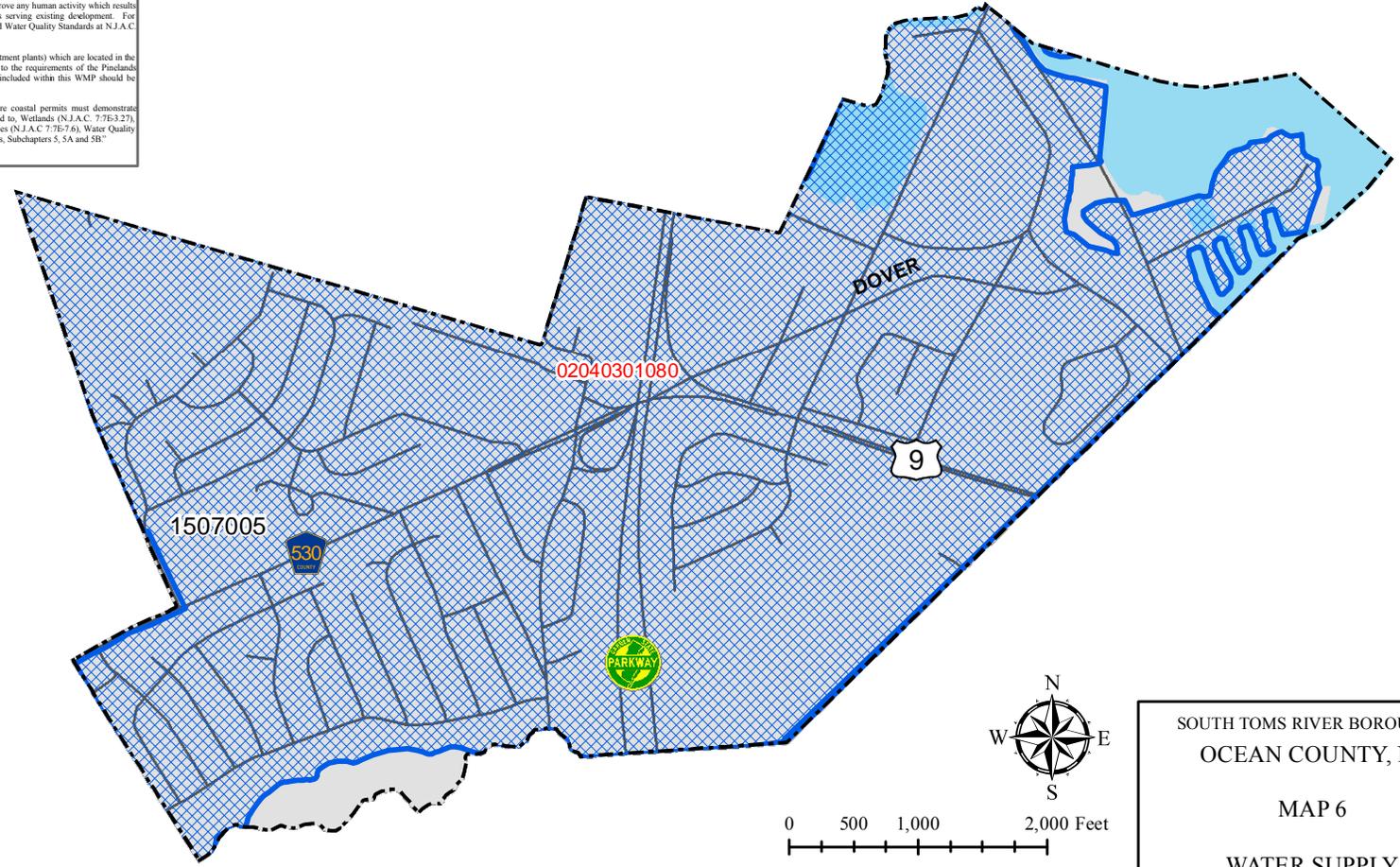
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Prepared by: Ocean County Department of Planning, December 2012
 Sources: New Jersey Department of Environmental Protection



1 inch = 1,400 feet

SOUTH TOMS RIVER BOROUGH
 OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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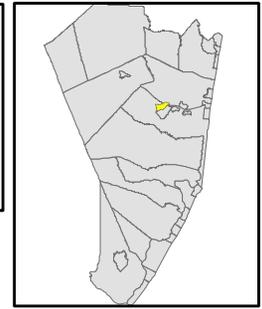
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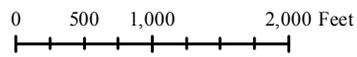
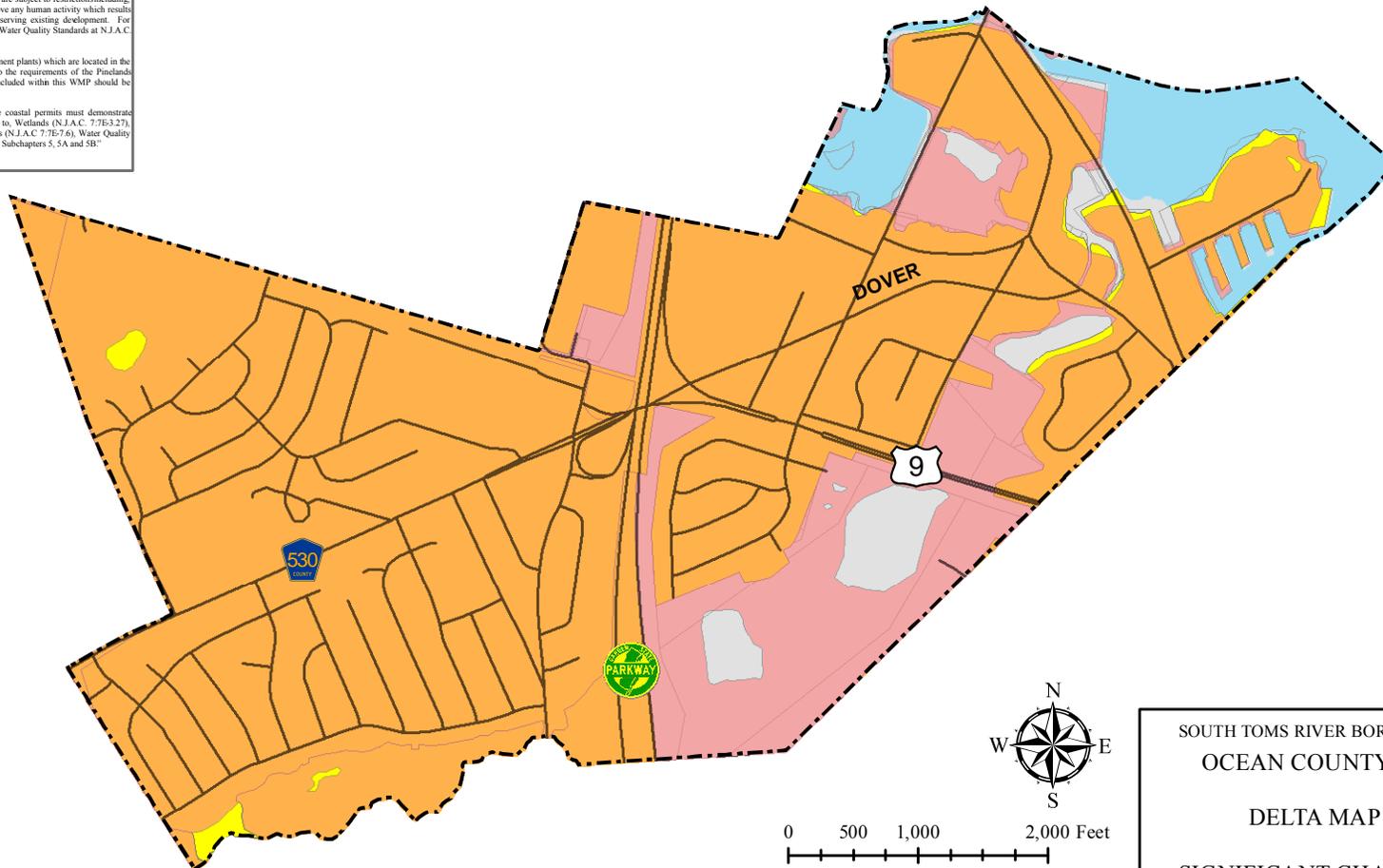
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Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,400 feet

SOUTH TOMS RIVER BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

30. STAFFORD TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

Incorporated in 1749, the Township of Stafford is the longest existing municipality in Ocean County. Located in the southern portion of the County, Stafford fronts on Manahawkin Bay. On land it is bordered by Barnegat Township to the north, Little Egg Harbor Township to the west, and Eagleswood Township to the south. Stafford also provides the only road access to Long Beach Island to the east, connecting to Ship Bottom Borough via Route 72 and the Manahawkin Bay Bridge. The historic downtown is located near the intersection of Routes 72 and 9.

Stafford Township covers 47.05 square miles of land, and is bifurcated by the boundary of the Pinelands Comprehensive Management Plan Area, which runs along the Garden State Parkway on a north-south course. All land west of the Parkway (39.23% of the Township) is within the Pinelands. All land east of the Parkway lies within the CAFRA region.

Much of the land north of Route 72 and east of Route 9 is protected, including the Manahawkin Wildlife Management Area and the Edwin B. Forsythe National Wildlife Refuge. The area south of Route 72 and west of the Parkway is also largely preserved, with the exception of the Stafford Business Park. Most of the developed land in Stafford is situated to the southeast and northwest of the intersection of the Parkway and Route 72, including the Beach Haven West and Ocean Acres subdivisions, respectively. Pinelands Regional Growth Areas are located to the northwest of the Exit 63 interchange, and at the Stafford Business Park.

In 2010, the U.S. Census Bureau reported Stafford’s total population was 26,535. The 2010 Census also counted a total of 13,604 housing units, of which there were 3,508 vacant units, and of these, 2,969 were seasonally vacant units. NJTPA currently projects a population increase of 5,829 by the year 2035—an 18.01% rise to a new total population of 32,364.

Also in 2010, the NJDEP adopted an amendment to Ocean County’s previous WQMP. The information contained in this amendment was used for all calculations performed in the preparation of this WMP regarding Stafford Township’s future wastewater flow projections in the adopted sewer service area. This amendment is referenced in Section V and appended to the end of this municipal chapter.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

As seen in Map 1, most of Stafford Township’s land east of the Route 9 corridor—including Bonnet Island—is covered by wetlands. To the west of Route 9, most of Stafford’s land lies within a Natural Heritage Priority Site. A large portion of the Township is forested. There are no beaches or preserved farms in Stafford Township.

Table 1 provides a breakdown of the Township’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	5,470.27	15.63%
Public Open Space/Recreational Areas	14,828.66	42.38%
Habitat T&E	23,904.54	68.32%
Natural Heritage Priority Sites	11,493.37	32.85%
Riparian Zones	2,780.06	7.95%
Preserved Agriculture	0.00	0.00%
Surface Water	5,427.02	15.51%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Chapter 211	6/25/1988
Master Plan		11/5/2007
Stormwater [County - MSWMP]	Chapter 130, Article VIII	4/19/2010 [9/8/2006]
Riparian Zone	Chapter 211-13*	7/1/2008
Septic System Maintenance	N/A	N/A
Dry Conveyance	Chapter 47, Article I	11/20/2007
Septic Connections	Chapter 47, Article III	2/15/2011
*Complies with NJAC 7:15		
Source: http://www.ecode360.com/ST0825?#ST0825		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

The majority of existing development in Stafford is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines. As the location of one of OCUA’s three Water Pollution Control Facilities, the Township is the site of the convergence of all OCUA lines which originate in the Southern Planning Area, including three which originate within the Township itself.

Entering the Township from Ship Bottom Borough to the southeast, an OCUA force main follows the course of Route 72, crossing Cedar Bonnet Island and continuing under Manahawkin Bay before emerging on Stafford’s mainland. In the southeastern corner of Stafford, a second line originates as an interceptor at the Stafford-Beach Haven West Pump Station (SPS-1) near the intersection of Walter and Paul Boulevards. From there, wastewater is conveyed through a force main which runs north along Mill Creek Road. These two lines converge in the vicinity of the intersection of Route 72 and Mill Creek Road and continue northwest along Route 72.

A second line originates in Stafford’s Deer Lake Park sub-development, at the intersection of Cedar Bridge Road and Route 9. From there, this interceptor travels southeast along Hilliard Boulevard, turns south along Parker Street, turns west at Stafford Avenue, turns south at North Union Street, and then continues southward to the SWPCF.

To the northwest, a third line originates at the intersection of Nautilus Avenue and Route 72 in the Ocean Acres sub-development. This interceptor follows the course of Route 72 southeast until it converges with the previously described branches in the vicinity of the intersection of Route 72 and the Garden State Parkway. From there, all wastewater flows southward along Route 9 to the SWPCF.

To the south, another OCUA line enters Stafford from the Eagleswood Township. This interceptor flows northward along Route 9 directly to the SWPCF.

Each of these lines terminates at the Southern Water Pollution Control Facility, which is located on Cedar Run Dock Road in the southeastern portion of Stafford Township. Following treatment, all effluent passes through a gravity outfall line which flows southeast along Route 72 and under Manahawkin Bay, following the course of the force main from Ship Bottom Borough, but flowing in the opposite direction. The outfall pipe passes through Ship Bottom Borough in the vicinity of 6th Street and continues southeast, ending approximately one mile out to sea in the Atlantic Ocean.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. Much of Stafford Township’s sewer service area has remained unchanged. West of the Parkway, all areas in Pinelands Regional Growth Areas and Villages will be added consistent with the MOU between the Pinelands Commission and the NJDEP. Sewer service has been extended to the Warren Grove section of the Township, and the Mayetta section has also seen minor expansions. Vacant land along Mill Creek and Route 72 has been removed from sewer service.

Local zoning is presented in Map 4, while Map 5 displays the boundaries of both the Pinelands and CAFRA. The Delta Map displays the changes to Stafford’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

Nearly all of the developed and developable land in the Township is included in the designated sewer service area. Most of the land excluded from the sewer service area is either environmentally sensitive, lies within the Pinelands region, or both. Although uncommon, smaller scale large lot developments are usually served by septic systems. Because Stafford is a non-urban municipality according to NJDEP standards, a nitrate dilution model analysis has been conducted (See Section V).

Existing Areas Served By Public Water Supply Facilities

Stafford’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via eleven wells. The system is operated by the Stafford Township MUA, and is capable of pumping 9.060 MGD. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and municipal zoning to project build-out, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is the constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Table 3: Wastewater Flow Directed to OCUA Facilities	
SWPCF	
Source	(MGD)
Existing Flow	1.799
Projected Residential	0.717
Projected Commercial	0.131
Total Future Planning Flow	2.647

Municipal Demand Projections (Non-Urban)

Following NJDEP protocol for determining urbanized areas, Stafford Township was found to be non-urban. In non-urban municipalities, it is anticipated that development of vacant land will be the predominant factor in determining future wastewater treatment needs. Further, because external market and economic forces, such as interest rates, are a dominant factor in determining the rate of construction, this analysis assesses the ability to provide wastewater treatment while protecting surface and ground water quality for the entire projected build-out allowable by zoning.



Future Wastewater from Sewer Service Areas

Table 4 provides the projected residential units and commercial square footage which can be supported on land available for development (i.e., either undeveloped or underdeveloped, and not constrained due to environmentally sensitive areas) by Planning Area, based on Stafford Township’s build-out analysis (See Section VI).

Planning Area	Developable Area (Acres)	Residential Area (Acres)	# of Units Residential	Commercial Area (Square Feet)
Southern	N/A	N/A	2,426.00	1,305,487.00

Source: “Ocean County Wastewater Management Plan—Stafford Township Chapter”

Septic System Development within the Sewer Service Areas

Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Stafford Township’s municipal ordinance applicable to septic connection was adopted in 2011 (See Table 2).

Future Wastewater Outside of Sewer Service Areas

All lands not mapped within the sewer service area are designated as septic areas, and must demonstrate that the zoning meets the nitrate planning standard of 2 mg/L on a HUC11 basis. The total acreage available for future septic development was determined through GIS analysis by subtracting the sewer service area, developed parcels, NJPDES permitted sites, and all environmentally sensitive lands including critical habitat, wetlands, and riparian zones. The total new septic units allowable under current zoning regulations were then determined by applying each zoning district’s density standards to the developable septic area parcels. Commercial acreage was converted to units by first expressing acreage as square feet, then applying the following formula:

Formula: Calculating New Septic Non-Residential Units

$$\text{New Septic Non-Residential Units} = \frac{(\text{Square Feet}) \times (\text{Building Lot Coverage}) \times (0.125 \text{ Gallons/Day})}{500}$$

The results of this analysis, which are further broken out by HUC11, are as follows:

HUC 11	Residential Area (Acres)	# of Units Residential	Commercial Area (Acres)	# of Units Commercial	Total Acres	Total New Units
02040301120	0.00	0.00	0.00	0.00	0.00	0.00
02040301130	747.31	66.02	10.67	70.02	757.98	136.04
02040301180	409.10	31.60	0.00	0.00	409.10	31.60
Totals	1,156.40	97.62	10.67	70.02	1,167.07	167.64

Nitrate Dilution Analysis

To determine the number of additional septic units each HUC11 can accommodate, the County utilized a nitrate dilution model developed by the NJDEP, which like the septic build out calculations, also involved GIS analysis. The nitrate dilution analysis was performed in similar fashion except that preserved land and publicly owned open space were included in the build-out analysis. This is due to the fact that while these areas will not be developed, they still contribute to the dilution of nitrate in groundwater. Factors such as marginal soils or



topography for all lands were taken into consideration when calculating the maximum average density allowable.

This analysis used NJDEP’s nitrate-nitrogen target of 2 mg/L, with the assumption that all ammonium and other nitrogen compounds are converted to nitrate within the property, and that the nitrate concentrations dilute evenly across the HUC11. These assumptions are implicit in the nitrate dilution model developed by the NJDEP. The results of the nitrate dilution analysis are shown in the following table:

Table 6: Nitrate Target				
HUC 11	Septic Density	Acres	New Units Nitrate Dilution	New Units Zoning
02040301120	5.8	22.61	3.90	0.00
02040301130	5.0	8,112.01	1,622.40	136.04
02040301180	4.5	2,294.90	510.00	31.60

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 7: Public Water Purveyor Capacity								
Stafford Township MUA – Beach								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
9.060	4.123	4.937	175.000	104.898	70.102	1,359.000	859.691	499.309
Stafford Township MUA – Cedar B								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.025	N/A	N/A	0.760	N/A	N/A	3.290	N/A
Stafford Township MUA – Fawn								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.360	0.158	0.202	11.000	4.908	6.092	95.000	45.634	49.366
Source: NJDEP Division of Water Supply & Geoscience								

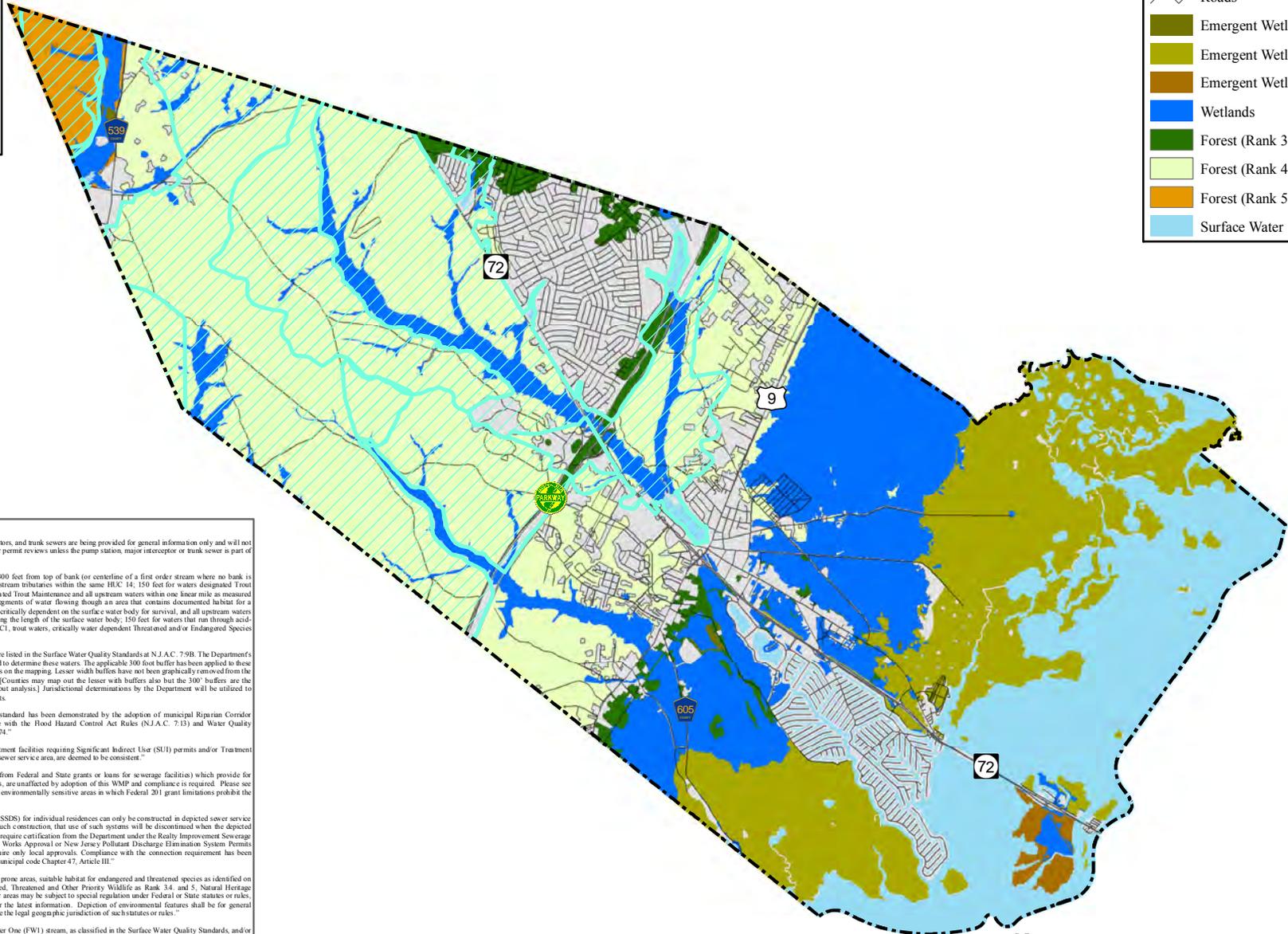
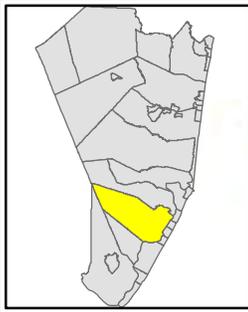
VI. Stafford Township Plan Endorsement

On February 2, 2010, the NJDEP adopted an amendment to the previous Ocean County WQMP. This amendment, submitted on behalf of Stafford Township, enacted the “Ocean County Wastewater Management Plan—Stafford Township Chapter,” which was produced by CMX, Inc. on July 30, 2009. The plan was developed pursuant to the provisions of both the New Jersey Water Quality Act (N.J.S.A. 58:11 et seq.) and the Statewide Water Quality Management Rules (N.J.A.C. 7:15-3.4), and was submitted as part of Stafford’s Plan Endorsement process with the New Jersey Office of Smart Growth (now the Office of Planning Advocacy).

Stafford Township’s WMP will remain a component of this Ocean County WMP, and is appended to the end of this chapter.

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.



Legend

-  Natural Heritage Priority Sites
-  Roads
-  Emergent Wetlands (Rank 3)
-  Emergent Wetlands (Rank 4)
-  Emergent Wetlands (Rank 5)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Forest (Rank 5)
-  Surface Water

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Courts may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

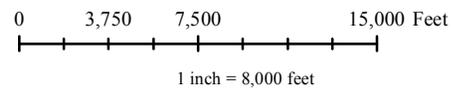
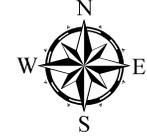
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3A, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6." Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

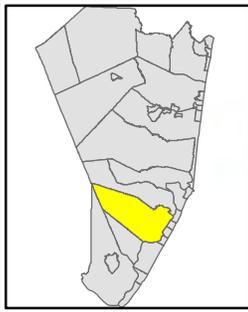


STAFFORD TOWNSHIP
OCEAN COUNTY, NJ

MAP 1

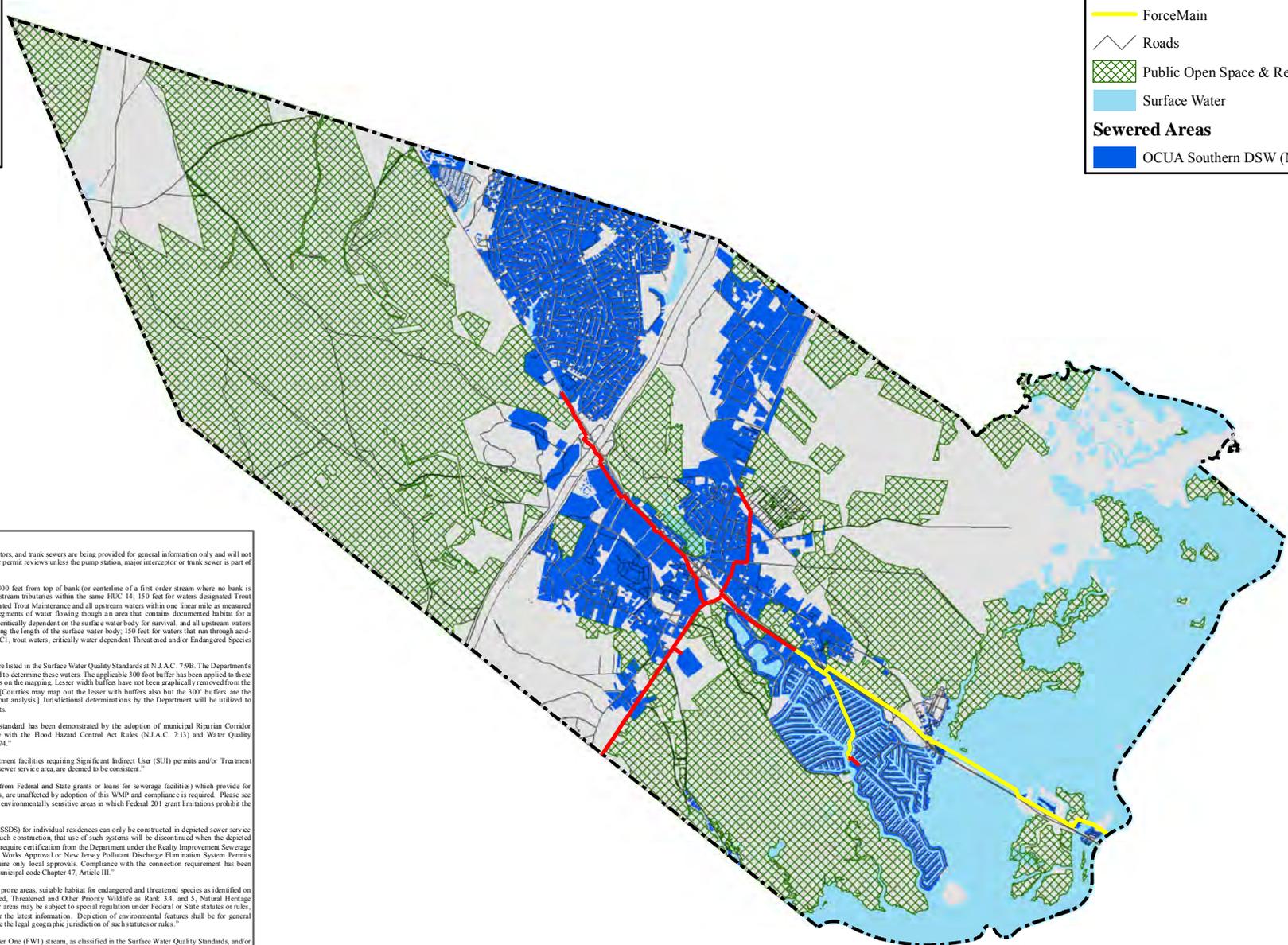
ENVIRONMENTAL FEATURES

Prepared by: Ocean County Department of Planning, April 2013
Sources: New Jersey Department of Environmental Protection



Legend

- Interceptor
- ForceMain
- Roads
- Public Open Space & Recreation Areas
- Surface Water
- Sewered Areas**
- OCUA Southern DSW (NJ0026018)



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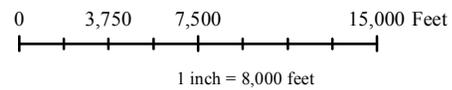
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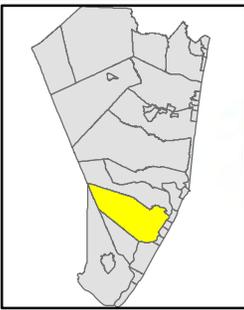
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STAFFORD TOWNSHIP
OCEAN COUNTY, NJ

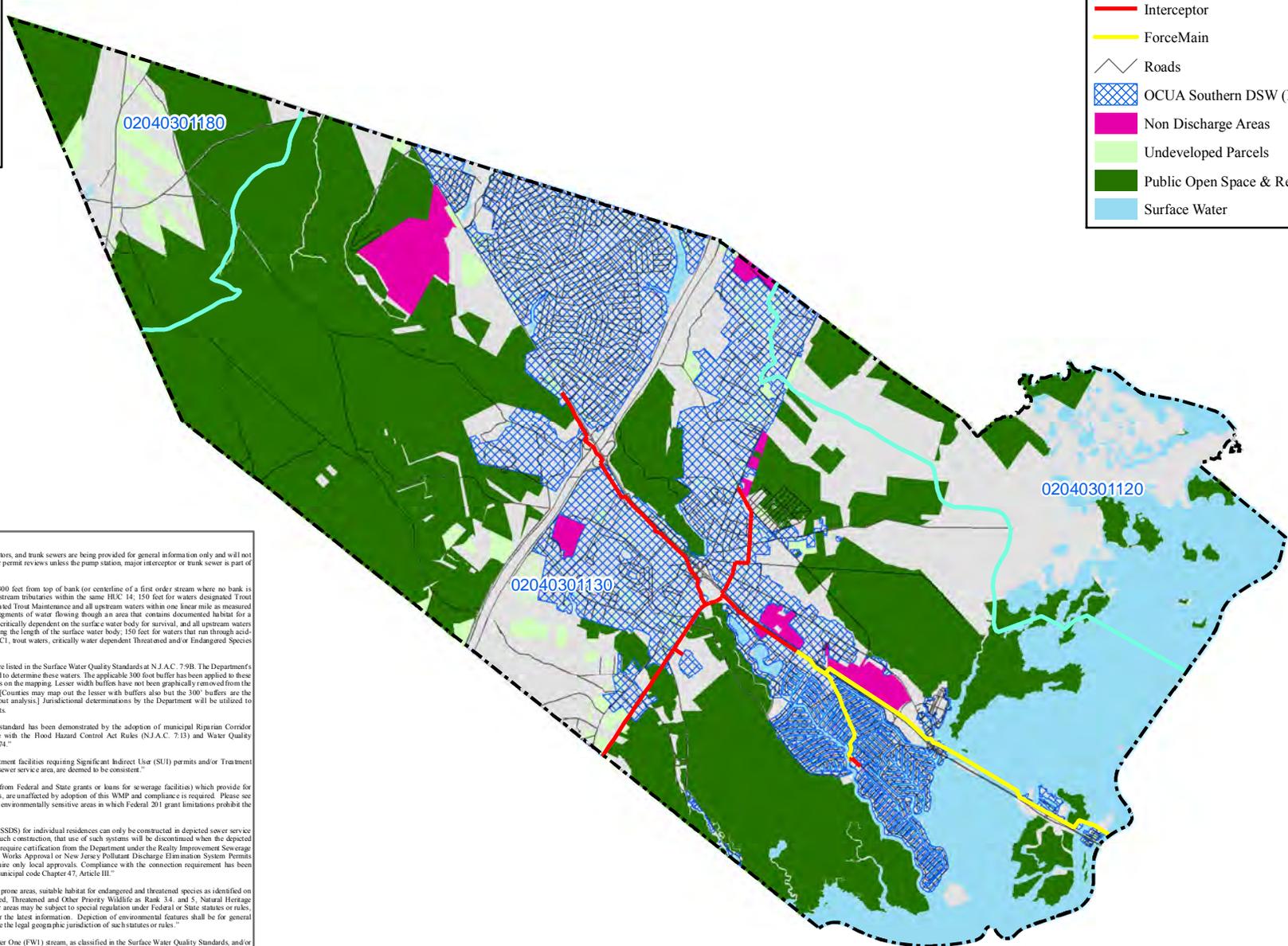
MAP 2

EXISTING SEWERED AREA



Legend

- HUC 11
- Interceptor
- ForceMain
- Roads
- OCUA Southern DSW (NJ0026018)
- Non Discharge Areas
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water



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0 3,750 7,500 15,000 Feet

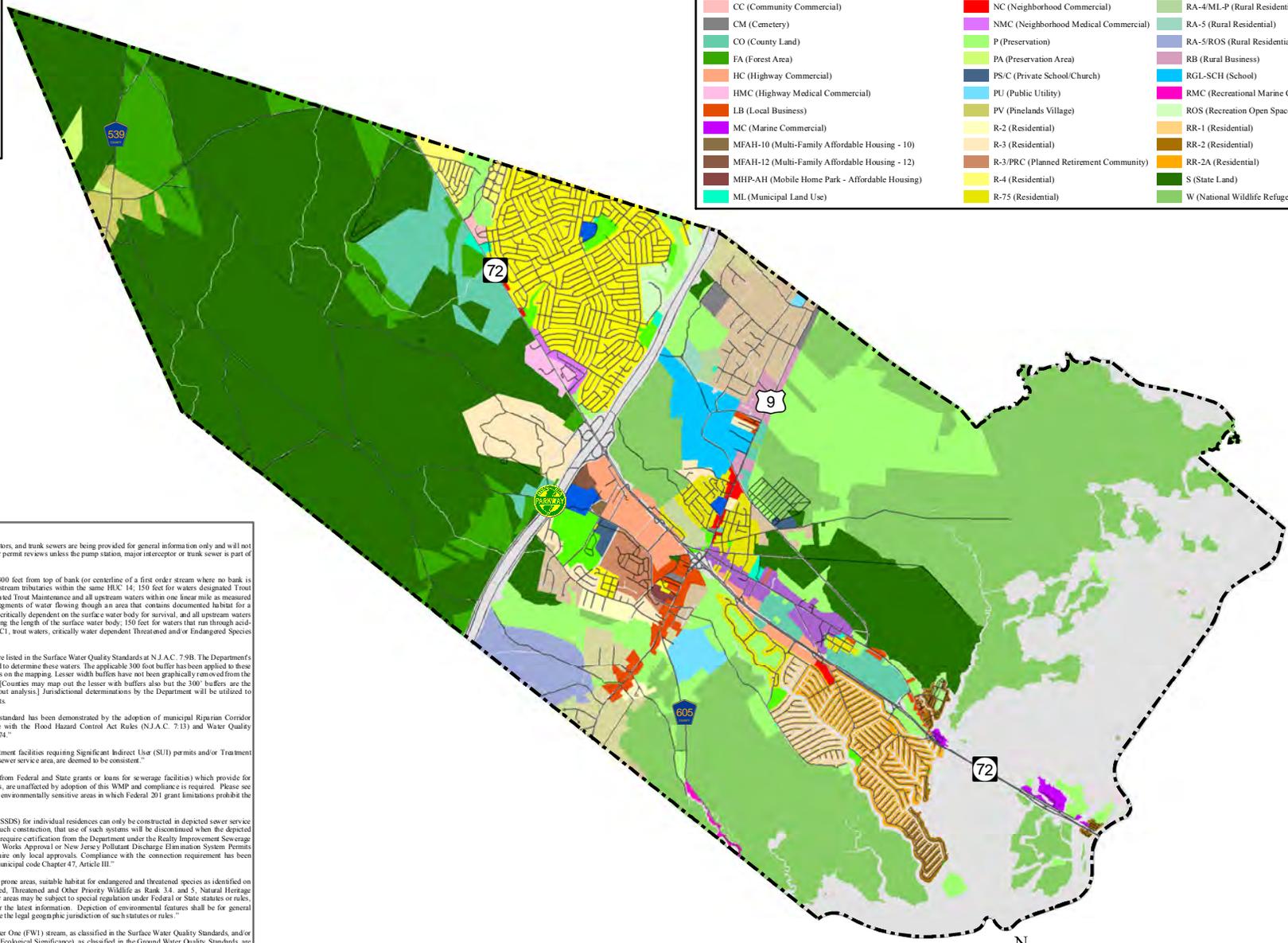
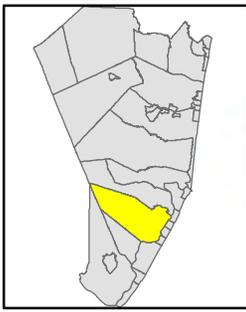
1 inch = 8,000 feet

STAFFORD TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Prepared by: Ocean County Department of Planning, April 2013
Sources: New Jersey Department of Environmental Protection



Legend		
ARMFAH (Age Restricted, Multi-Family Affordable Housing)	ML-P (Park)	R-90 (Residential)
BP (Business Park)	ML-SCH (School)	RA (Rural Residential)
C-P (County Park)	MU (Mixed Use)	RA-4 (Rural Residential)
CC (Community Commercial)	NC (Neighborhood Commercial)	RA-4/ML-P (Rural Residential/Park)
CM (Cemetery)	NMC (Neighborhood Medical Commercial)	RA-5 (Rural Residential)
CO (County Land)	P (Preservation)	RA-5/ROS (Rural Residential/Recreation Open Space)
FA (Forest Area)	PA (Preservation Area)	RB (Rural Business)
HC (Highway Commercial)	PS/C (Private School/Church)	RGL-SCH (School)
HMC (Highway Medical Commercial)	PU (Public Utility)	RMC (Recreational Marine Commercial)
LB (Local Business)	PV (Pinelands Village)	ROS (Recreation Open Space)
MC (Marine Commercial)	R-2 (Residential)	RR-1 (Residential)
MFAH-10 (Multi-Family Affordable Housing - 10)	R-3 (Residential)	RR-2 (Residential)
MFAH-12 (Multi-Family Affordable Housing - 12)	R-3/PRC (Planned Retirement Community)	RR-2A (Residential)
MHP-AH (Mobile Home Park - Affordable Housing)	R-4 (Residential)	S (State Land)
ML (Municipal Land Use)	R-75 (Residential)	W (National Wildlife Refuge)

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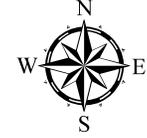
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Prepared by: Ocean County Department of Planning, April 2013
Sources: Township of Stafford, Ocean County Tax Board



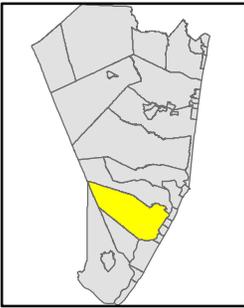
0 3,750 7,500 15,000 Feet

1 inch = 8,000 feet

STAFFORD TOWNSHIP
OCEAN COUNTY, NJ

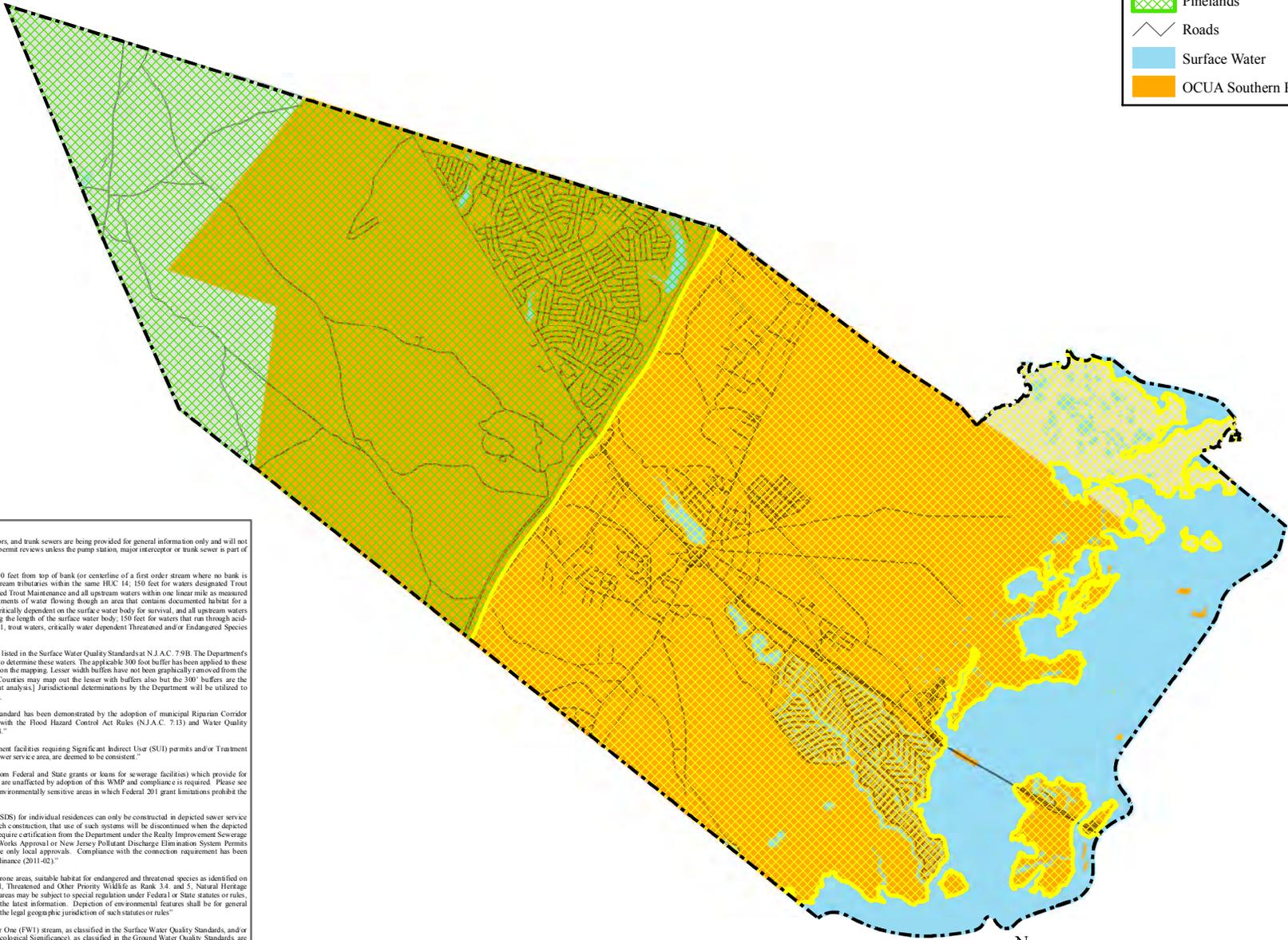
MAP 4

MUNICIPAL ZONING



Legend

-  CAFRA
-  Pinelands
-  Roads
-  Surface Water
-  OCUA Southern Planning Area



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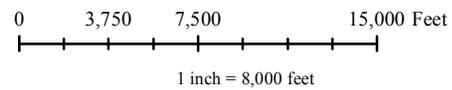
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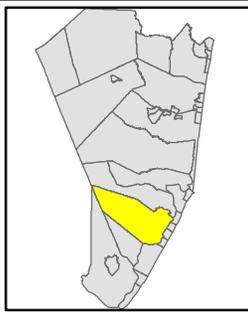


Prepared by: Ocean County Department of Planning, April 2013
 Sources: New Jersey Department of Environmental Protection

STAFFORD TOWNSHIP
 OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA



Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water

PWSID	PURVEYOR NAME
1530003	STAFFORD TOWNSHIP MUA - CEDAR BONNET
1530004	STAFFORD TOWNSHIP MUA - BEACH HAVEN WEST
1530005	STAFFORD TOWNSHIP MUA - FAWN LAKES

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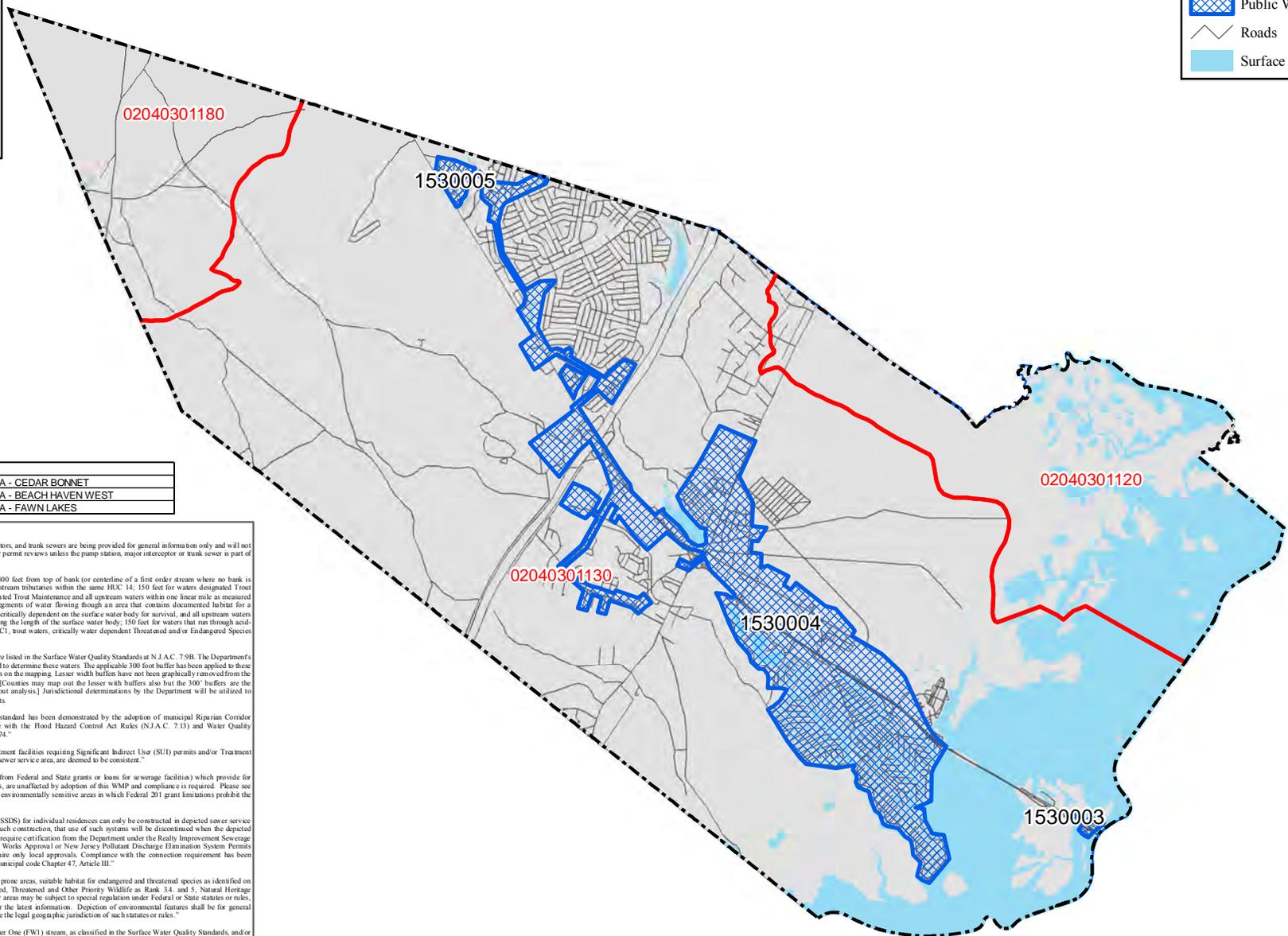
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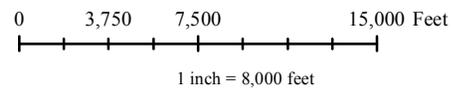
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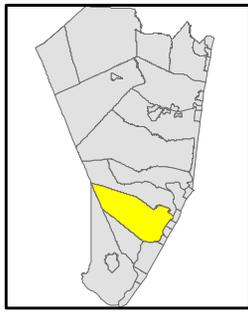
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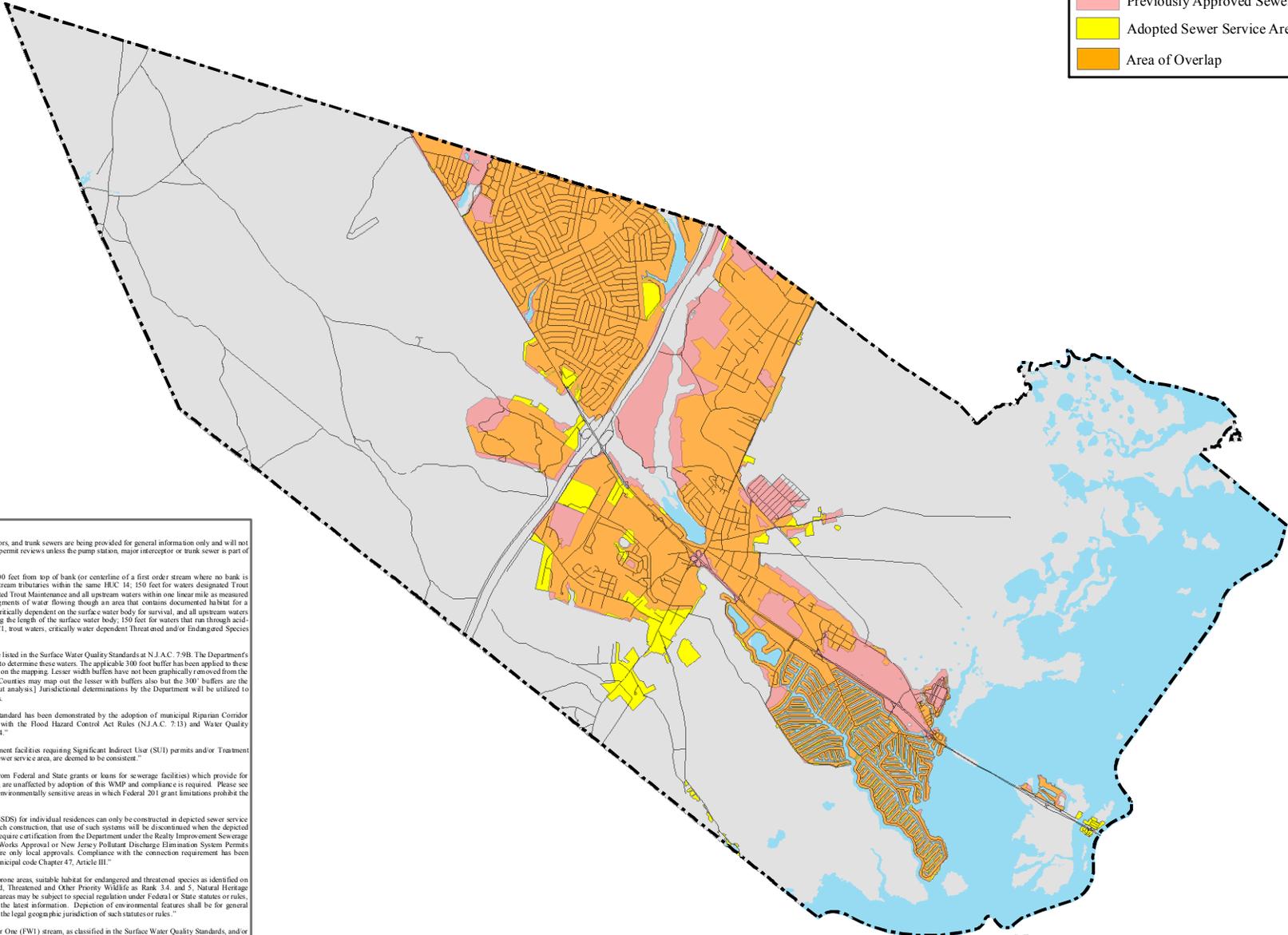
MAP 6

WATER SUPPLY



Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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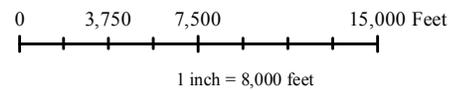
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STAFFORD TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES



OCEAN COUNTY
WASTEWATER MANAGEMENT PLAN
STAFFORD TOWNSHIP CHAPTER
FOR
INCLUSION IN THE OCEAN COUNTY WATER QUALITY MANAGEMENT PLAN
WATERSHED MANAGEMENT AREA 13 (BARNEGAT BAY)
AND AREA 14 (MULLICA)

Wastewater Management Planning Agency:

THE COUNTY OF OCEAN
101 HOOPER AVENUE
P.O. BOX 2191
TOMS RIVER, NEW JERSEY 08754-2191

Prepared By:

CMX
703 Mill Creek Road
Suite A
Manahawkin, NJ 08050

July 30, 2009

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WORKING TOGETHER FOR A BETTER TOMORROW

703 MILL CREEK ROAD | SUITE A | MANAHAWKIN, NJ 08050
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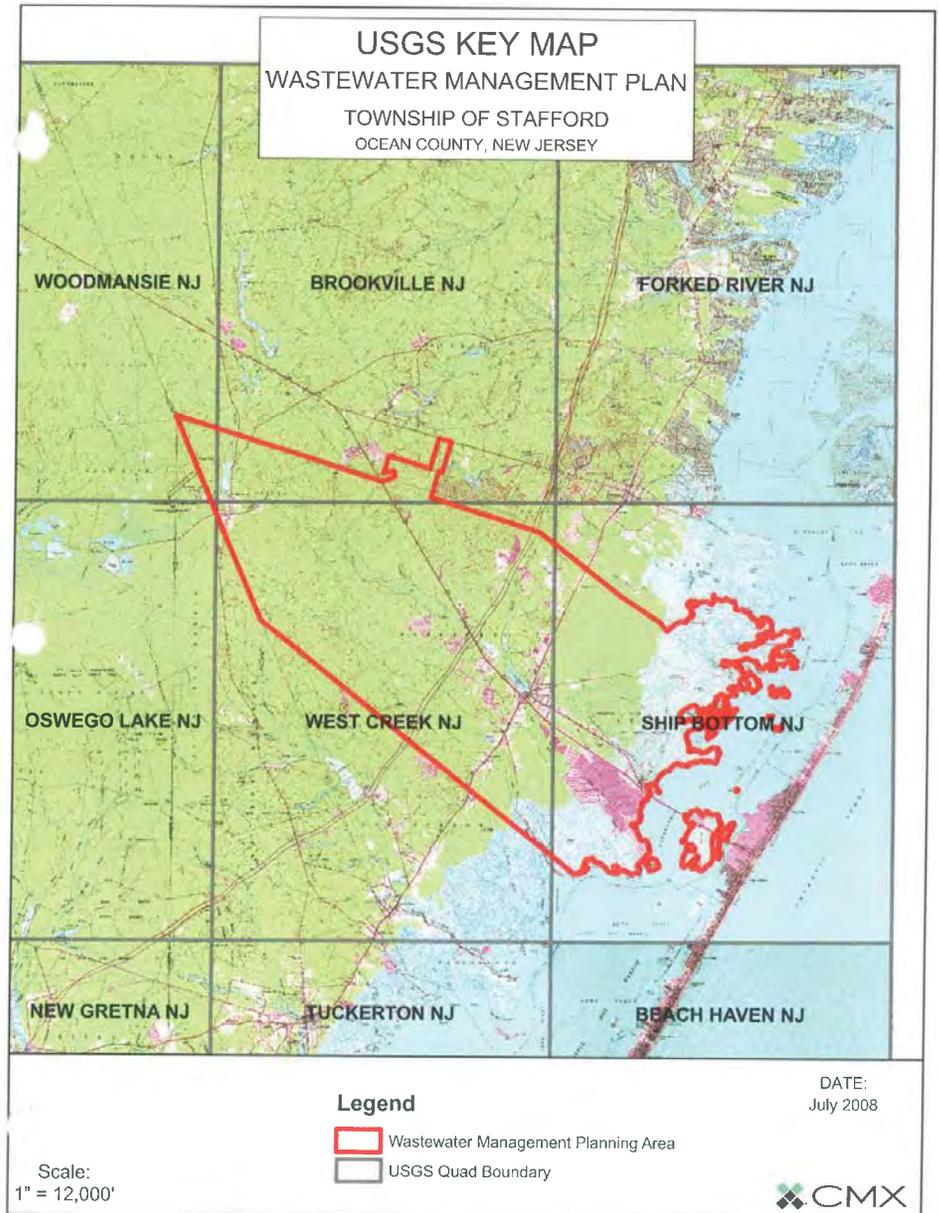


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- APPENDIX B - Storm Water Control Ordinance (2005-105)
- APPENDIX C- Storm Water Control Ordinance for Pinelands Jurisdiction of Town (2007-108)
- APPENDIX D - Riparian Buffer Conservation Zone Ordinance (2008-57)

**Ocean County Wastewater Management Plan – Stafford Township
Watershed Management Area (WMA) 13 and 14**

I. Introduction

The purpose of this document is to provide a comprehensive Wastewater Management Plan (WMP) for Stafford Township, New Jersey. The WMP has been submitted to the New Jersey Department of Environmental Protection (Department) for approval so that it may be incorporated into the Ocean County Water Quality Management Plan via the plan amendment procedure (N.J.A.C. 7:15).

The WMP provides a framework and description on how Stafford Township (Township) treats and disposes of the wastewater generated by its residents and businesses. The WMP also serves as a basis for future changes to existing service areas, treatment facilities and infrastructure.

The Stafford Township WMP Planning Area (Planning Area) includes Stafford Township, and Paramount Escapes at Barnegat in Barnegat Township. The Planning Area is entirely within the Ocean County WMP Planning Area. Upon adoption of this WMP, all information within the Ocean County WMP regarding the Planning Area will be updated.

There is one (1) wastewater treatment facility operating under an individual New Jersey Pollution Discharge Elimination System (NJPDES) permit in the Planning Area. The Southern Water Pollution Control Facility (SWPCF) owned and operated by the Ocean County Utilities Authority (OCUA). SWPCF is a secondary wastewater treatment facility designed to treat domestic and light industrial waste. The SWPCF sewer service area includes Long Beach Island, Eagleswood, Stafford, Tuckerton, Little Egg Harbor, and sections of Barnegat Township.

No new treatment facilities are being considered in this WMP. No expansion of existing treatment facilities is being proposed in this WMP.

This WMP proposes the following significant actions:

- Extending sewer service to existing developments currently served by individual subsurface sewage disposal (septic) systems.
- A reduction of sewer service area by 560 acres

Table 1 presents a summary of the NJPDES permitted facilities within the Planning Area.

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II. Summary of Significant Actions

The Stafford Township WMP Planning Area (Planning Area) includes Stafford Township, and Paramount Escapes at Barnegat in Barnegat Township. Currently, the Planning Area is part of the Ocean County WMP.

This WMP proposes following significant actions:

- Extending sewer service to existing developments currently served by individual subsurface sewage disposal (septic) systems.
- A reduction of previously approved sewer service area by 568 acres.

476 - acre portion of the township located Northeast of the intersection of the Garden State Parkway and Route 72 are being removed from the previously approved sewer service area. This part of the Township is designated as federally owned open space. 82-acre area of Township known as Barnegat Gables is also being removed from the previously approved sewer service area because of the environmental constraints.

As a result of the proposed future developments and modification of existing sewer service infrastructure, several environmental analyses were performed to assess the environmental impact of the development. A summary of each analysis is located in Section V, and the complete report for each analysis is attached. These analyses include:

- Environmental Constraints and Bulldozer Analysis
- Nonpoint Source Pollutant Loading and Hydromodification Analysis
- Point Source Pollutant Loading Analysis
- Depletive and Consumptive Water Use Analysis
- Riparian Corridor Analysis
- Threatened and Endangered Species Analysis

No new or expanded wastewater treatment facilities are being considered in this WMP. No treatment facilities are being abandoned.

Table 1. NJPDES Permitted Facility within the Planning Area

Facility Name	NJPDES Permit #	Permit Type	Location	Permitted Flow	Actual Flow	Owner/Operator	Wastewater Description
OCEAN COUNTY UTILITIES AUTHORITY - SWPCF	NJ0026018	Discharge to Surface Water	Stafford Township	20 MGD	7.14 MGD	OCUA	Municipal Wastewater

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III. Existing and Future Domestic and Industrial Treatment Facilities

A. Discussion of Existing Treatment Facilities

There is one (1) domestic wastewater treatment facility classified as a Major Discharger in the Stafford Township WMP Planning Area (Planning Area). The Southern Water Pollution Control Facility (South Plant) is owned and operated by the Ocean County Utilities Authority (OCUA). The South Plant sewer service area includes Long Beach Island (Borough of Barnegat Light, Beach Haven Borough, Borough of Harvey Cedars, Township of Long Beach, Borough of Ship Bottom, and Borough of Surf City), Eagleswood Township, Little Egg Harbor Township, Township of Stafford, and the Borough of Tuckerton.

South Plant is a secondary wastewater treatment facility designed and permitted to treat domestic and light industrial waste at a rate of 20 million gallons per day (MGD). Between May 2006 and April 2007, SWPCF treated an average of 7.14 MGD. After receiving treatment, the plant's effluent is disinfected and discharged to the Atlantic Ocean via an outfall pipe, which extends out into the ocean 6,600 feet.

Table 2 summarizes South Plant flow data from May 2006 to April 2007. Table 3 is the South Plant Facility Table. For projected wastewater flow calculations, see Table 4.

In April 2006, the South Plant began a 3-year, \$26 million capital improvement project. The project is intended to improve the reliability to treat projected wastewater flows and to install equipment that will reduce energy costs. Major tasks of the project include improvements to the influent and effluent pump stations, aeration system, disinfection system, upgrades to the sludge handling facilities, operations building, emergency generator facility, and the installation of an Influent flow equalization basin.

All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the Stafford sewer service area, are deemed to be consistent.

Table 2. OCUA – Southern Water Pollution Control Facility Flow Data

Month	Reported Monthly Average (MGD)
May-06	7.2
June-06	7.4
July-06	9.9
August-06	9.2
September-06	9.6
October-06	7.2
November-06	7.4
December-06	6.2
January-07	6.1
February-07	6.2
March-07	6.3
April-07	6.6
AVERAGE:	7.44

Table 3. OCUA - SWPCF Facility Table

DOMESTIC OR INDUSTRIAL TREATMENT FACILITIES TABLE		
Ocean County Utilities Authority -		Southern
Water Pollution Control Facility		
(Name of Facility)		
1.	Existing or proposed facility:	Existing
2.	NJPDES Permit Number:	NJ0026018
3.	Discharge to ground water (DGW) or surface water (DSW):	DSW
4.	Name of receiving water or aquifer:	Atlantic Ocean
5.	Classification of receiving water:	SC
6.	Owner of facility:	Ocean County Utilities Authority
7.	Operator of facility:	Ocean County Utilities Authority
8.	Co-Permittee of facility (where applicable):	N/A
9.	Location of facility:	
	a. Municipality & County -	Stafford Township, Ocean County
	b. Street Address -	150 Cedar Run Dock Road
	c. Block (s) and Lot (s) -	Block 147, Lot 14
10.	Location of discharge (i.e. degrees, minutes, seconds):	
	a. Longitude 74° 08' 41"	b. Latitude - 39° 38' 26"
11.	Present permitted flow: 20 MGD (30-Day Average)	
12.	Summary of population served to be served including major seasonal fluctuations.	
	Present (2007) Population Served:	Ultimate Buildout Population Served:
	Stafford	31,478
	Barnegat	4,249
	Eagleswood	80
	Totals	35,807
13.	Summary of wastewater flow received to be received expressed in million gallons per day (MGD) and as a 30-day average flow for DSW.	
	Present (2007) Wastewater Flow (MGD)	Ultimate Buildout Wastewater Flow (MGD)
	Stafford	
	Residential flow -	1.974
	Commercial flow -	0.648
	Industrial flow -	0.000
	Infiltration/Inflow -	0.028
	Total for Stafford	2.650
	Barnegat	
	Residential flow -	0.270
	Commercial flow -	0.000
	Industrial flow -	0.000
	Infiltration/Inflow -	0.002
	Total for Barnegat	0.272
	Total for Stafford & Barnegat	2.922

*Infiltration/Inflow (I/I): Existing I/I should be identified. However, additional future I/I may not be projected. (The NJPDES Treatment Works Approval regulations make numerical allowances for I/I.) The existing I/I can be carried-over and accounted for.

B. Discussion of Future Treatment Facilities

There are no proposed significant future actions.

General Future Development

Depending upon the nature of future development and redevelopment and extension of existing sewer infrastructure, upgrades may be necessary in terms of pump stations and/or improvements or additions to the collection system.

Several significant projects have been approved by or are under review by the Township.

Future Development Within Existing Currently Approved Sewer Service Area

- Paramount Escapes at Ocean Breeze Sections 2 through 7 (Barnegat Township)

Existing Housing Served by Individual Subsurface Sewage Disposal Systems (Septic) with Design Flows Equal to or Less than 2,000 GPD

- Single lots throughout Stafford Township (Stafford Township)

Additionally, a number of single lots currently served by septic systems, are proposed to be included in OCUA South sewer service area as a part of this WMP.

Individual Subsurface Sewage Disposal Systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage Facilities Act (N.J.S.A. 58:11-23) or Individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). This also applies to ISSDS which require only local approvals if the WMP acknowledges adequate arrangements for enforcement of other requirements (such as adherence to municipal or sewerage authority ordinances).

Development in areas mapped as wetlands, flood prone areas, designated river areas, or other environmentally sensitive areas may be subject to special regulation under Federal or State statutes or rules. Interested persons should check with the Department of Environmental Protection for the latest information. Depiction of environmental features is for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules.

All existing, new, or expanded Industrial pre-treatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent.

Refer to Plates 5A, 5B, and 5C for mapping of environmentally sensitive areas within the Planning Area.

Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by the adoption of this WMP and compliance is required.

New Jersey's coastal zone extends from the New York border south to Cape May Point and then north to Trenton. It encompasses the waters and waterfronts of the Hudson River and related water bodies south of the Raritan Bay, the Atlantic Ocean and some inland areas from Sandy Hook to Cape May, the Delaware Bay and some inland areas, and the waterfront of the Delaware and related tributaries. The coastal zone encompasses areas in which the State has the authority to regulate land and water uses through the Coastal Area Facility Review Act (CAFRA), Waterfront Development Law and Wetlands Act of 1970.

Because sections of the Stafford Township WMP Planning Area are within New Jersey's regulated Coastal Zone as defined at N.J.A.C. 7:7E-1.2(b), compliance with the following statement is mandatory:

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.28), Endangered or Threatened Wildlife or Vegetation Species Habitat (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Because sections of the Planning Area are within New Jersey's Pinelands Area, defined as N.J.S.A. 13:18A-11, compliance with the following statement is mandatory:

"For facilities (including but not limited to sewer connections, sewer extensions, and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

Because sections of the Planning Area are designated as "nondegradation areas," compliance with the following statement is mandatory:

"Nondegradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharges to an FW1 stream, with the exception of upgrades to or continued operation of existing facilities serving existing development. 2) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

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IV. Environmental Assessments and Analyses

The following environmental assessments and/or analyses were deemed applicable by NJDEP for the Stafford Township WMP Planning Area (Planning Area):

- Environmental Constraints and Buildout Analysis
- Nonpoint Source Pollutant Loading and Hydromodification Analysis
- Point Source Pollutant Loading Analysis
- Depletive and Consumptive Water Use Analysis
- Riparian Corridor Analysis
- Threatened and Endangered Species Analysis

A. Environmental Constraints and Buildout Analysis

An Environmental Constraints Analysis (ECA) is a buildout analysis modified to account for the constraints to development that arise because of the presence of environmentally sensitive areas. The environmentally constrained areas that were considered include lakes, wetlands, 100-year FEMA and buffer of streams. This analysis delineates existing land use and shows the changes that would result from development in accordance with current zoning, taking into account the environmental constraints for each service area.

The ECA is needed to assess the proposed sizing of the receiving treatment facility and the appropriate location and extent of the proposed service areas. Because specific plans for development are not available for the developable areas, maximum buildout for each developable lot was assumed. Maximum buildout was determined using the current zoning classification for each of these developable areas. In this context, a "developable area" is defined as a privately-owned vacant parcel of land that is zoned for residential, commercial, or industrial use. Future flows were calculated using the Department projected flow criteria (N.J.A.C 7:14A – 23.3).

The ECA is used to determine the type of growth Stafford could anticipate if the remaining vacant unconstrained lands were built based on their current zoning. The build-out is also based upon the Township's COAH sites, as indicated in the 2005 Housing Element/Fair Share Compliance Plan, and recently approved and pending development applications. Each of these categories is shown on Map 6A.

It should be noted that the build-out yielded an additional 2,907 residential units and increase of 1,305,487 square feet of nonresidential square footage.

In terms of population and housing units, the build-out yielded an increase of 7,587 people. The total nonresidential square footage increase of 1,305,487 and employment projections may range between 600 to 900 jobs (nonresidential job ratios vary depending on the use, and have been calculated based on COAH multipliers from Appendix E of N.J.A.C. 5:94.

The entire text of the ECA can be found in Attachment A.

Table 4 presents a summary of the ECA and provides projected future flows generated within the Stafford Township WMP Planning Area given Ultimate Buildout. Based on Table 4, it can be seen that the South Plant has sufficient design capacity (20 MGD) and permitted discharge flow (20 MGD) to accept the additional projected future flows (0.96 MGD) generated within the Planning Area. It should be noted that the Planning Area currently contributes approximately 25% of the total wastewater flow to the South Plant. A more thorough analysis of the entire South Plant's sewer service area must be completed to determine if the facility has sufficient design capacity to accept the projected future flows from full buildout of the entire South Plant's sewer service area.

Table 4. ECA Summary and Projected Future Flows

Build-out Category	Units/Lot	Projected Wastewater Flow, Residential (GPD)	Total SF	Projected Wastewater Flow, Commercial (GPD)	Associated Population Increase
Stafford					
Residential (Vacant)	844	253,200	-	-	2,203
Residential (Existing Septic)	75	22,500			196
Non Residential (Vacant)	-	-	381,000	38,100	
Non Residential (Existing Septic)			6,000	600	
COAH Sites	1,226	367,800	804,587	80,459	3,200
Approved/Pending Developments			113,900	11,390	-
Single-Family Housing	136	40,800			355
Age-Restricted Housing	145	32,625			378
Barnegat					
Age-Restricted Housing	481	108,225	-	-	1,255
TOTALS:	2,907	825,150	1,305,487	130,549	7,587

B. Nonpoint Source Pollutant Loading Analysis

Nonpoint source pollution results from potential contaminants carried into storm drains and discharged to surface waters. Nonpoint source pollutants generally include items such as fertilizers, litter or other materials that directly or indirectly enter the storm sewer system.

On February 2, 2004, the New Jersey Department of Environmental Protection adopted new stormwater rules to protect and restore water resource health in New Jersey through the management of stormwater and minimization of nonpoint source pollution.

The New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B-1 et seq.) established three levels of anti-degradation protection. The highest tier is assigned to waterbodies that qualify as Outstanding National Resource Waters (ONRW). ONRW include freshwater in preserved open space (FW1) and Pinelands waters (PL). The next tier is Category 1. These waters are protected from measurable changes in water quality characteristics because of their clarity, color, scenic setting, other characteristics of aesthetic value; exceptional ecological, recreational and water supply significance or exceptional fisheries resources. The lowest tier is Category 2 and is the anti-degradation designation for all other waterbodies in Stafford, unless specifically identified in the Surface Water Quality Standards as ONRW or Category 1.

The New Jersey Surface Water Quality Standards require a 300-foot area, known as a Special Water Resource Protection Area (SWRPA), along all Category One (C-1) waters and their upstream tributaries located within the same HUC-14, and along all ONRW. The SWRPA is established to maintain and restore water quality, and consists of existing vegetation or vegetation allowed to follow natural succession so as to maintain and/or create an unbroken, undisturbed vegetated buffer along C-1 waters and upstream tributaries, and along ONRW.

In Stafford, all waters in the Pinelands are classified as ONRW, and the following provides a listing of the C-1 waters:

- Cedar Run sub-watershed.
- Mill Creek (below Garden State Parkway)/Manahawkin Creek sub-watershed including Cedar Run, Mill Creek, and Manahawkin Creek.
- Barnegat South Tributaries (below Lochiel Creek) sub-watershed.
- Manahawkin Bay/Little Egg Harbor Bay (to Westecunk Creek) sub-watershed.

In addition to the C-1 waterbodies, every tributary in Stafford (except for the Four Mile Branch (Mill Creek) sub-watershed) is subject to a 300-foot buffer due to being upstream from a C-1 waterbody and located in the same HUC-14.

Under these rules, there is some flexibility on the size of buffers required depending upon whether the municipality has approved a stormwater management plan that includes a stream corridor protection plan. The Stafford Stormwater Pollution Prevention Plan and Stormwater Management Plan (dated March 2005 and last revised July 2006) have been approved by NJDEP. The Township's code was amended to bring the Township's stormwater regulations in compliance with the State's Stormwater Regulation Program for the non-Pinelands portion of the Township. Stafford submitted a Stormwater Management Plan and stormwater control ordinance to the Pinelands Commission for review and consistency with the Pinelands regulations. The Pinelands Commission approved Stafford Township's April 2007 Stormwater Management Plan and Ordinance 2007-108 on March 14, 2008.

In addition to amending its ordinance to be consistent with the State's Stormwater Regulation Program, the Township amended its ordinance to address excessive impervious coverage in residential zones and to allow for an increase in impervious surface coverage up to 80% based upon the installation of dry wells for roof runoff for non-lagoon residential developments. Lagoon residential developments may take advantage of the increased impervious surface coverage standards, however all roof runoff must be piped directly into the lagoon.

All New Jersey municipalities that own and operate municipal separate stormwater sewer systems (MS4) were required to request authorization to discharge stormwater under either a Tier A or Tier B NJPDES general permit. According to the Municipal Tier Assignment List released on 12/4/06, Stafford Township and Barnegat Township are regulated under a Tier A permit. Under the terms of the Tier A Permit, each municipality is required to adopt a municipal stormwater management plan, a stormwater pollution prevention plan, and ordinances to control the amount of potential contaminants discharged to the storm sewer system (i.e. pet waste, litter, illicit connection, improper waste disposal, wildlife feeding and yard waste).

It should be noted that under the proposed Flood Hazard Area Control Act rules, the Four Mile Branch (Mill Creek) sub-watershed is subject to a 150-foot buffer due to the presence of threatened and endangered species habitat.

The Township of Stafford institutes an Annual Drainage Improvement Program designed to address areas of stormwater ponding or minor flooding as determined by the Township or as identified by residents of the community.

Section 130-73.A of the Township ordinance recognizes that as land is developed, permeable soils are replaced by impermeable surfaces which increase runoff volumes. All future development in Stafford shall utilize the best available technology to minimize off-site stormwater runoff, increase on-site infiltration, simulate natural drainage systems and minimize off-site discharge of pollutants to ground or surface water and encourage natural filtration functions.

Section 130-76.A(1) of the Township ordinance includes a policy statement that encourages nonstructural or low-impact techniques for flood control, groundwater recharge and pollutant reduction before relying on structural best management practices (BMP). 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, and limit the risk of contamination of the public water supply.

C. Point Source Pollutant Loading Analysis

There is no proposed increase in wastewater discharge, above that which is currently permitted, to surface water in this WMP, therefore an antidegradation analysis of an increased surface water discharge was not performed. For areas designated "Discharge to Ground Water with Planning Flows Less Than 2,000 gpd," to demonstrate conformance with the objective of protecting ground water quality, a Nitrate Dilution Analysis was performed.

Most of the existing development within Stafford Township is currently being served by a public sewer system. Expansion of the sewer service area is being proposed for the future development within the Township's Regional Center or Planning Area 2 limits. Therefore, a septic suitability study was prepared for the parts of the Township that are located outside of the existing or proposed sewer service area.

Developable lots, soil types, and environmental constraints were considered before running the model. Map 6B is a complete Soils Map for the Planning Area. Because the majority of the unsewered, developable lots fall within areas with environmental constraints, the

recharged-based nitrate dilution model prepared for the Township was performed for each suitable soil type rather than individual parcels or zoning areas.

The analysis was prepared in accordance with the "New Jersey Department of Environmental Protection Instruction and Guide for Wastewater Management Plan" utilizing "A Recharge-Based Nitrate-Dilution Model for New Jersey, MS Excel Workbook, version 5.0" created by New Jersey Geological Survey. The goal is to estimate the minimum lot size needed to provide enough groundwater recharge to dilute nitrate to a specified target within the limits of a property. The analysis was performed for two (2) nitrate targets, 5.2 mg/L and 2.0 mg/L.

Below is a conclusion summary of the Nitrate Dilution Analysis:

- The vacant land outside of the sewer service area falls within five soils types that can potentially support septic systems with a minimum required lot size of 1.6 to 1.8 for a Nitrate target of 5.2 mg/L or a minimum required lot size of 3.9 to 4.4 for a Nitrate target of 2.0 mg/L.
- Vacant land areas zoned as residential or rural residential and located on suitable soils do not meet the minimum lot size regulations for septic systems.

See Attachment A for the complete text of the Nitrate Dilution Analysis.

The Nitrate Dilution Analysis was recently submitted to the Township for review. In response, the Township adopted Ordinance No. 2007-98 on November 5, 2007 specifying the minimum lot size for developable lots to be served by a septic system as 4.0 acres. Previously, the Township ordinance restricted lots served by septic systems to a minimum of 1 acre.

Map 6B is a complete Soils Map for the Planning Area.

D. Consumptive Water Use Analysis

Existing Facilities

Residents and businesses within the Planning Area receive potable water from three water purveyors. The Barnegat Township Water & Sewer Department (BTWSD) provides water for the developments in Barnegat. The Stafford Township Water & Sewer Utility Department (STWSUD) provides water for all of Stafford Township with the exception of Cedar Bonnet Island. The STWSUD purchases water from the Ship Bottom Water Department (SBWD) to supply the residents of Cedar Bonnet Island.

The Stafford Township Water and Sewer Utility Department (STWSUD) system is operated as two separate water systems with two separate PWSID numbers. The STWSUD owns and operates the potable water system, and except for private wells, is the only water purveyor in the Township. There are three (3) service areas within the Township system; Beach Haven West/Stafford Avenue, Ocean Acres, and Fawn Lakes. The Beach Haven West/Stafford Avenue service area serves the portion of the Township generally described as south of Bay Avenue and east of Route 9. The Ocean Acres service area includes the "high pressure" zone. Generally, the area encompasses all customers west of the Stafford Avenue Water Treatment Plant excluding the Fawn Lakes service area. The Ocean Acres development is nearly exclusively served by the newly constructed Ocean Acres Water Treatment Plant. The Fawn Lakes service area includes all of Fawn Lakes and Atlantic Hills.

The Current Water Allocation Permit (Program Interest ID 5038, Activity No. WAP 070002) for STWSUD covers both the Fawn Lakes and Beach Haven West/Stafford Avenue, and Ocean Acres water systems. Each water system has individually designated firm capacity and monthly allocation, but there is a combined STWSUD yearly allocation.

The STWSUD owns and operates ten wells and four water treatment plants. All wells draw water from Atlantic City 800-foot Sands Aquifer.

The existing Beach Haven West/Stafford and Ocean Acres service area nine (9) supply wells and three (3) water treatment plants. The Fawn Lakes service area is served by two supply wells. The following table lists the source capacity for the entire source of supply in the Township water system.

Table 5. Wells Summary

Well #	Location	PWSID #	Capacity (gpm)	Service Area
1	Fawn Lakes	NJ1530005	250	Fawn Lakes
2	Fawn Lakes	NJ1530005	250	Fawn Lakes
12	Beach Haven West	NJ1530004	750	BHW/Stafford and Ocean Acres
4	Beach Haven West	NJ1530004	1,250	BHW/Stafford and Ocean Acres
5	Stafford Avenue	NJ1530004	1,000	BHW/Stafford and Ocean Acres
6	Stafford Avenue	NJ1530004	1,000	BHW/Stafford and Ocean Acres
7	Stafford Avenue	NJ1530004	1,000	BHW/Stafford and Ocean Acres
8	Ocean Acres	NJ1530004	760	BHW/Stafford and Ocean Acres
9	Ocean Acres	NJ1530004	760	BHW/Stafford and Ocean Acres
10	Ocean Acres	NJ1530004	760	BHW/Stafford and Ocean Acres
11	Ocean Acres	NJ1530004	1,000	BHW/Stafford and Ocean Acres

The following table summarizes the maximum permitted allocation under the Current Water Allocation Permit (Program Interest ID 5038, Activity No. WAP 070002)

Table 6. Water Allocation Permit (Program Interest ID 5038, Activity No. WAP 070002)
Maximum permitted allocation

Subject Item	Parameter	Limit
STWSUD All sources	Max Diversion Rate	<=8250 Gallons Per Minute
	Water Diverted	<=186 Million Gallons per Month
		<=1454 Million Gallons Per Year
Wells 4-7, 12	Max Diversion Rate	<=3750 Gallons Per Minute
	Water Diverted	<=92 Million Gallons per Month
		<=829 Million Gallons Per Year
Wells 8-11	Max Diversion Rate	<=4000 Gallons Per Minute
	Water Diverted	<=122 Million Gallons per Month
		<=1208 Million Gallons Per Year
Wells 1 and 2	Max Diversion Rate	<=500 Gallons Per Minute
	Water Diverted	<=11 Million Gallons per Month
		<=95 Million Gallons Per Year

Map 6D presents a map of the water purveyor territories, treatment plant service areas, and treatment plant, water tank, and well locations within the Planning Area.

E. Riparian Corridor Analysis

The objective to be served by this analysis is to ensure no loss of value due to potential short term or long term disturbance of these corridors. Efforts to avoid all negative impacts should be attempted first. Where total avoidance is not feasible, then measures to effectively minimize the negative impacts must be undertaken. As noted in section IV-B, several classifications of surface waters exist within the Planning Area. See Map 6C for all open waters, their classifications, and surrounding buffer zone.

The objective of no loss value can be achieved by ensuring that there is no disturbance within this corridor. Where there is proposed stream encroachment within the stream corridor, it must be demonstrated that the functions of the existing corridor will not be affected by the development. If there is an inherent impairment to the corridor, it must be demonstrated that every effort is being made to minimize or mitigate the impacts. These functions include but are not limited to filtering of storm water runoff, nutrient uptake, groundwater storage and recharge, forest canopy, vegetative litter, wildlife habitat, bank

stabilization, and flood protection. A stream corridor protection ordinance designed to achieve the stated objectives is the means to ensure that stream corridors will not be compromised through changes in land use.

As per Section 130-76D.7(h)[4] of Stafford's Storm water Control regulations, a municipal stormwater management plan may include a stream corridor protection plan. A Stream Corridor Protection Plan provides goals and objectives for the restoration, conservation, disturbance, and management of areas adjacent to municipally designated surface waters and any State-required stream setback, wetland transition area, and riparian buffer. The plan provides information on mitigation/stream bank restoration plans and techniques, open space preservation, and conservation easements.

As part of a plan, a developer is required to:

- Prepare a comprehensive waterways map to denote the standard limits of construction disturbance for each waterway based upon the best currently available information.
- Identify areas where existing or proposed development patterns conflict with any State required stream setback, wetlands transition area, and riparian buffer.
- Establish a systematic procedure to allow for alternative stream corridor construction setbacks based on an evaluation of the specific stream corridors in the study area to determine the extent of the features critical to supporting the functions of a healthy riparian buffer for the stream corridors in question and the requirements of applicable State statutes and regulations.
- Prioritize locations for rehabilitation of areas within disturbed stream corridors.

While all streams and wetlands in Stafford are currently protected through State legislation, upon adoption of the proposed Flood Hazard Area Control Act rules, Stafford opted to prepare a Stream Corridor Protection/Preservation Ordinance for effective and enhanced stream corridor management. This ordinance was passed on June 2, 2008 and a copy has been included as Appendix D of this report. The ordinance designates "conservation zones," and "buffer conservation zones," adjacent to municipally designated surface waters (excluding man-made) and regulate development within those zones. Permitted uses include open space uses, stream bank stabilization activities, and reforestation. New construction or replacement of free standing structures, buildings, and retaining walls could be prohibited.

F. Threatened and Endangered Species Analysis

According to the NJDEP Landscape Project Maps, there are portions of developable areas within the Planning Area that may be suitable habitats for threatened and endangered species, specifically Rank 3 (State threatened species), Rank 4 (State endangered species), and Rank 5 (Federal threatened and/or endangered species). Refer to Plate 6E for mapping of the habitat locations and species description.

In 1994, the New Jersey Division of Fish and Wildlife's Endangered and Non-game Species Program (ENSP) began the Landscape Project with a mission "to protect New Jersey's biological diversity by maintaining and enhancing imperiled wildlife populations within healthy and functioning ecosystems."

The Landscape Project divided the State into large areas labeled "landscape regions" based upon their ecological characteristics and similarities. The Project utilized a database that

combined imperiled and priority species location information with the NJDEP 1995/97 land use cover dataset. Consequently, the ENSP identified and mapped areas of critical importance for endangered species within the "landscape regions." The Landscape Project Critical Habitat Map was developed especially for land-use decision makers, i.e. municipal and county planners and local planning boards, state agencies, natural resource and lands managers. The Map provides a basis for zoning decisions and land acquisition projects.

As indicated on Map 6E, the Planning Area contains a significant amount of forest lands that serve as habitat for threatened and endangered species. The northern goshawk and the red-shouldered hawk are some examples of state-endangered birds that nest in the forest lands. Examples of state-endangered species that inhabit emergent wetlands include, but are not limited to, the American Bittern (bird), Black Skimmer (bird), Henslow's Sparrow (bird), Sedge Wren (bird), Blue-Spotted Salamander (amphibian), Cope's or Southern Gray Treefrog (amphibian), and the Bronze Copper snake (invertebrate).

Stafford amended its Land Development Ordinance to include provisions for tree conservation. Three purposes of the Township's tree conservation ordinance are to: 1) Regulate the removal of trees and habitat, 2) Protect and preserve the Township's natural environment, and 3) Establish the authority for tree and habitat protection. The tree conservation ordinance controls tree removal as unimproved or vacant land is developed. The tree conservation ordinance requires the submission of a Tree Removal Plan for review and approval by the Township.

In addition, Section 130-94 of Stafford Township's Land Use and Development code requires an environmental impact assessment to be submitted with preliminary applications for major subdivisions and/or major or minor site plans where the property for which an approval is sought contains wetlands or is within 200 feet of wetlands. In addition, the Planning Board may require an environmental impact assessment for any application before the board. This environmental impact assessment is required to contain an endangered or threatened wildlife species habitat impact assessment when the site contains or abuts areas mapped as endangered or threatened wildlife species habitat utilizing NJDEP Landscape Project dataset ranks 3, 4 and 5. The goal of this code is to ensure that endangered or threatened wildlife species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected by the proposed development.

Stafford Township also prepared the following planning documents in an effort to better manage habitat conservation and identify state-listed Endangered or Threatened Species within the Township:

- 1990 Threatened and Endangered Plant and Animal Species Survey.
- Update of the 1990 survey in 1996 entitled "Threatened and Endangered Species in Stafford Township."
- 1997 Threatened and Endangered Plant and Animal Species Survey.
- 2006 Environmental Resource Inventory.

Ocean County Wastewater Management Plan - Stafford Township Watershed Management Area (WMA) 13 and 14

V. Basis for Service Area Delineations

The service area delineation for the Stafford Township WMP Planning Area (Planning Area) is based on pre-existing municipal boundaries and practical considerations such as local topography, existing roads, and proximity to existing infrastructure. Development within these areas is guided by the current zoning ordinances, development regulations, and master plans of the applicable municipality, County of Ocean, the Pinelands Commission, the New Jersey Department of Environmental Protection, and the appropriate Coastal Zone Management rules.

The future sewer service areas considered in this WMP within the Planning Area consist of infill throughout Stafford Township, planned developments, and the connection of existing residences currently utilizing sanitary septic systems.

Appendix A contains summaries of the permitted uses, conditionally permitted uses, minimum lot sizes, and maximum unit densities as detailed in the most recent Stafford Township Zoning Ordinance.

Ocean County Wastewater Management Plan – Stafford Township
Watershed Management Area (WMA) 13 and 14

VI. Maps

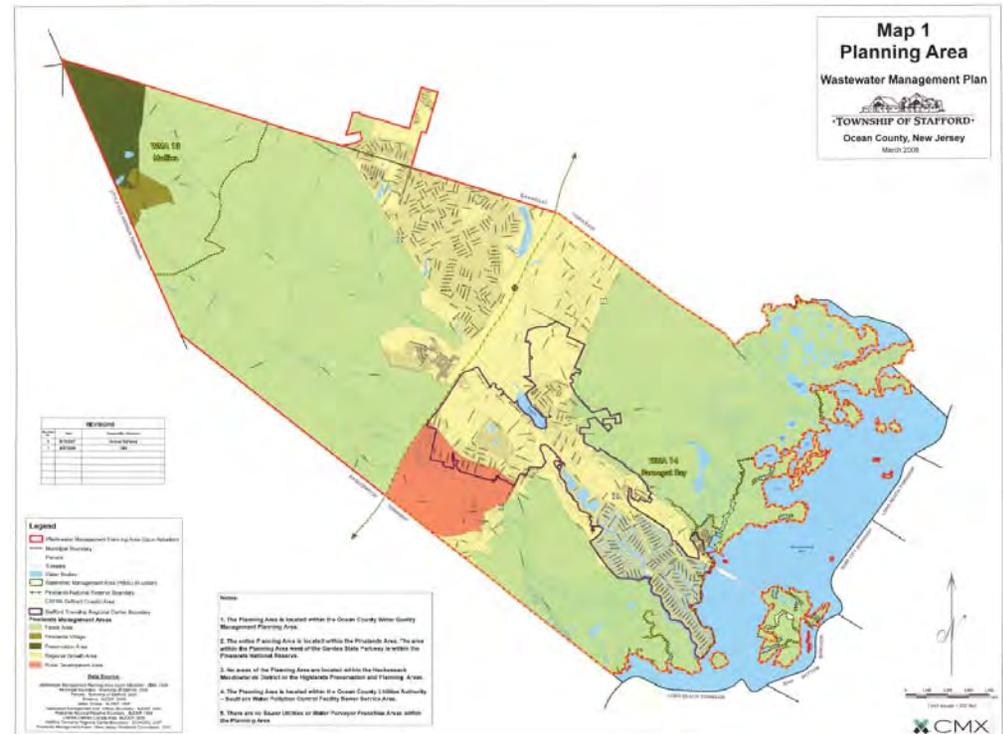
This section contains a number of maps depicting different elements contained within the Stafford Township WMP Planning Area (Planning Area). The maps were prepared using a 1":1,600' scale and a lot and block base. All data sources used are credited in the Legend on each map. Refer to Attachment A – "Environmental Assessments and Analyses" for more detailed information regarding Maps 6A – 6E.

The following features are applicable to the Planning Area: Pinelands Area, Pinelands National Reserve, Natural Heritage Priority Sites, and coastal areas as defined under the Coastal Area Facility Review Act (CAFRA). No section of the Planning Area is within the Hackensack Meadowslands District. There are no franchise areas for sewer utilities or water purveyors regulated by the Board of Public Utilities. In addition, the following environmental features are not present within the Planning Area:

- New Jersey and Federal Wild and Scenic Rivers
- Conservation lands including farmlands preserved through the purchase of development rights or in fee simple absolute
- Highlands Preservation or Planning Areas

The following is a list of Maps found in this section:

- Map 1: Planning Area
- Map 2: Existing Wastewater Facilities and Service Areas
- Map 3: Future Wastewater Facilities and Service Areas
- Map 4: Zoning Map
- Map 5A: Environmental Features: Wetlands, Flood Prone Areas, and Public Open Space
- Map 5B: Environmental Features: NJDEP Landscape Project
- Map 5C: Environmental Features: Natural Heritage Priority Sites
- Map 6A: Buildout Analysis
- Map 6B: Soils Map
- Map 6 C: Water Purveyor Territories





31. SURF CITY BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Surf City was incorporated in 1884, and is located on Long Beach Island in the southeastern portion of the County. It fronts on the Atlantic Ocean to the east and Manahawkin Bay to the west. The Borough shares land borders with Long Beach Township to the north and Ship Bottom Borough to the south. Surf City has a land area of 0.65 square miles (416 acres), and lies entirely within the CAFRA region.

In 2010, the U.S. Census documented a Borough population of 1,205. The 2010 Census also identified 2,566 housing units, of which 1,944 were vacant. Of these vacant units, 1,645 were seasonally vacant. NJTPA projects that Surf City’s population will grow by 41.91% by the year 2035, to 1,710 year-round residents. The Borough’s existing wastewater infrastructure is capable of handling all seasonal fluctuations and this expected population growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Surf City has a stretch of emergent and non-emergent wetlands along its eastern edge, just inland of its beaches on the Atlantic Ocean. There are no Natural Heritage Priority Sites, riparian zones, or preserved farms in the municipality.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features

Environmental Feature	Acreage	Percent of Municipality
Wetlands	41.14	4.96%
Public Open Space/Recreational Areas	29.07	3.50%
Habitat T&E	27.73	3.34%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	0.00	0.00%
Preserved Agriculture	0.00	0.00%
Surface Water	371.15	44.74%

Table 2: Status of Municipal Ordinances

Ordinance	Code	Date Adopted
Zoning	Chapter 30-4	1972
Master Plan		2/2009
Stormwater [County - MSWMP]	Chapter 24	11/2006 [2/1/2007]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	N/A	N/A

Source: Municipal Clerk

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Surf City is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which runs along Long Beach Boulevard, flowing southward from Long Beach Township and northward from Ship



Bottom Borough. These two flows converge near 2nd Street and convert to a force main. The line turns northwest along South 2nd Street, southwest along Barnegat Avenue. The force main then enters Ship Bottom Borough on its way to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 3.03 acres of developable land, of which 2.31 acres are zoned as residential and 0.72 acres are zoned as commercial. There is no developable land zoned for industrial uses in Surf City. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Surf City’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Surf City. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Surf City’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via three wells. The system is operated by the Surf City Water Department, and is capable of pumping 1.548 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There are no NJPDES permitted facilities which discharge to ground water located in this municipality.

V. Future Wastewater and Water Demand

Municipal Zoning

Table 3: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B	Business	22.92	0.72
RA	Residential	283.11	2.31
RAA	Residential	15.22	0.00

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.



Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Surf City Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

As noted in the County Document of this WMP, Surf City is one of twelve municipalities in Ocean County for which current daily wastewater flow was calculated during peak seasonal months. This methodology has produced figures for current flow which account for the Borough’s heightened population during the summer.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 67 people by 2035. This equates to a 0.005 MGD increase in wastewater flow being directed to OCUA’s SWPCF. This is a not a significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 4. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Surf City. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 4: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.488	0.023	0.511	0.516	0.000	0.516

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 5: Public Water Purveyor Capacity								
Surf City Water Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
1.548	1.139	0.409	46.500	35.307	11.193	315.000	183.682	131.318

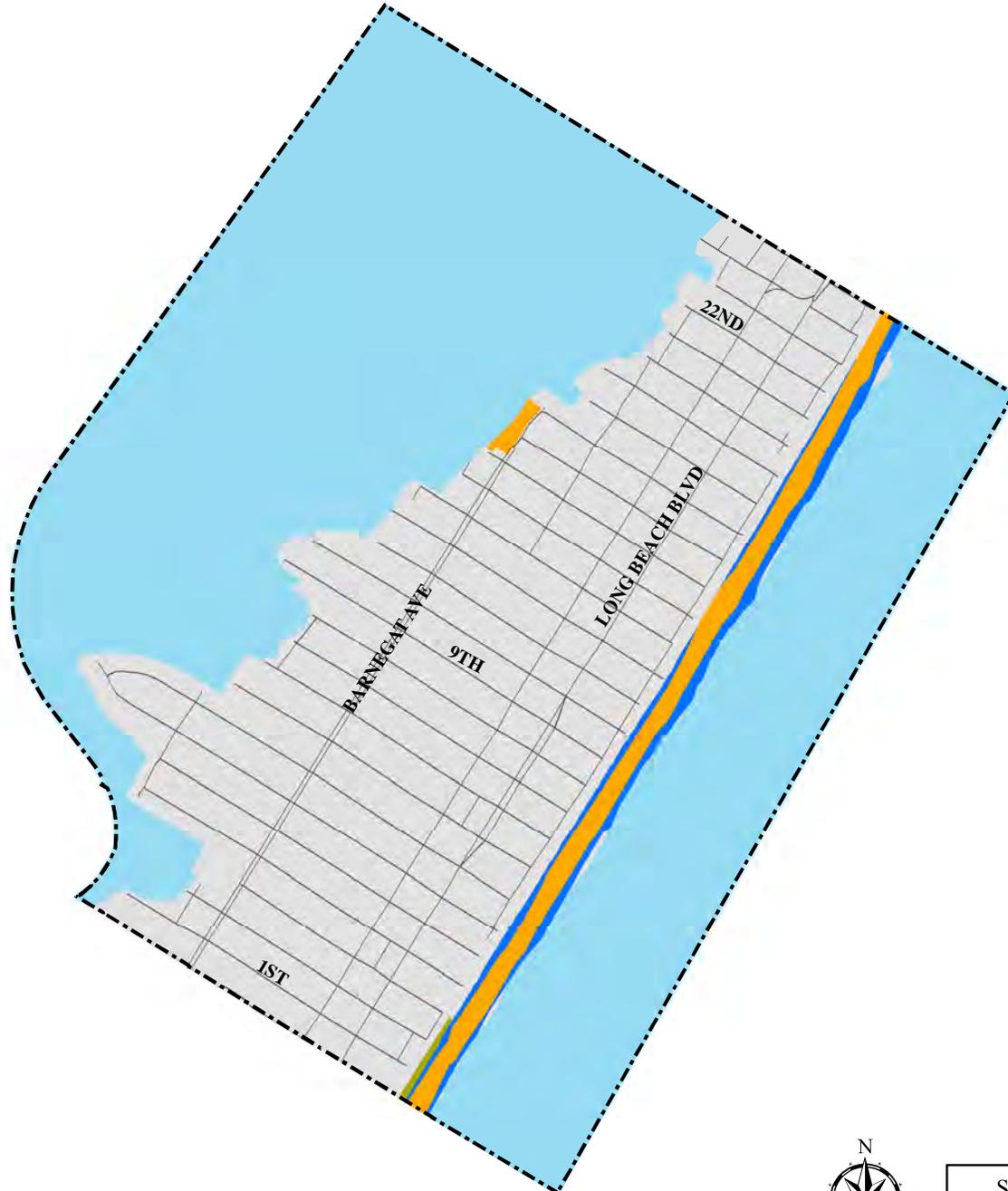
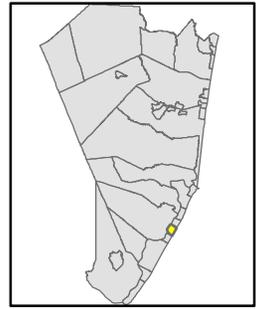
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Beach (Rank 5)
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC; 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and; 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4 and 5; Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:1B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinnacles Area, as defined in N.J.S.A. 13:18A-11, the approval of the Pinnacles Commission pursuant to the requirements of the Pinnacles Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2.7), Wetlands Buffers (N.J.A.C. 7:7E-3.3B), Secondary Impacts (N.J.A.C. 7:7E-6.1), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, October 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 1,400 feet

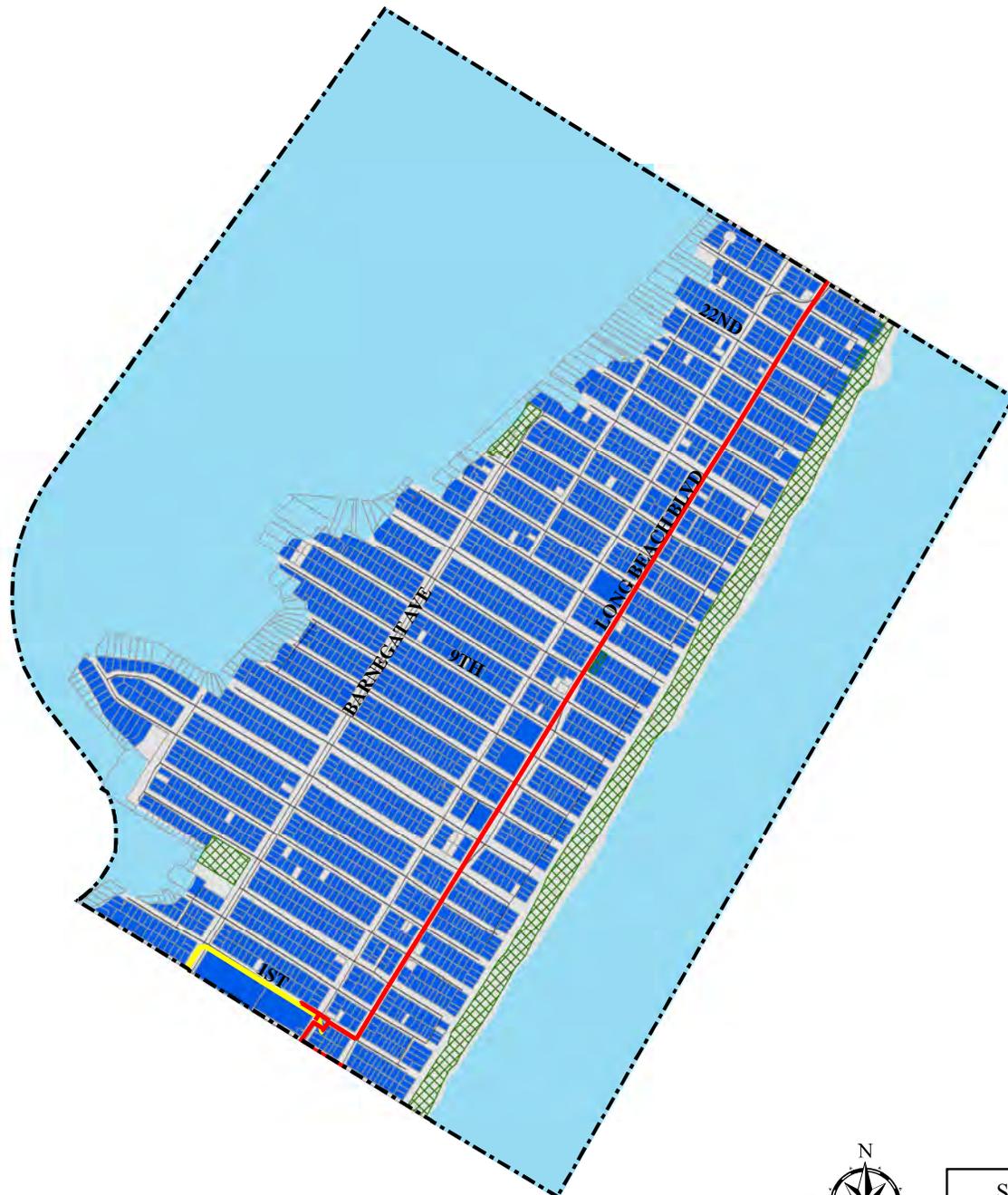
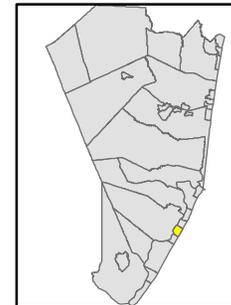
SURF CITY BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

- Interceptor
 - Force Main
 - Roads
 - Public Open Space & Recreation Areas
 - Surface Water
- Sewered Areas**
- OCUA Southern DSW (NJ0026018)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

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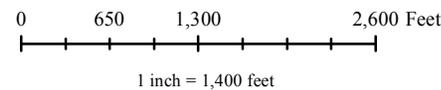
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinnelands Area, as defined in N.J.S.A. 13:18A-11, the approval of the Pinnelands Commission pursuant to the requirements of the Pinnelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffer (N.J.A.C. 7:7E-3.33), Secondary Intertidal (N.J.A.C. 7:7E-6.1), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



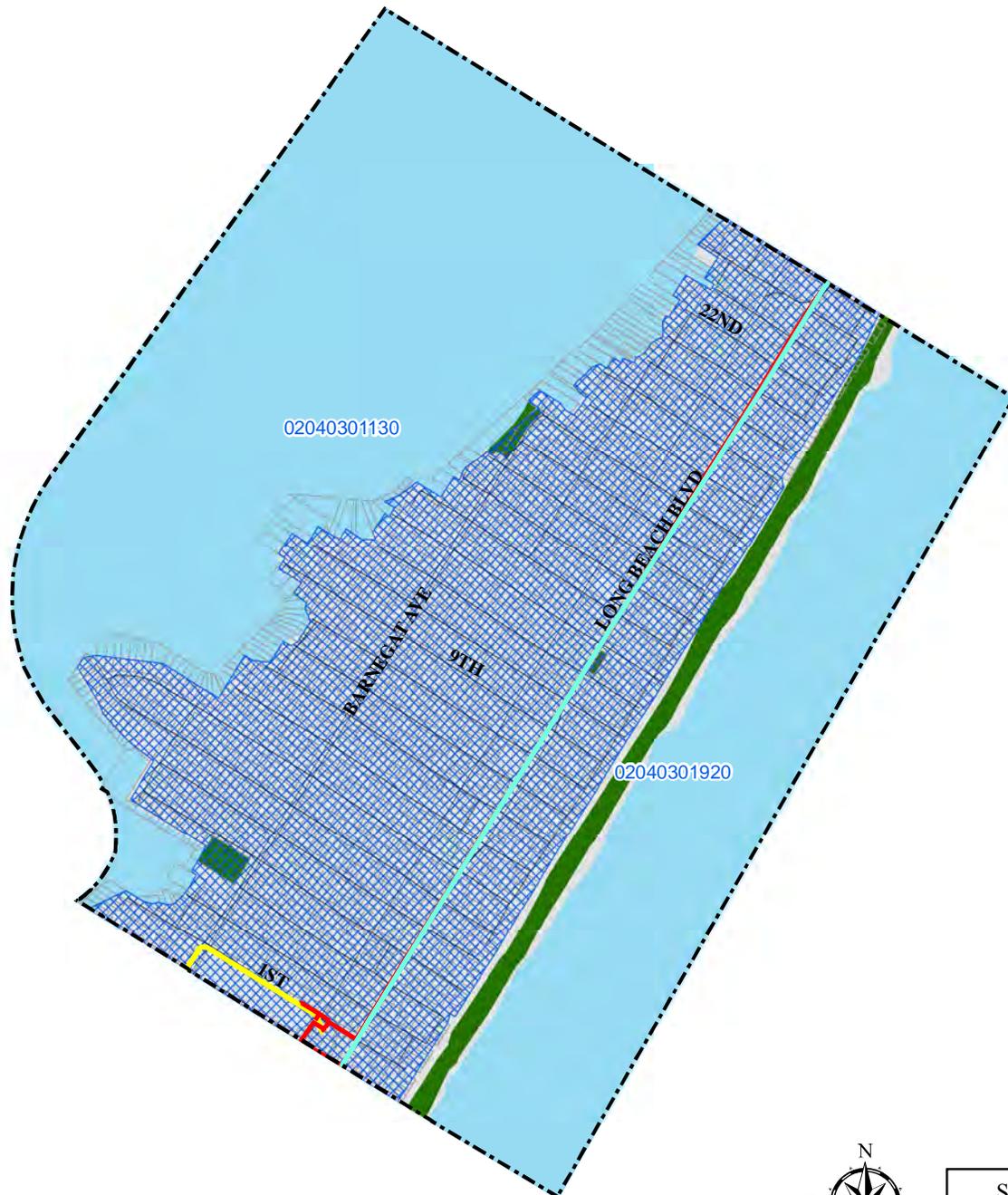
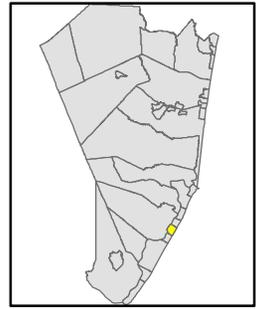
SURF CITY BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  Force Main
-  Roads
-  OCUA Southern DSW (NJ0026018)
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas
-  Surface Water



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC; 14; 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils; and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

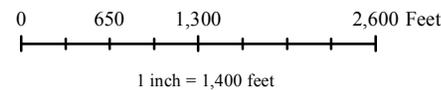
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4, and 5; Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pridelands Area, as defined in N.J.S.A. 13:18A-11, the approval of the Pridelands Commission pursuant to the requirements of the Pridelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2), Wetlands Buffer (N.J.A.C. 7:7E-3.3), Secondary Impact (N.J.A.C. 7:7E-3.4), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



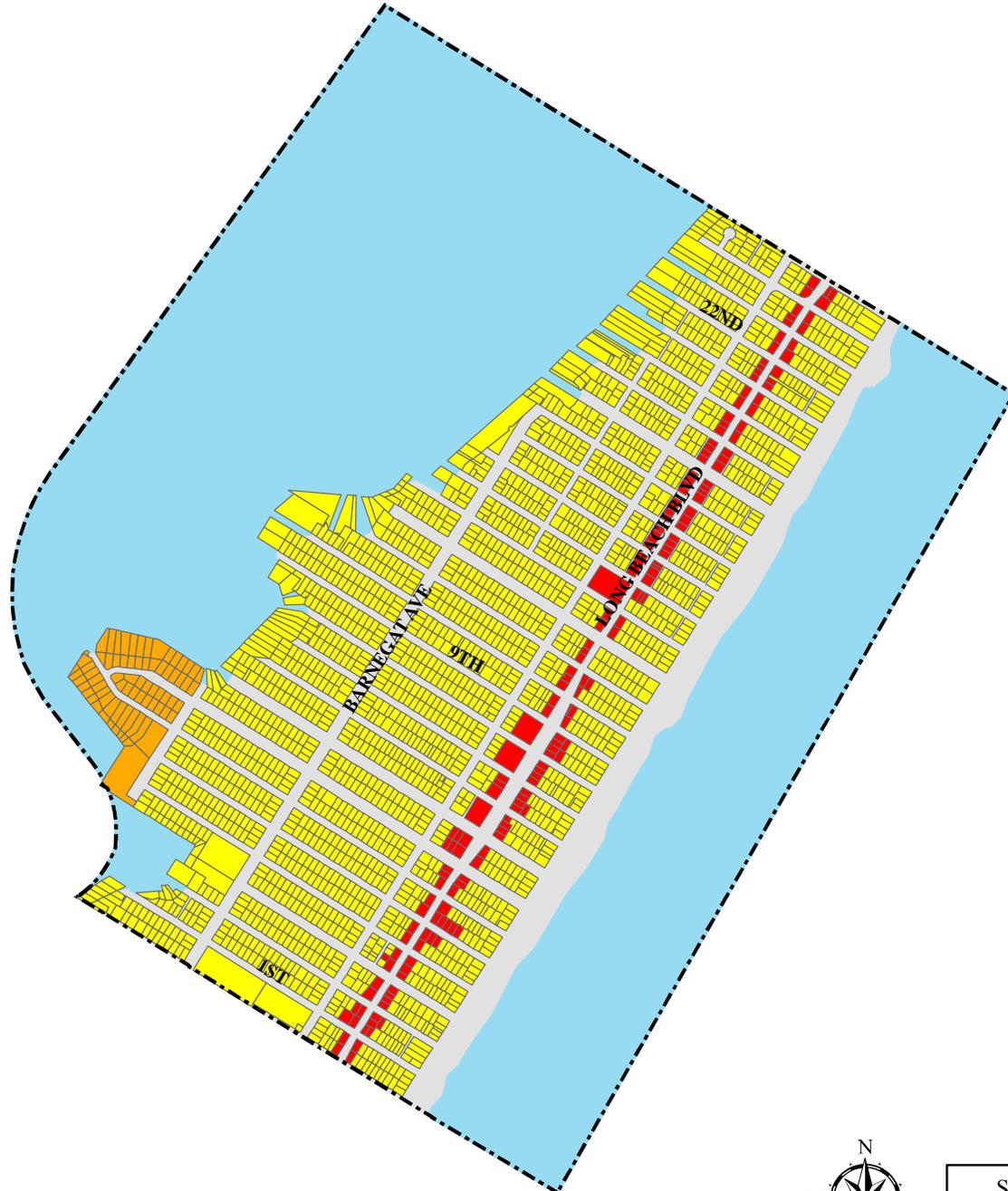
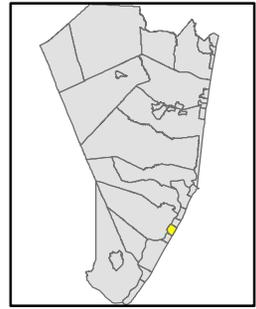
SURF CITY BOROUGH
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend

- B (Business)
- RA (Residential)
- RAA (Residential)



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

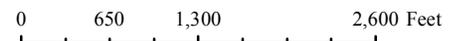
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"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined in N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2), Wetlands Buffer (N.J.A.C. 7:7E-3.3B), Secondary Impact (N.J.A.C. 7:7E-3.1), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 1,400 feet

SURF CITY BOROUGH
OCEAN COUNTY, NJ

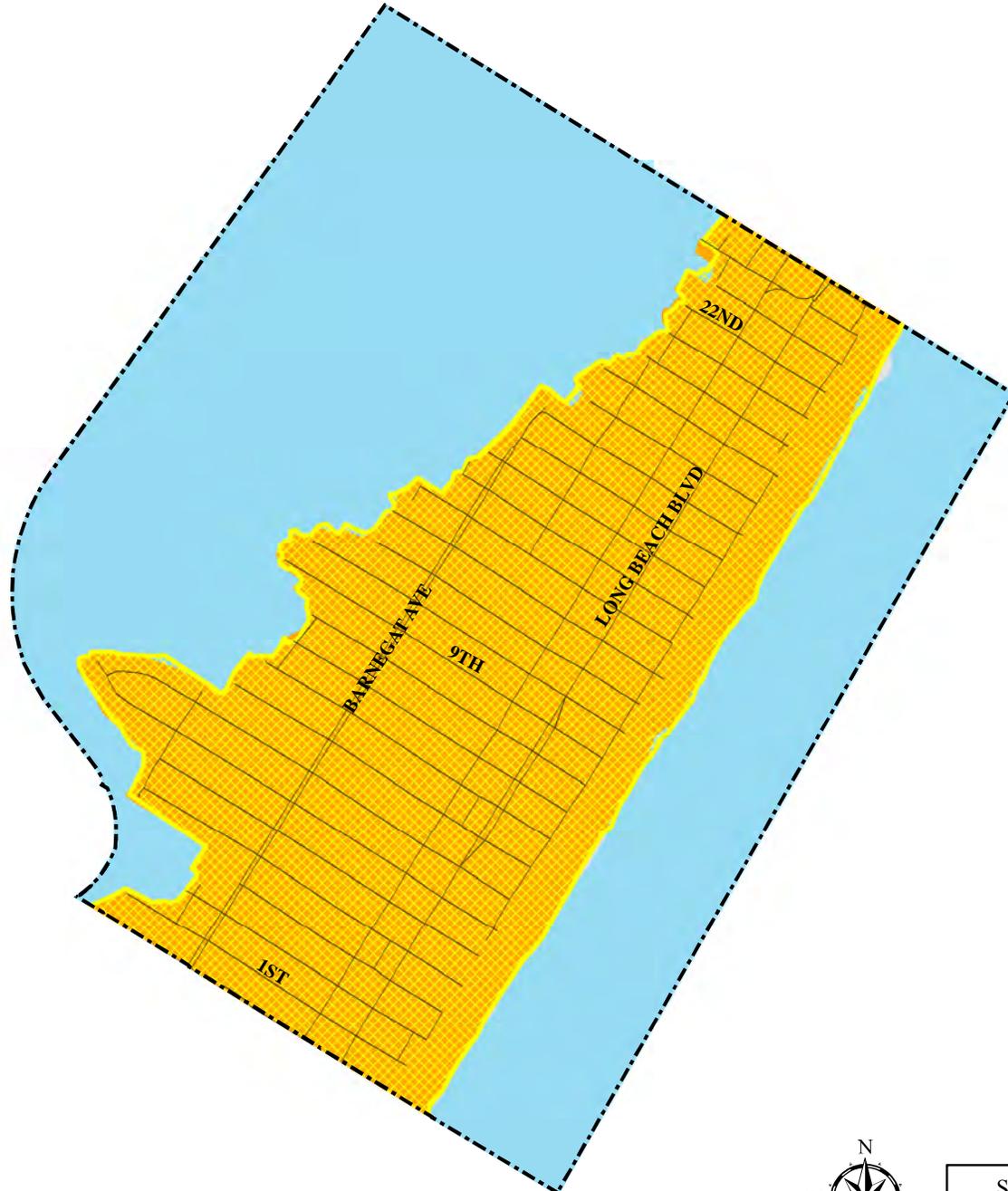
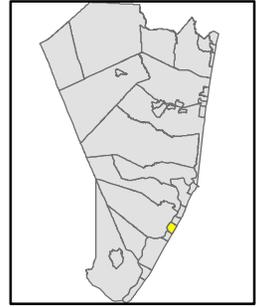
MAP 4

MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, October 2012
Sources: Borough of Surf City, Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

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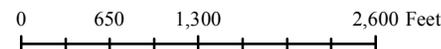
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1 inch = 1,400 feet

SURF CITY BOROUGH
OCEAN COUNTY, NJ

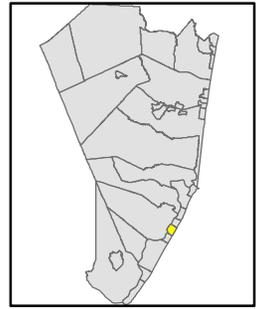
MAP 5

REGIONAL PLANNING AREA

Prepared by: Ocean County Department of Planning, October 2012
Sources: Department of Environmental Protection

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1531001	SURF CITY WATER DEPARTMENT

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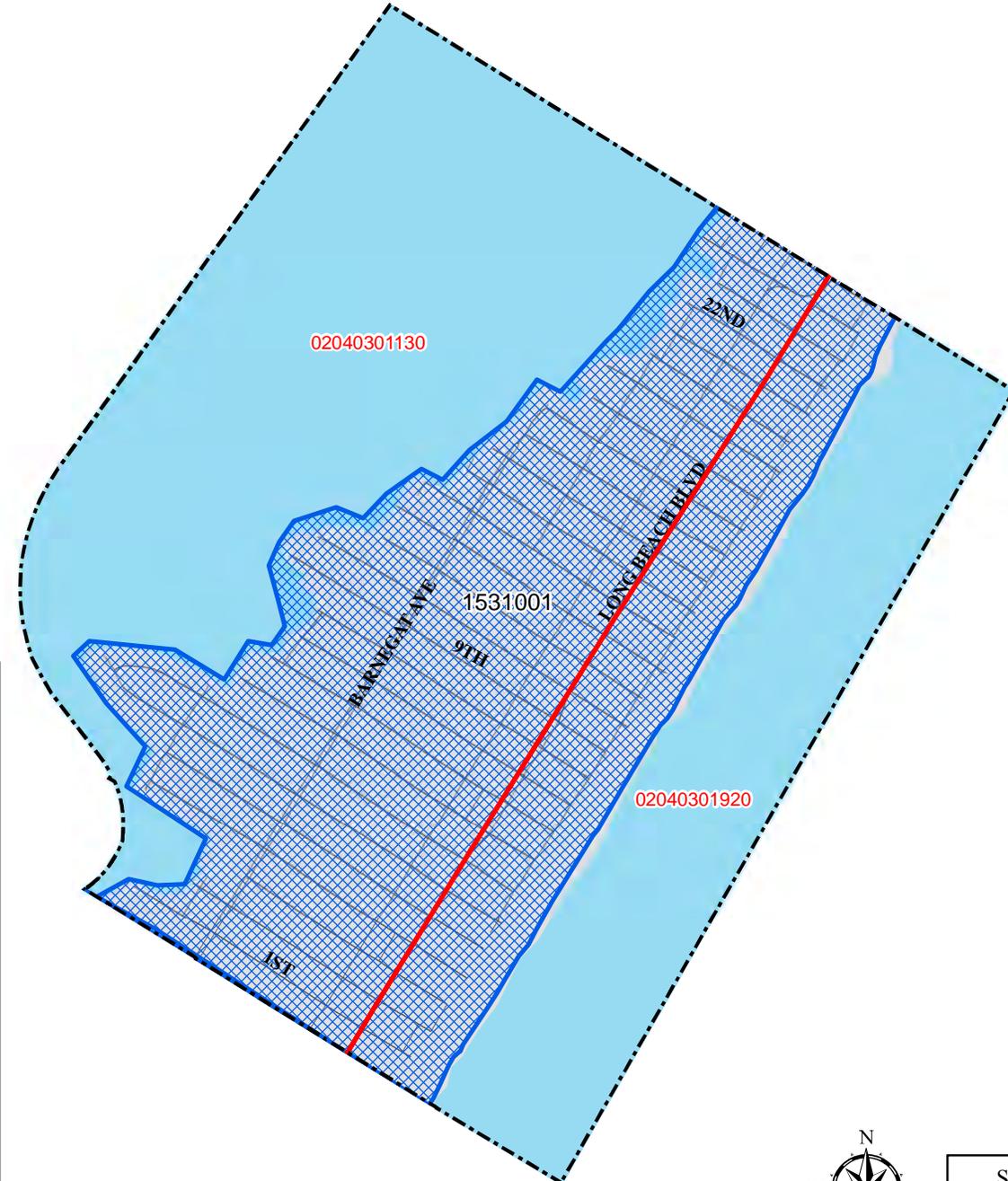
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Prepared by: Ocean County Department of Planning, October 2012
Sources: Department of Environmental Protection



0 650 1,300 2,600 Feet

1 inch = 1,400 feet

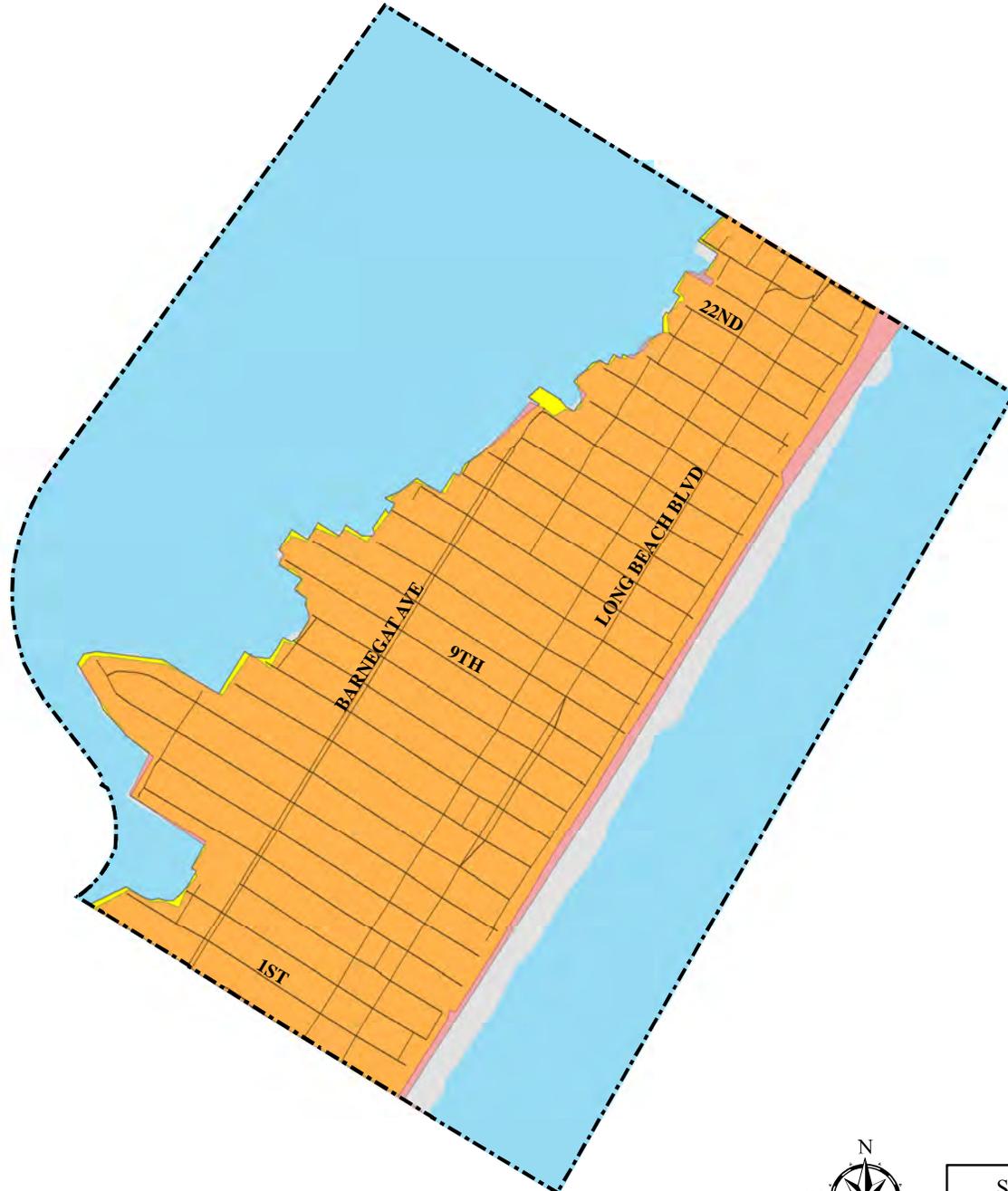
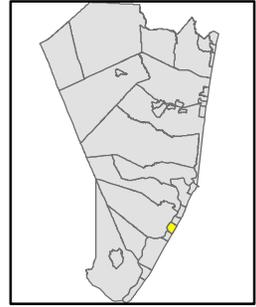
SURF CITY BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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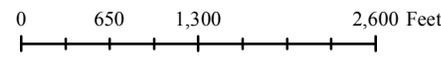
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"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threaten species as identified on the Department's Landscape Map of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3,4, and 5; Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:1B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". When this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Prielands Area, as defined in N.J.S.A. 13:18A-11, the approval of the Prielands Commission pursuant to the requirements of the Prielands Comprehensive Management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.2), Wetlands Buffer (N.J.A.C. 7:7E-3.3), Secondary Impacts (N.J.A.C. 7:7E-3.4), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."



1 inch = 1,400 feet

SURF CITY BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

Prepared by: Ocean County Department of Planning, October 2012
Sources: Department of Environmental Protection

32. TOMS RIVER TOWNSHIP

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Township of Toms River was incorporated in 1767, and is the second oldest municipality in Ocean County. It covers 41.55 square miles of land, and is located in the northeast portion of the County. From its border with Manchester Township to the west, Toms River stretches east across Barnegat Bay to two segments of Barnegat Peninsula, which fronts on the Atlantic Ocean. The northern segment is bordered by Brick Township to the north and Lavallette Borough to the south, while the southern segment is bordered by Lavallette Borough to the north and Seaside Heights Borough to the south. On the mainland, Toms River is bordered by Lakewood and Brick Townships to the north and Berkeley Township to the south. The Township also surrounds the Borough of Island Heights on three sides, along the bank of the Toms River in the southeast. Besides a small portion of the Pinelands CMP Area located in the northwestern corner of the Township, all of Toms River lies within the Coastal Management Area established by CAFRA.

Since the formation of Ocean County in 1850, Toms River has served as the Seat of the County's government. Much of the Township's land has been developed, although there are several protected areas, including Cattus Island County Park and Winding River Park. Most of Toms River's commercial development has taken place along Hooper Avenue (Route 549) and Route 37, which also serves as a bay crossing connection to Seaside Heights Borough. The Township is the location of several age-restricted communities, as well as Ocean County College, the County's only public post-secondary institution. Originally called Dover Township, the municipality formally changed its name to Toms River Township in 2006.

In 2010, the U.S. Census found that Toms River had a total population of 91,239 people. 43,334 housing units were counted by the Census that year, of which 8,574 were vacant. 6,974 of these vacant units were seasonal vacancies. NJTPA projects that Toms River's population will increase by 14.87% by 2035, to an estimated 107,176 residents. While the seasonal fluctuations and anticipated population growth are significant, they are not likely to overtax the Township's wastewater conveyance infrastructure.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

Toms River's two stretches of Barnegat Peninsula feature beaches along their eastern shores. Saltwater wetlands are present along the undeveloped areas of the Township's coastal mainland and on many of the smaller islands in the Barnegat Bay. Toms River is forested most extensively in the northern and northwestern portions of the Township. Many of these inland forests also feature freshwater wetlands, especially along the Toms River and in the northern central portion of the Township. Toms River is also one of six municipalities with preserved farmland, which can be found on Silverton Road, north of the intersection of Route 9 and the Garden State Parkway. There are no Natural Heritage Priority Sites in the municipality.

Table 1 provides a breakdown of the Township's land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Township maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Environmental Feature	Acreage	Percent of Municipality
Wetlands	3,768.94	11.18%
Public Open Space/Recreational Areas	1,064.62	3.16%
Habitat T&E	4,105.78	12.17%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	974.82	2.89%
Preserved Agriculture	7.48	0.02%
Surface Water	7,764.80	23.02%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 348, Article X	4/11/1978
Master Plan		10/25/2006
Stormwater [County - MSWMP]	Chapter 348, Article X, Section 28	12/18/2007 [12/17/2008]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 572	7/15/1974
Source: http://www.ecode360.com/DO0275?#DO0275		

III. Existing Infrastructure and Areas Served By Wastewater Facilities

All existing development in Toms River is connected to the existing sewer system. Wastewater is collected through the Township’s lateral lines. The municipal system connects to one of several OCUA lines which ultimately convey wastewater to OCUA’s CWPCF in Berkeley Township.

In Toms River’s oceanfront communities, two OCUA interceptors run along the two segments’ bay shores, approaching a convergence point at the Dover-Ortley Beach Pump Station (CPS-19) near 8th and Washington Avenues. Also converging at this pump station is a force main which originates in the residential developments on Toms River’s mainland near Goose Creek; it crosses under the Barnegat Bay carrying wastewater to the Dover-Ortley Beach Pump Station. From this station, a force main again crosses the Barnegat Bay, heading west, and emerges on the mainland along Beachview Drive. The main continues its westerly course until it reaches Roosevelt Avenue, at which point it turns south and splits into two forks which enter Island Heights Borough from the north and east. The line emerges from Island Heights as a single interceptor, flowing westward along the north bank of the Toms River. Along the way, the wastewater carried by this line passes through the Dover-Magnolia Avenue Pump Station (CPS-15). The interceptor converts to a force main in the vicinity of Cranmoor Drive, before reverting back to an interceptor on the western side of the Toms River Country Club. The interceptor then continues traveling west toward the Exit 81 interchange of the Garden State Parkway, where it converges with two other interceptors.

One of these two inland interceptors enters the municipality from Manchester Township’s eastern corner, and runs south along the course of the Toms River. The second enters the municipality from Berkeley Township, traveling east along the railroad right-of-way which forms part of the boundary between Toms River and Berkeley Townships. These lines converge with the line approaching from the coast, then continue as a single interceptor flowing south along the Garden State Parkway and into Berkeley Township.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 810.14 acres of developable land, of which 394.83 acres are zoned as residential, 391.87 acres are zoned as commercial, and 23.44 acres are zoned as industrial.

Toms River has seen no significant expansions to its sewer service area. Instead, a number of vacant lands have been removed from sewer service. These include natural areas inland of Silver Bay and Goose Creek, as well as tracts along the Toms River and Long Swamp Creek.

Local zoning is presented in Map 4, while Map 5 displays the boundaries of the CAFRA region. The Delta Map displays the changes to Toms River’s sewer service area.



Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Township is included in the designated sewer service area. The Delta Map displays the proposed changes to Toms River’s sewer service area. Although uncommon, smaller scale large lot developments are usually served by septic systems. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Toms River’s drinking water is derived from twenty-one wells, nine which draw from the Kirkwood-Cohansey Aquifer, six which draw from the Piney Point Aquifer, and six which draw from the Potomac-Raritan-Magothy Aquifer. The majority of the system is operated by the United Water Toms River, and is capable of pumping 28.555 MGD. The northern segment of Toms River situated on Barnegat Peninsula is served by the New Jersey American Water Company—which is capable of pumping 6.500 MGD—and purchases additional groundwater from outside sources. The southern segment is served by the Seaside Heights Water Department. Map 6 shows the Township’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There is one development located in the Township that is served by an NJPDES permitted facility with discharge to ground water greater than 2,000 GPD. The Facility Table for this system is provided in Table 3:

Table 3: NJPDES - Albocondo Campground		
1. Existing or Proposed facility:	Existing	
2. NJPDES Permit Number:	NJG0085324	
3. Discharge Type:	Discharge to groundwater	
4. Receiving Water or Aquifer:	Kirkwood Formation	
5. Classification of Receiving Water:	N/A	
6. Owner of Facility:	Sandcastle of Monmouth County, LLC	
7. Operator of Facility:	N/A	
8. Co-Permittee of Facility:	N/A	
9. Location of Facility:		
a. Municipality & County:	Toms River Township, Ocean County	
b. Street Address:	1480 Whitesville Road	
c. Block(s) and Lot(s):	Block 411, Lot 9	
10. Location of discharge:		
a. Longitude:	74 deg. 13 min. 51.93 sec. west	
b. Latitude:	39 deg. 59 min. 42.95 sec. north	
11. Present Permitted Flow:	0.019 MGD	
12. Summary of Population Served:	Present (2010) Population Served	Build Out (2035) Population Served
Total	Approximately 350	0**
13. Summary of Wastewater Flows:	Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Toms River	Residential	0.019 MGD*
	Commercial	
	Industrial	
	Inflow/Infiltration	
Total	0.019 MGD	0.000 MGD
*Estimate assumes 190 occupied sites using 100 gpd		
**At the time of the writing of this WMP, this facility is not operational.		



V. Future Wastewater and Water Demand

Municipal Zoning

Table 4: Summary of Zones

Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
DS	Downtown Service	9.20	0.00
GB	General Business	53.48	1.62
HB	Highway Business	771.90	35.16
HMS	Hospital-Medical Service	73.57	0.98
I	Industrial	1348.40	3.16
LI	Light Industrial	31.94	20.28
MF-10	Multifamily Residential	12.36	0.00
MF-10-AH	Multifamily Affordable Housing	44.74	0.00
MF-12-AH	Multifamily Affordable Housing	20.16	0.00
MF-16	Multifamily Residential	57.62	3.02
MF-4	Multifamily Residential	65.02	40.90
MF-6	Multifamily Residential	351.43	3.11
MF-8	Multifamily Residential	316.65	0.59
MHP	Mobile Home Parks	171.71	0.00
O-10	Office	199.79	20.59
O-10C	Office	11.72	0.00
O-15	Office	86.59	35.54
PRC	Planned Retirement Community	440.26	1.56
PRC-3	Planned Retirement Community	350.03	0.00
PRC-4	Planned Retirement Community	246.51	0.08
R/C-3	Conservation Residential	1495.01	5.21
R-100	Residential	273.91	1.33
R-120	Residential	1106.21	21.81
R-150	Residential	1388.38	6.83
R-200	Residential	984.09	43.45
R-400	Residential	804.41	45.36
R-400C	Conservation Residential	2365.70	2.75
R-40A	Residential	133.20	1.41
R-40B	Residential	391.27	5.84
R-50	Residential	629.85	12.33
R-75	Residential	1691.27	35.42
R-800	Residential	347.33	50.90
R-90	Residential	2044.23	24.37
RC	Regional Commercial	277.62	17.10
RHB	Rural Highway Business	1123.32	262.25
Rural Residential	Rural Residential	2609.11	88.57
SC-AH-1	Senior Citizen Affordable Housing - 1	11.10	0.00
SC-AH-2	Senior Citizen Affordable Housing - 2	15.54	0.00
VB	Village Business	96.04	8.08
VO	Village Office	193.83	10.01
VS	Village Seaport	41.47	0.55

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no



further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Toms River Township was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Township.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Township will increase by 15,937 people by 2035, which equates to an increase of 1.195 MGD. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. Additionally, the cumulative square footage of select municipalities’ large scale commercial site plans and subdivisions approved by the Ocean County Planning Board between the years of 2008 and 2011 was multiplied by 0.125 gallons per day, so as to account for significant non-residential development not captured by the NJDEP’s population-based projection formula (see “Additional Approved Commercial Flow” in Table 5). In Toms River Township, this amounts to 0.258 MGD above the projected flow directed to the CWPCF.

Summing projected flow and additional approved commercial flow equates to a 1.453 MGD increase in wastewater flow being directed to OCUA’s CWPCF. This is a not an overly significant amount of additional flow. It alone will not have a significant impact on the CWPCF. The flow projections are presented in Table 5. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s CWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 5: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
CWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
7.714	0.934	8.648	9.843	0.258	10.101

Public Water Supply Availability

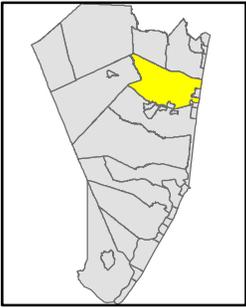
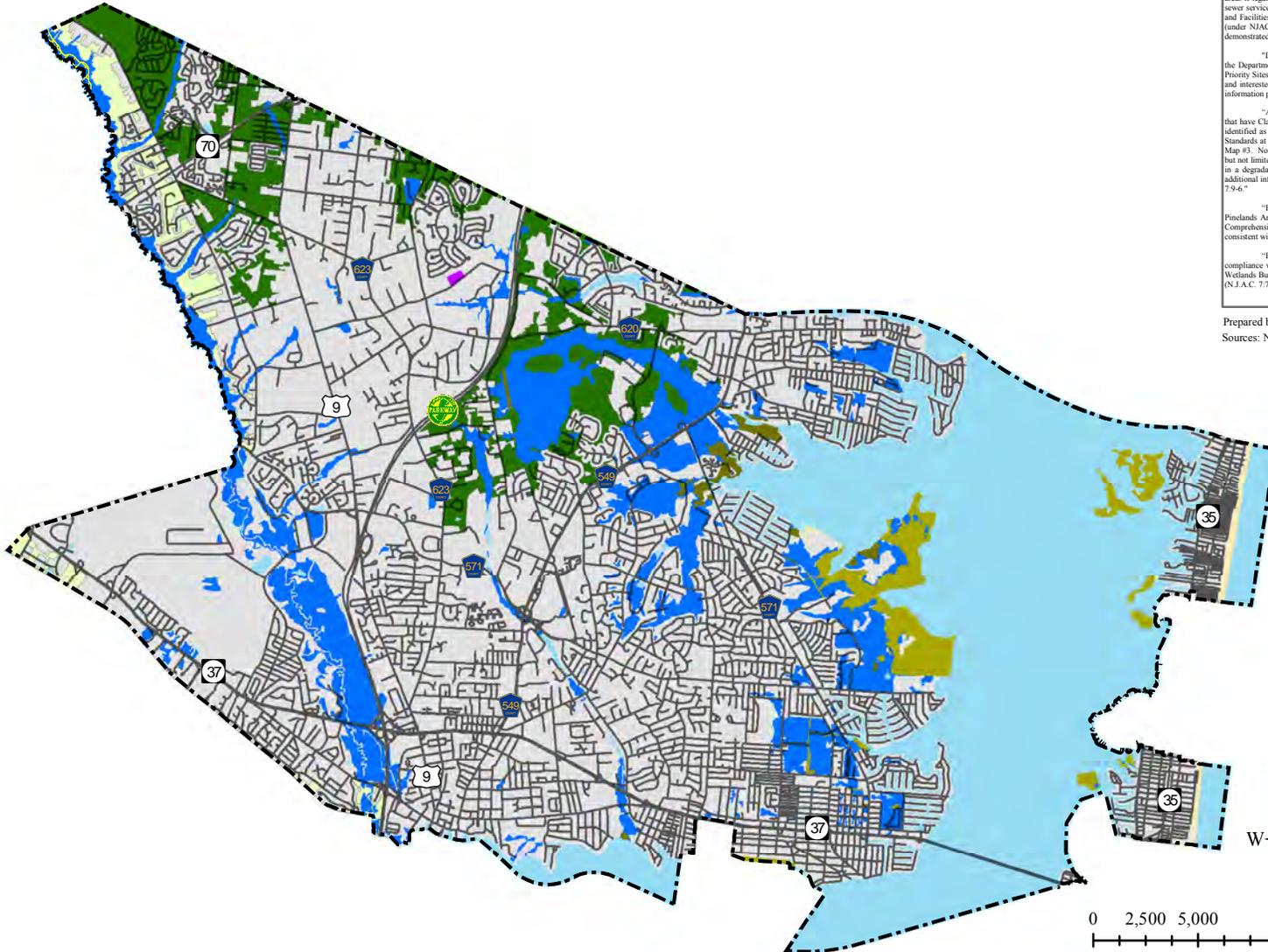
Public water purveyance infrastructure is presently capable of providing potable water to the Township’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 6: Public Water Purveyor Capacity								
New Jersey American Water Company - Ortleigh Beach System								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
N/A	0.518	N/A	N/A	16.045	N/A	N/A	86.277	N/A
United Water Toms River								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
25.675	20.904	4.771	734.350	620.423	113.927	5,590.250	4,421.557	1,168.693
Source: NJDEP Division of Water Supply & Geoscience								

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

- Legend**
-  Bald Eagle Foraging
 -  Roads
 -  Beach (Rank 4)
 -  Emergent Wetlands (Rank 3)
 -  Emergent Wetlands (Rank 4)
 -  Wetlands
 -  Preserved Agriculture
 -  Forest (Rank 3)
 -  Forest (Rank 4)



"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are: 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14, 150 feet for waters designated Trout Production and all upstream waters; 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to those waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. [Counties may map out the lesser with buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the buildout analysis.] Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots.

Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Ready Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Township of Toms River municipal code Chapter 572."

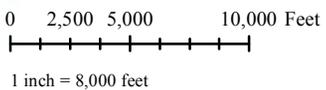
"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4 and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules."

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6". Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9-6."

"For facilities (including but not limited to sewer connections, sewer extensions and on-site treatment plants) which are located in the Pinelands Area, as defined at N.J.S.A. 13:18A-11, the approval of the Pinelands Commission pursuant to the requirements of the Pinelands Comprehensive management Plan (CMP) is required prior to construction. All facilities and activities included within this WMP should be consistent with the requirements of the CMP."

"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:7E-3.27), Wetlands Buffers (N.J.A.C. 7:7E-3.38), Secondary Impacts (N.J.A.C. 7:7E-6.3), Public Facility Use Policies (N.J.A.C. 7:7E-7.6), Water Quality (N.J.A.C. 7:7E-8.4), Ground Water Use (N.J.A.C. 7:7E-8.6) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ
MAP 1
ENVIRONMENTAL FEATURES

Legend

-  Interceptor
-  ForceMain
-  Roads
-  DGW/Sanitary Subsurface Disposal
-  Public Open Space & Recreation Areas
- Sewered Areas**
-  OCUA Central DSW (NJ0029408)

ALBOCONDO CAMPGROUND

NJG0085324

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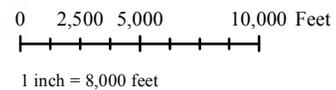
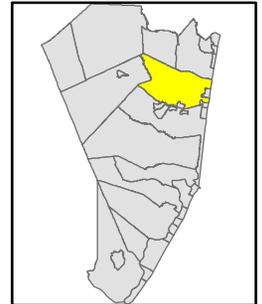
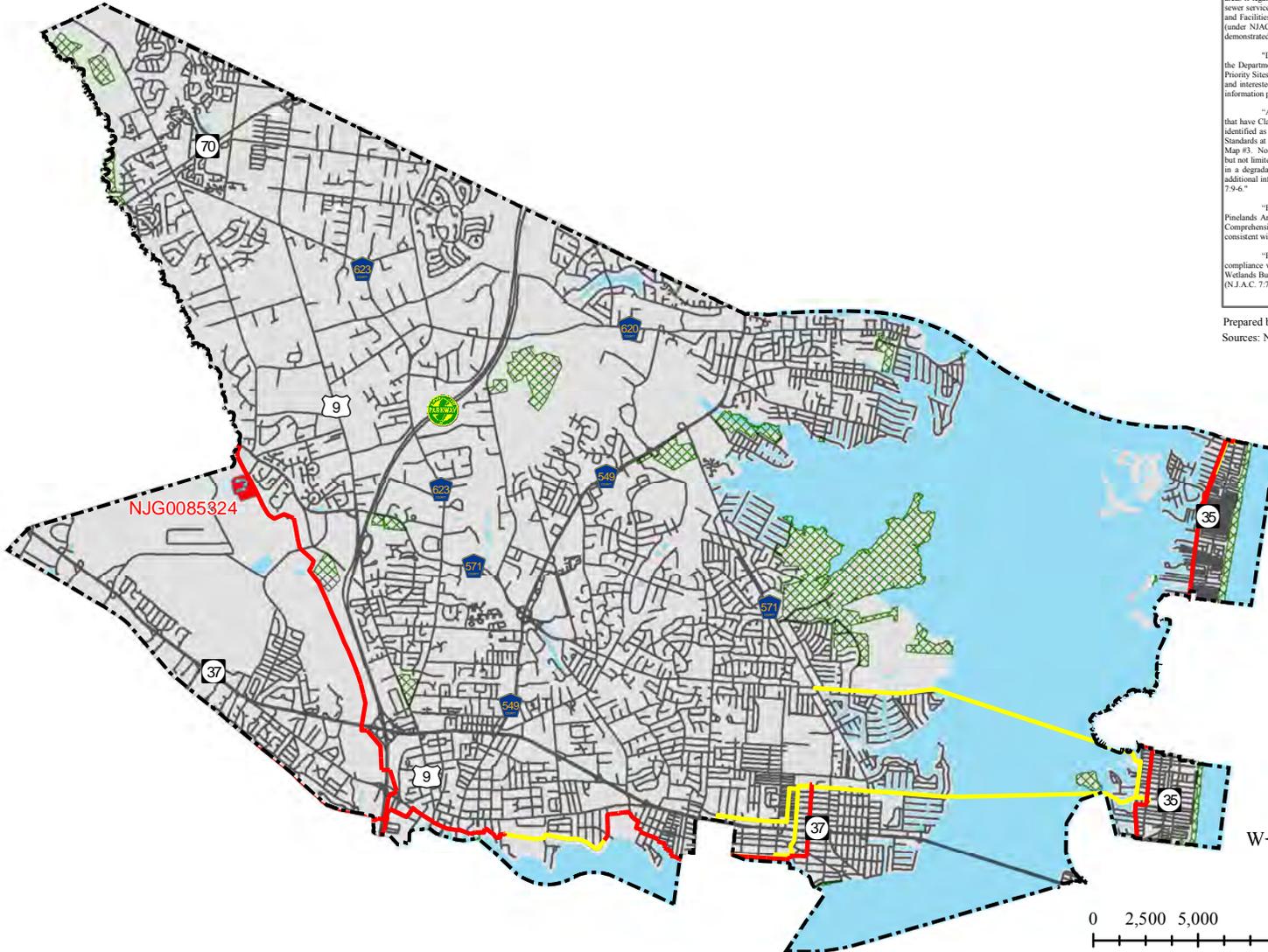
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

-  HUC 11
-  Interceptor
-  ForceMain
-  Roads
-  OCUA Central DSW (NJ0029408)
-  DGW/Sanitary Subsurface Disposal
-  Non Discharge Areas
-  Undeveloped Parcels
-  Public Open Space & Recreation Areas

ALBOCONDO CAMPGROUND

NJG0085324

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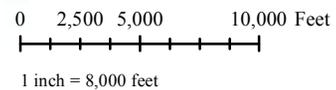
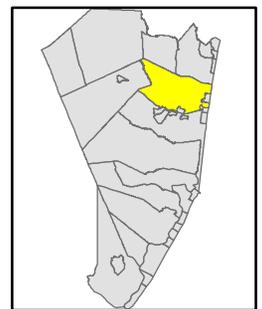
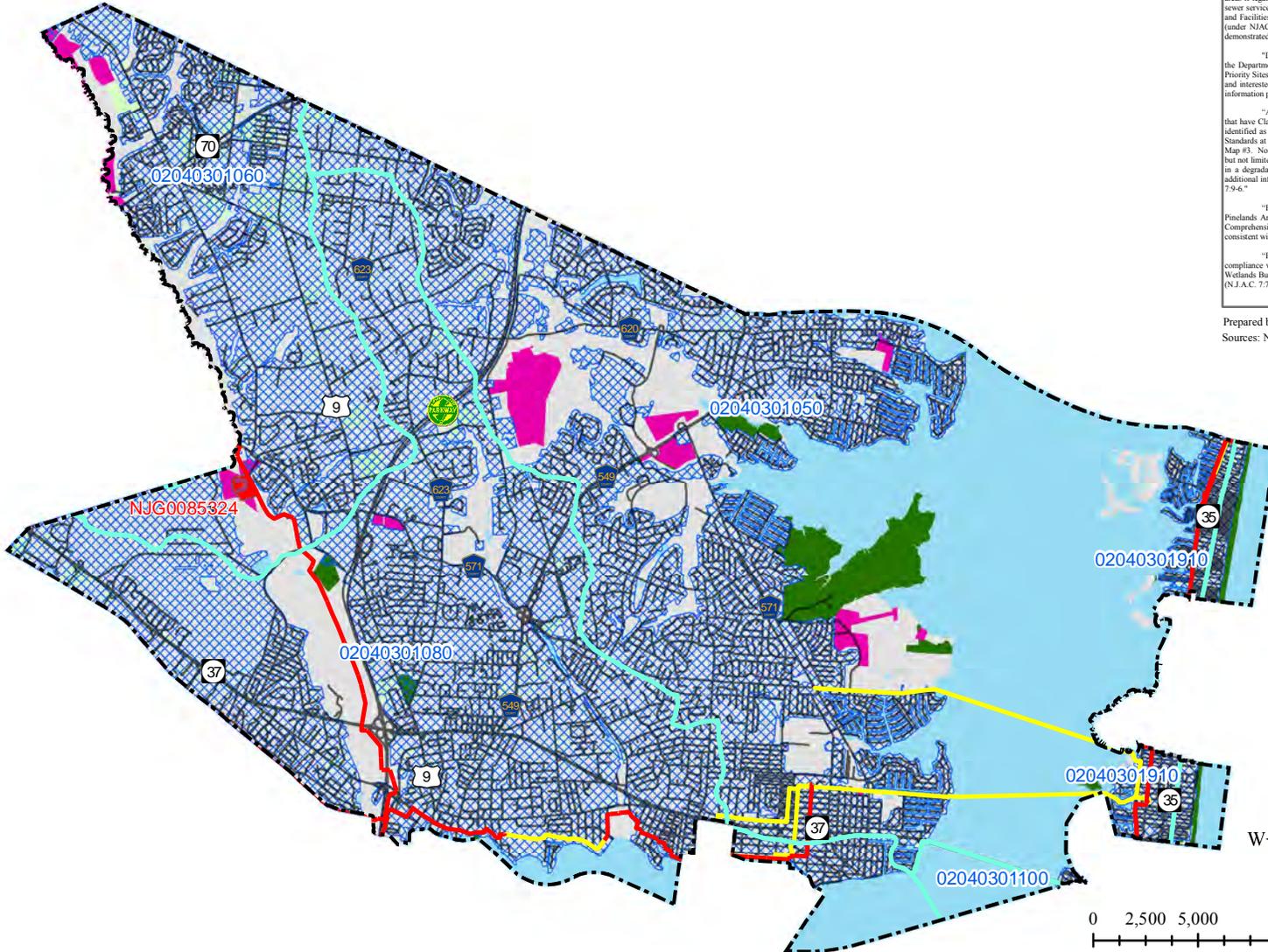
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Prepared by: Ocean County Department of Planning, December 2012
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TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ

MAP 3

ADOPTED SEWER SERVICE AREA

Legend		
R-100 (Residential)	R-800 (Residential)	MF-12-AH (Multi Family Affordable Housing)
R-120 (Residential)	R-90 (Residential)	MF-10 (Multi Family Residential)
R-150 (Residential)	R/C-3 (Conservation Residential)	MF-16 (Multi Family Residential)
R-200 (Residential)	DS (Downtown Service)	MF-4 (Multi Family Residential)
R-400 (Residential)	GB (General Business)	MF-6 (Multi Family Residential)
R-400C (Conservation Residential)	HB (Highway Business)	MF-8 (Multi Family Residential)
R-40A (Residential)	HMS (Hospital-Medical Service)	MHP (Mobile Home Parks)
R-40B (Residential)	I (Industrial)	O-10 (Office)
R-50 (Residential)	LI (Light Industrial)	O-10C (Office)
R-75 (Residential)	MF-10-AH (Multi Family Affordable Housing)	O-15 (Office)
		PRC (Planned Retirement Community)
		PRC-3 (Planned Retirement Community)
		PRC-4 (Planned Retirement Community)
		RC (Regional Commercial)
		RHB (Rural Highway Business)
		Rural Residential
		SC-AH-1 (Senior Citizen Affordable Housing - 1)
		SC-AH-2 (Senior Citizen Affordable Housing - 2)
		VB (Village Business)
		VO (Village Office)
		VS (Village Seaport)

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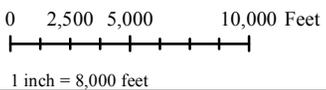
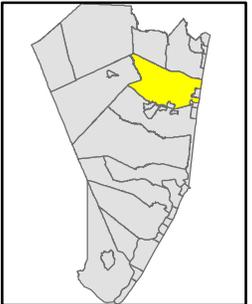
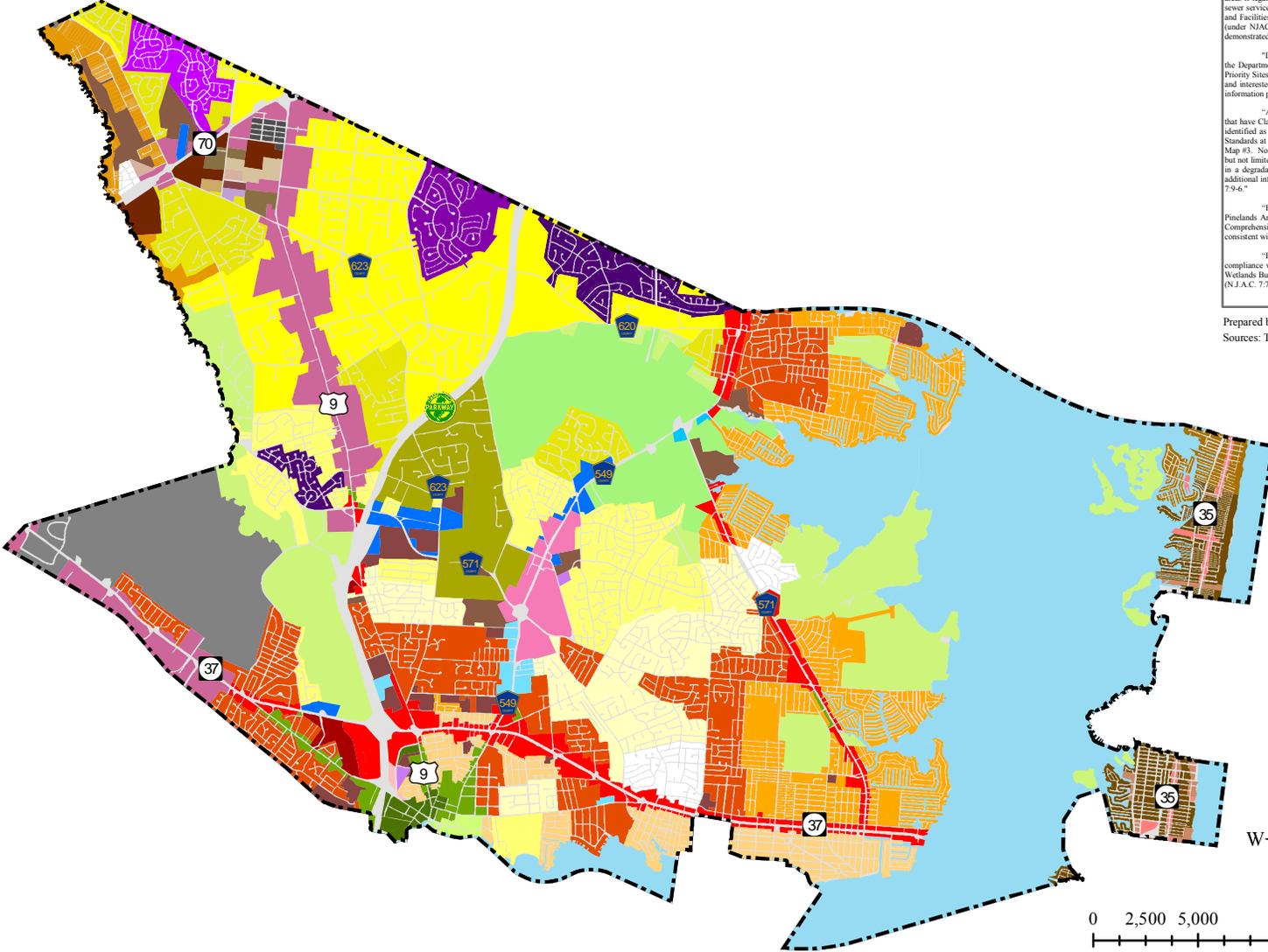
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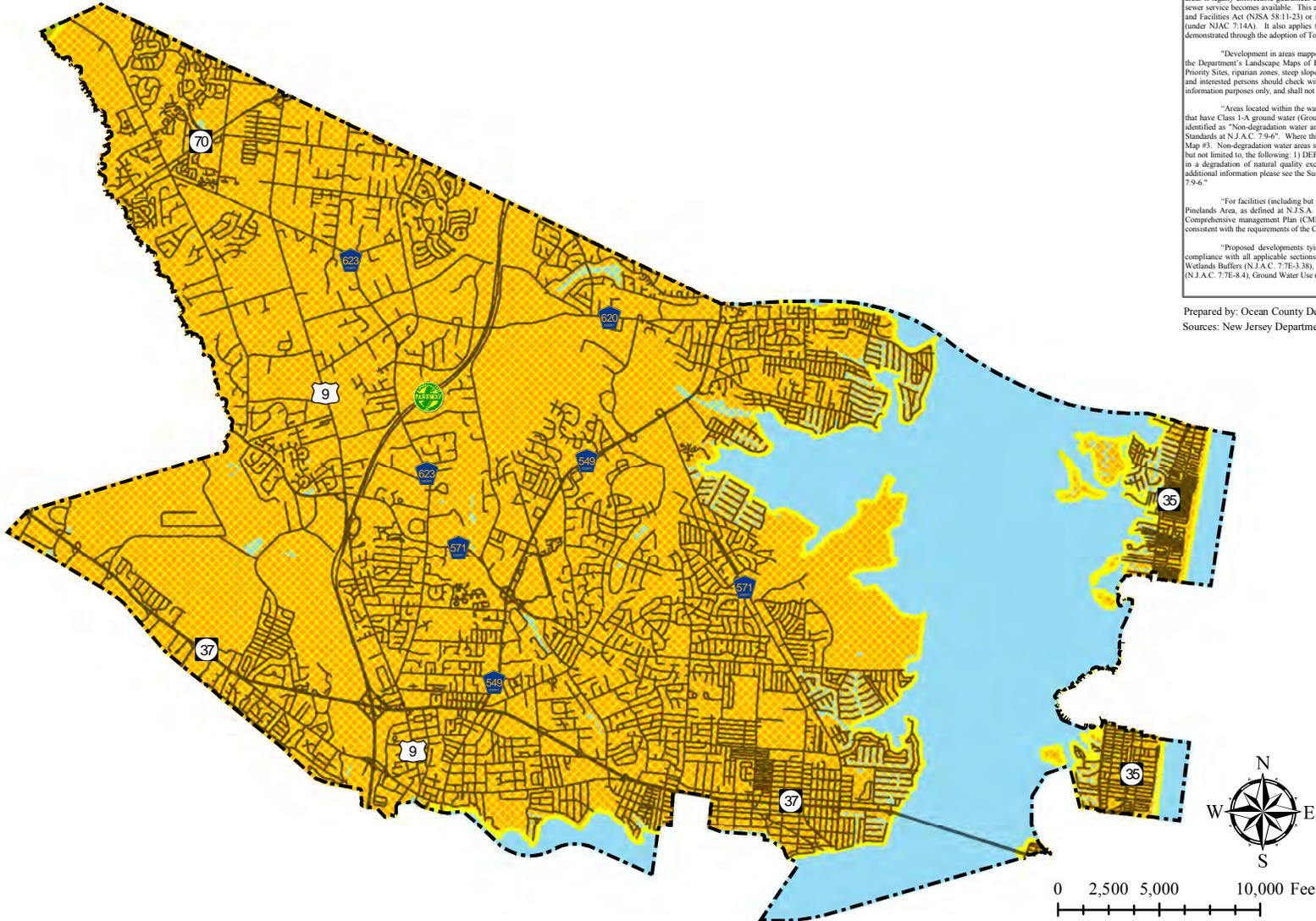
Prepared by: Ocean County Department of Planning, December 2012
Sources: Township of Toms River, Ocean County Tax Board



TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ
MAP 4
MUNICIPAL ZONING

Legend

-  Roads
-  CAFRA
-  Pinelands
-  Surface Water
-  OCUA Central Planning Area



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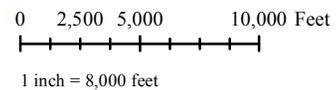
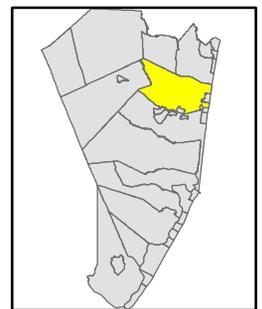
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ

MAP 5

REGIONAL PLANNING AREA

Legend

-  HUC 11
-  Public Water Purveyors
-  Roads
-  Surface Water

PWSID	PURVEYOR NAME
1507005	UNITED WATER TOMS RIVER
1507007	NJ AMERICAN WATER COMPANY - ORTLEY BEACH SYSTEM
1526001	SEASIDE HEIGHTS WATER DEPARTMENT

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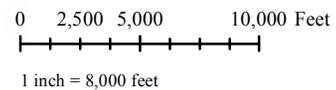
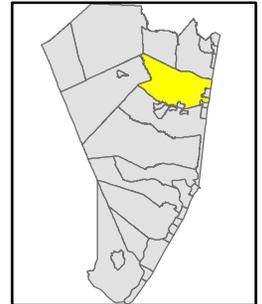
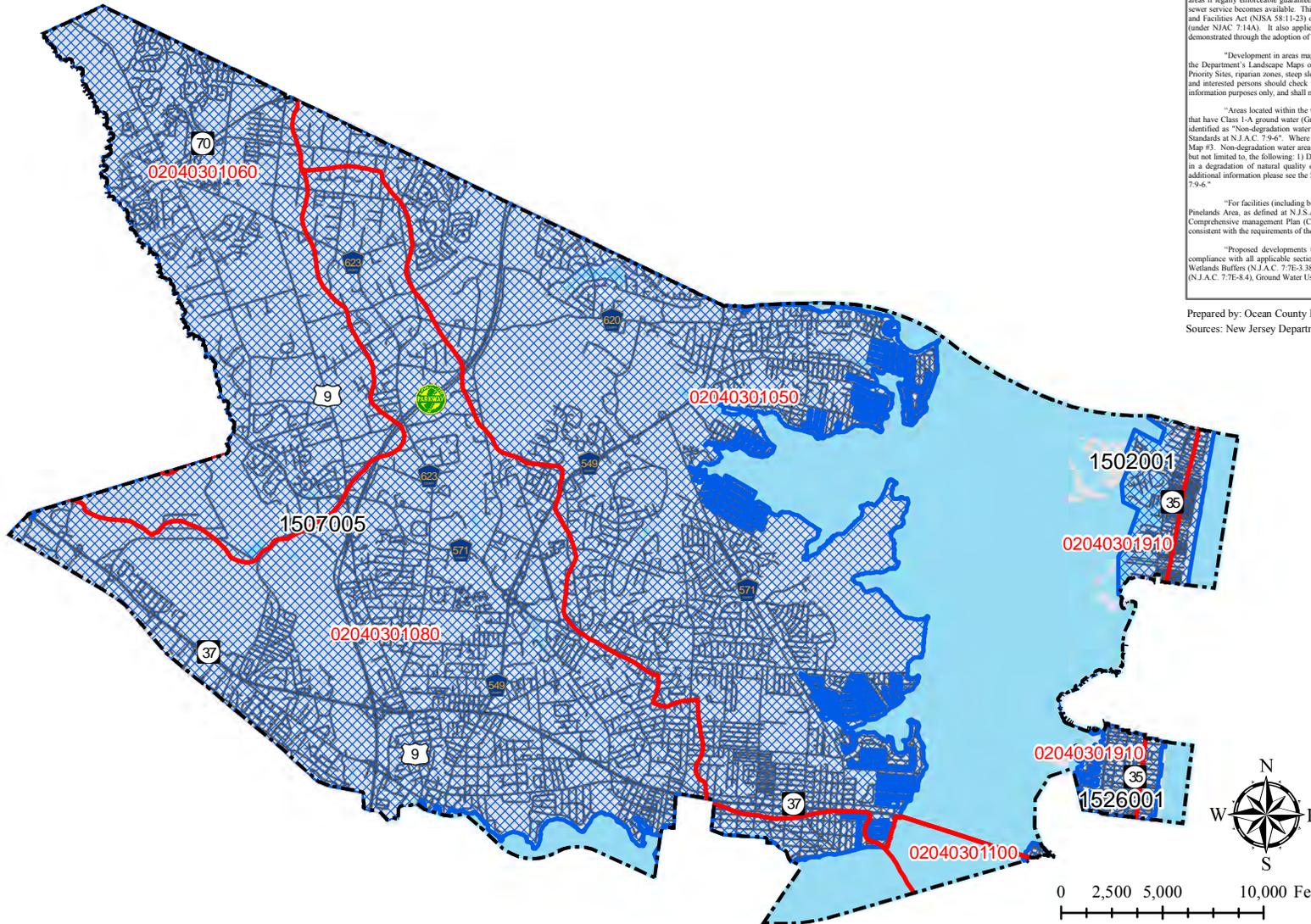
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



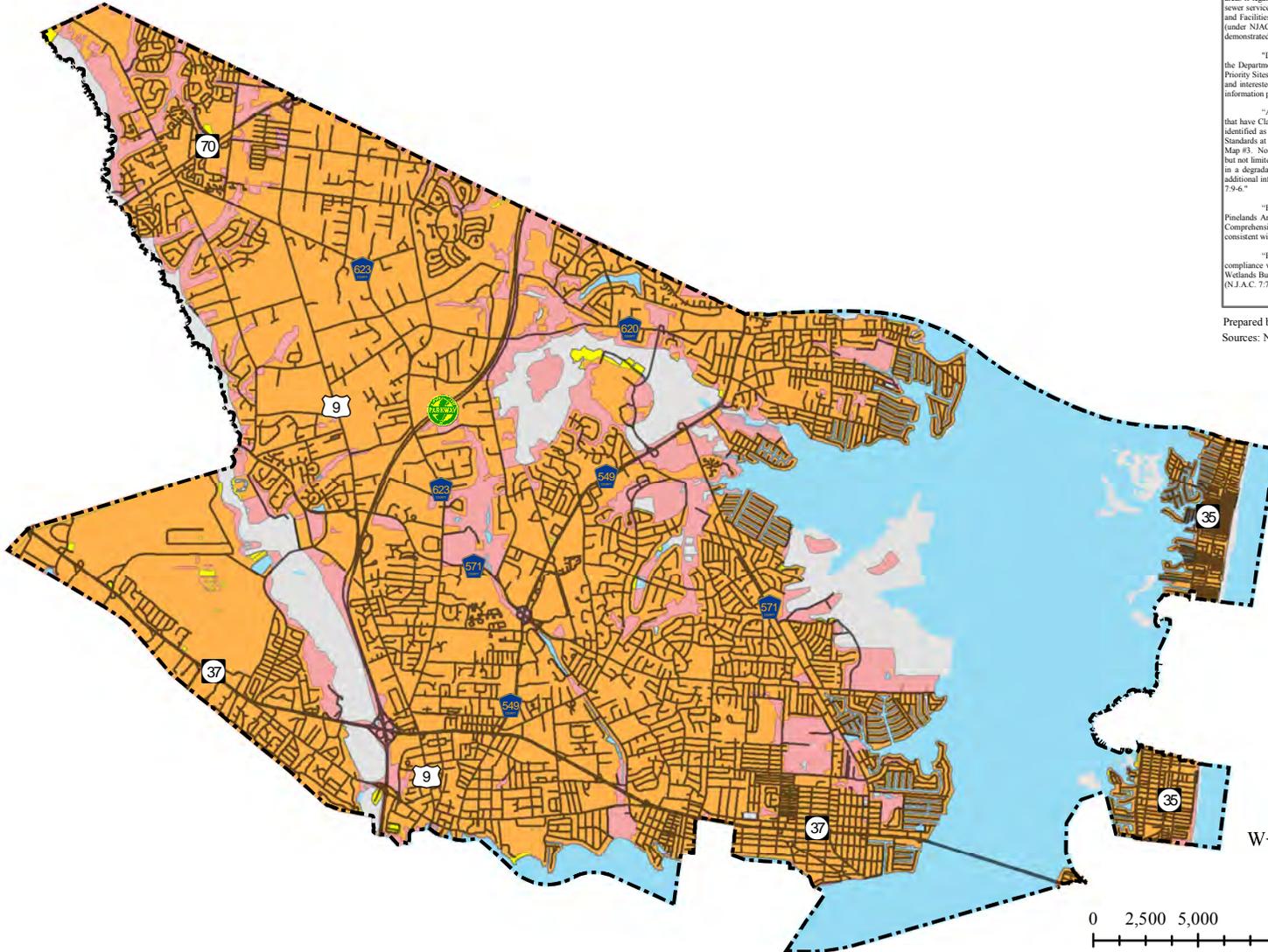
TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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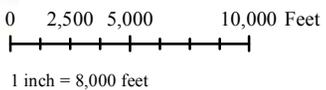
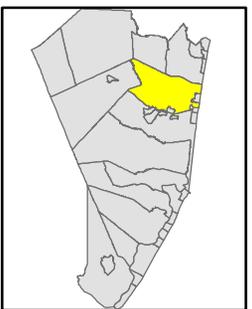
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Prepared by: Ocean County Department of Planning, December 2012
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TOMS RIVER TOWNSHIP
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

33. TUCKERTON BOROUGH

Component of the Ocean County Wastewater Management Plan
Replacing All Previously Adopted Wastewater Management Plans

Submitted By

The Ocean County Board of Chosen Freeholders | January 8, 2015

Approved By

The New Jersey Department of Environmental Protection | December 30, 2015

Prepared By

The Ocean County Department of Planning

129 Hooper Avenue, P.O. Box 2191

Toms River, NJ 08754-2191

(732) 929-2054





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I. Overview of Municipality

The Borough of Tuckerton was incorporated in 1901. It is located in the southern section of Ocean County, and fronts on Little Egg Harbor to its east. On land, Tuckerton is surrounded by Little Egg Harbor Township on all sides. Nearly half of the Borough consists of portions of the Edwin B. Forsythe National Wildlife Refuge. The entire land area of the Borough—3.67 square miles—is within the CAFRA region.

The 2010 U.S. Census documented Tuckerton as having a population of 3,347 residents. Also that year, the U.S. Census recorded a total of 1,902 housing units, of which 506 were vacant. Of these vacant units, 382 were seasonal vacancies. At present, NJTPA projects Tuckerton’s population to grow by 19.55% by 2035, to 4,160 people. The Borough’s existing wastewater conveyance infrastructure is capable of handling all seasonal fluctuations and this expected population growth.

II. Environmental and Other Land Features

Map 1 depicts the environmental features that are required for determining future sewer service areas. In accordance with NJDEP policy, only existing development and vacant land that is not affected by regulated environmental constraints may be included in the sewer service area.

More than half of Tuckerton is covered with coastal wetlands, much of which has been incorporated into the Edwin B. Forsythe National Wildlife Refuge. Located further inland are Tuckerton’s forests and freshwater wetlands. There are no Natural Heritage Priority Sites or preserved farms in the Borough.

Table 1 provides a breakdown of the Borough’s land area where further growth is constrained by environmental features. In accordance with NJDEP policy, the Borough maintains a number of Ordinances intended to protect these environmentally sensitive features. Table 2 provides a listing of the municipal plans and ordinances required for consideration in designating sewer service areas in accordance with NJDEP policy. A more detailed description of the NJDEP policies governing the designation of sewer service areas is included in the County Document of this WMP.

Table 1: Environmental Features		
Environmental Feature	Acreage	Percent of Municipality
Wetlands	1,237.01	52.46%
Public Open Space/Recreational Areas	955.96	40.54%
Habitat T&E	1,187.48	50.36%
Natural Heritage Priority Sites	0.00	0.00%
Riparian Zones	120.59	5.11%
Preserved Agriculture	0.00	0.00%
Surface Water	177.48	7.53%

Table 2: Status of Municipal Ordinances		
Ordinance	Code	Date Adopted
Zoning	Chapter 255	1/22/1979
Master Plan		2008
Stormwater [County - MSWMP]	Chapter 231, Article VII, Section 34	3/20/2006 [3/18/2009]
Riparian Zone	N/A	N/A
Septic System Maintenance	N/A	N/A
Dry Conveyance	N/A	N/A
Septic Connections	Chapter 249, Article II, Section 6	6/21/1993
Source: http://www.ecode360.com/TU0477?#TU0477		



III. Existing Infrastructure and Areas Served By Wastewater Facilities

Most existing development in Tuckerton outside of the Edwin B. Forsythe National Wildlife Refuge is connected to the existing sewer system. Wastewater is collected through the Borough’s lateral lines. The municipal system connects to an OCUA interceptor which enters in the west end of town from Little Egg Harbor Township, near the intersection of Oak Lane and Great Bay Boulevard. This line crosses Tuckerton Creek heading southeast, then converts to a force main and at South Green Street and turns northeast. It flows north along Marine Street, turns east on Absecon Terrace, and turns north again at Cedar Street. The force main continues carrying wastewater north beyond Cedar Street, then follows Wood Street before leaving the Borough to the north through Little Egg Harbor Township. From there, wastewater is conveyed to OCUA’s SWPCF in Stafford Township. There are no lift or pump stations in the Borough.

Existing Areas Served By Wastewater Facilities

Map 2 presents the areas actively served by existing wastewater facilities. “Sewered Areas” denotes that collection lines exist in the indicated areas and that these properties are either connected, or have all regulatory approvals necessary to be connected. Sewer service areas may include industrial businesses that discharge process and/or sanitary wastewater to the collection system for treatment by a facility not owned by that business.

Areas to Be Served By Wastewater Facilities

Map 3 presents the adopted sewer service area. There are 79.12 acres of developable land, of which 21.89 acres are zoned as residential and 57.24 acres are zoned as commercial. There is no developable land zoned for industrial uses in Tuckerton. Local zoning is presented in Map 4, while Map 5 displays the boundary of the CAFRA region. The Delta Map displays the changes to Tuckerton’s sewer service area.

Septic Systems (Individual Subsurface Sewage Disposal Systems)

All of the developed and developable land in the Borough is included in the designated sewer service area. There are no septic systems in Tuckerton. NJDEP does not require the completion of a nitrate dilution model analysis for municipalities they designate as urban.

Existing Areas Served By Public Water Supply Facilities

Tuckerton’s drinking water is diverted from the Atlantic City 800-Foot Sand Aquifer via two wells. The system is operated by the Tuckerton Water and Sewer Department, and is capable of pumping 0.720 MGD. Map 6 shows the Borough’s current potable water conveyance system. The area covered by blue cross-hatching denotes that distribution lines exist, and that these properties are either connected to the corresponding public water purveyor or have all regulatory approvals necessary to be connected with no further review.

IV. On-Site, Non-Industrial Wastewater Facility Tables

There is one development located in the Borough that is served by an NJPDES permitted facility with discharge to ground water greater than 2,000 GPD. The Facility Table for this system is provided in Table 3:



Table 3: NJPDES - Bayview Park			
1. Existing or Proposed facility:		Existing	
2. NJPDES Permit Number:		NJG0084492	
3. Discharge Type:		Discharge to groundwater	
4. Receiving Water or Aquifer:		Kirkwood Formation	
5. Classification of Receiving Water:		N/A	
6. Owner of Facility:		Pauline Corliss and The Estate of Elizabeth Shear	
7. Operator of Facility:		Jerry and Ann Corliss	
8. Co-Permittee of Facility:		N/A	
9. Location of Facility:			
a. Municipality & County:		Tuckerton Borough, Ocean County	
b. Street Address:		525 East Main Street	
c. Block(s) and Lot(s):		Block 190.01, Lot 1; Block 190.02, Lot 1; Block 190.03, Lot 1; Block 190.04, Lots 1, 2, 31, 32; Block 190.05, Lot 1	
10. Location of discharge:			
a. Longitude:		74 deg. 19 min. 28.11 sec. west	
b. Latitude:		39 deg. 36 min. 48.82 sec. north	
11. Present Permitted Flow:		0.018 MGD	
12. Summary of Population Served:		Present (2010) Population Served	Build Out (2035) Population Served
Total		Approximately 180*	Approximately 180
13. Summary of Wastewater Flows:		Present (2010) Wastewater Flow	Build Out (2035) Wastewater Flow
Tuckerton Borough	Residential	0.018 MGD**	0.018 MGD
	Commercial		
	Industrial		
	Inflow/Infiltration		
Total		0.018 MGD	0.018 MGD
*There are 92 sites, which vary in occupancy, as per Ann Corliss.			
**Estimate assumes full occupancy, with each site using 200 gpd			

V. Future Wastewater and Water Demand

Municipal Zoning

Table 4: Summary of Zones			
Zone Name	Zone Description	Municipal Area (ac)	Available Land (ac)
B1	Village Commercial and Office Professional	62.89	7.47
B2	Highway Business	187.39	46.49
B3	Marine Commercial	108.27	2.20
B4	Marine Commercial/Waterfront Cluster	19.07	0.98
MF	Multi Family Residential	0.19	0.00
PSC	Planned Senior Citizen Residential	105.77	0.39
R100	Single Family Residential	191.85	4.46
R200	Single Family Residential	105.16	4.96
R400	Federally Owned	946.00	0.00
R50	Single Family Residential	108.93	3.30
R75	Single Family Residential	166.42	8.78
SV	Seaport Village	53.39	0.09

“Municipal Area” includes both developed and undeveloped parcels. “Available Land” parcels are those where no development exists and the land has not been restricted by regulation or dedicated open space or agricultural preservation programs.

Calculating Future Wastewater and Water Supply Needs and Capacity

Using the information provided above regarding existing wastewater and water supply facilities, sewer service area delineation, environmentally sensitive areas, and twenty-year population growth projections, an analysis of wastewater and water supply demands was performed to determine whether existing infrastructure capacity or zoning is a constraining factor. Where zoning is more restrictive than wastewater and water supply capacity and does not conflict with the environmentally sensitive areas, no



further action is needed. Where the demand projections exceed available wastewater treatment or water supply capacity, either the projections must be reduced (such as through a reduced sewer service area or reduction in zoning density) or capacity increased.

Municipal Demand Projections (Urban)

Following NJDEP protocol for determining urbanized areas, Tuckerton Borough was found to be urban. After subtracting all land that is permanently preserved or protected from future development, more than 90 percent of the remaining area of the municipality is already developed. Therefore, it was not necessary to conduct a build out analysis of the Borough.

Future wastewater flows were determined by applying 75 gallons per day per person to the permanent year round population increase over the next twenty years consistent with municipal population projections prepared by the NJTPA. The projection anticipates the permanent year-round population of the Borough will increase by 813 people by 2035. This equates to a 0.061 MGD increase in wastewater flow being directed to OCUA’s SWPCF. This is a not an overly significant amount of additional flow, and will not have a significant impact on the SWPCF. The future wastewater flow was then added to the total daily wastewater flow currently directed to OCUA facilities to produce a projected flow in MGD. The flow projections are presented in Table 5. The column titled, “Additional Approved Commercial Flow” accounts for large scale commercial site plans and subdivisions approved between 2008 and 2011, of which there were none in Tuckerton. The annual average daily flow in million gallons per day for 2010 and its breakdown by source were provided by OCUA. The Facility Table for OCUA’s SWPCF can be found in the County Document of the Ocean County Wastewater Management Plan.

Table 5: Present and Future Wastewater Flow Directed to OCUA Facilities (MGD)					
SWPCF					
2010			2035		
Residential Flow	Non-Residential Flow	Total	Projected Flow	Additional Approved Commercial Flow	Total
0.357	0.045	0.402	0.463	0.000	0.463

Public Water Supply Availability

Public water purveyance infrastructure is presently capable of providing potable water to the Borough’s residents in excess of daily, monthly, and yearly demands. Current infrastructure capacity will continue to prove sufficient in the foreseeable future.

Table 6: Public Water Purveyor Capacity								
Tuckerton Water and Sewer Department								
Daily (MGD)			Monthly (MGM)			Yearly (MGY)		
Capacity	Peak	Surplus	Capacity	Peak	Surplus	Capacity	Peak	Surplus
0.720	0.489	0.231	20.000	14.413	5.587	180.000	130.118	49.882

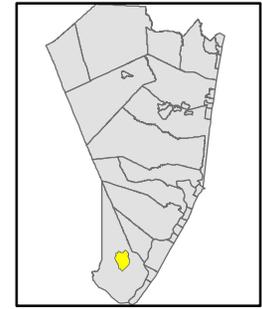
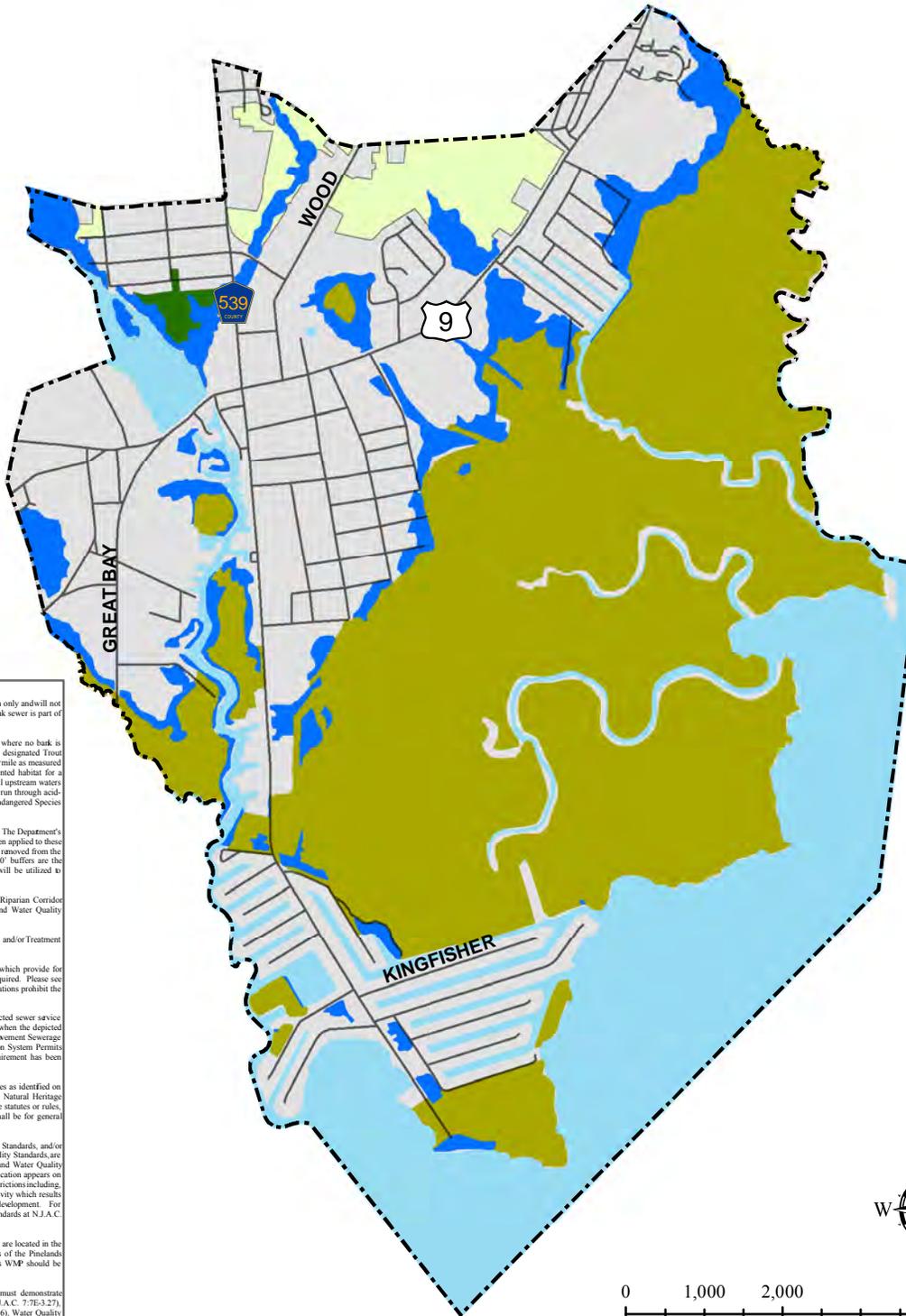
Source: NJDEP Division of Water Supply & Geoscience

VI. Mapping Requirements

Please see the following pages for all municipal mapping requirements.

Legend

-  Roads
-  Emergent Wetlands (Rank 4)
-  Wetlands
-  Forest (Rank 3)
-  Forest (Rank 4)
-  Surface Water



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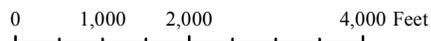
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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



1 inch = 2,200 feet

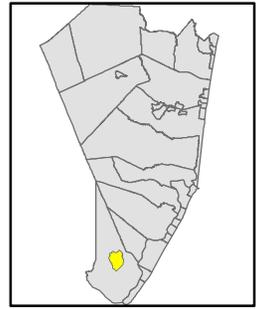
TUCKERTON BOROUGH
OCEAN COUNTY, NJ

MAP 1

ENVIRONMENTAL FEATURES

Legend

-  Interceptor
-  Force Main
-  Roads
-  DGW/Sanitary Subsurface Disposal
-  Public Open Space & Recreation Areas
-  Surface Water
- Sewered Areas**
-  OCUA Southern DSW (NJ0026018)



BAYVIEW PARK NJG0084492

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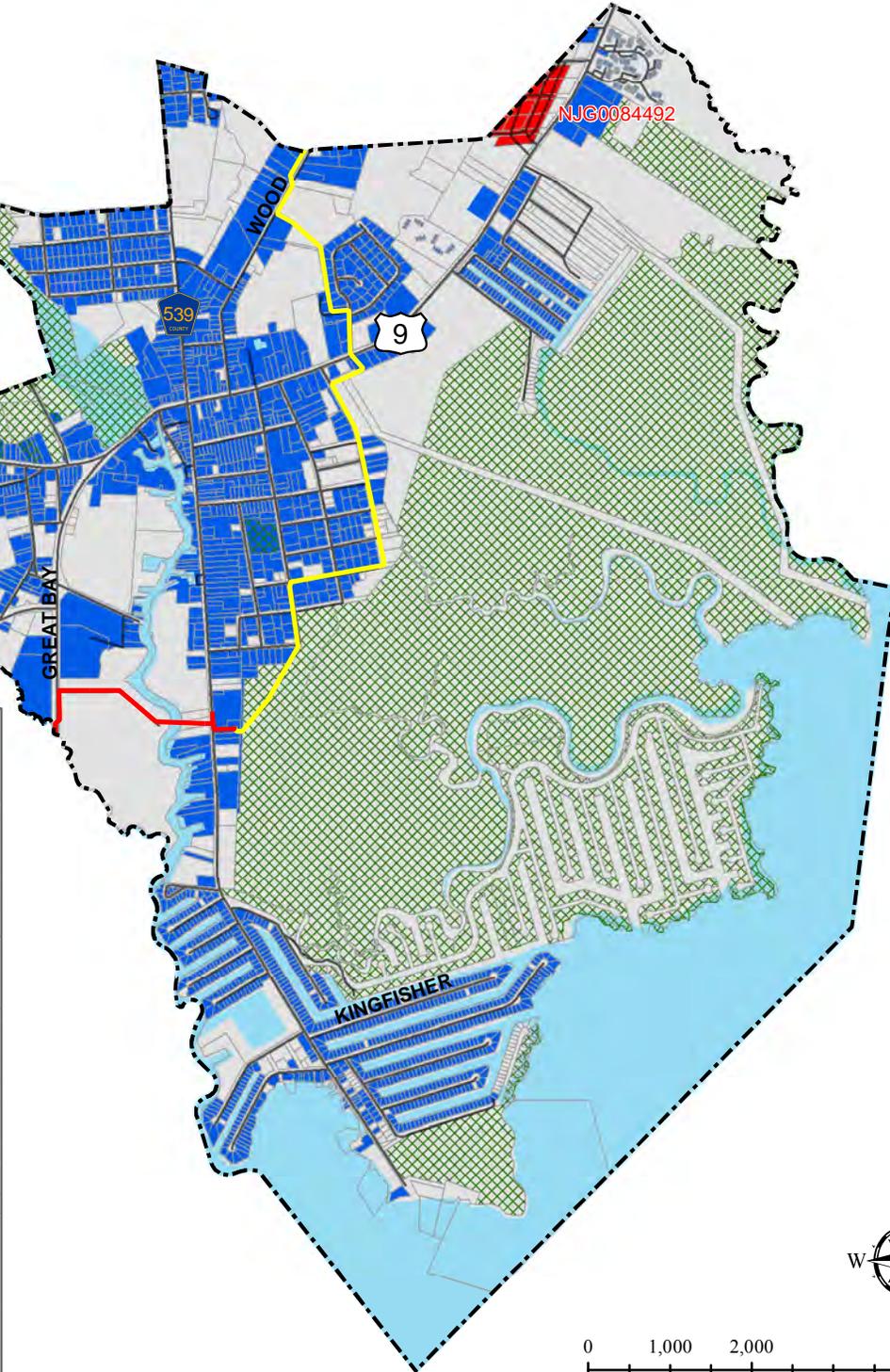
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0 1,000 2,000 4,000 Feet

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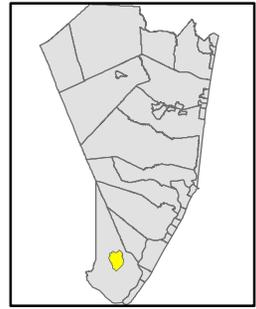
TUCKERTON BOROUGH
OCEAN COUNTY, NJ

MAP 2

EXISTING SEWERED AREA

Legend

- HUC 11
- Interceptor
- Force Main
- Roads
- OCUA Southern DSW (NJ0026018)
- DGW/Sanitary Subsurface Disposal
- Non Discharge Areas
- Undeveloped Parcels
- Public Open Space & Recreation Areas
- Surface Water



BAYVIEW PARK NJG0084492

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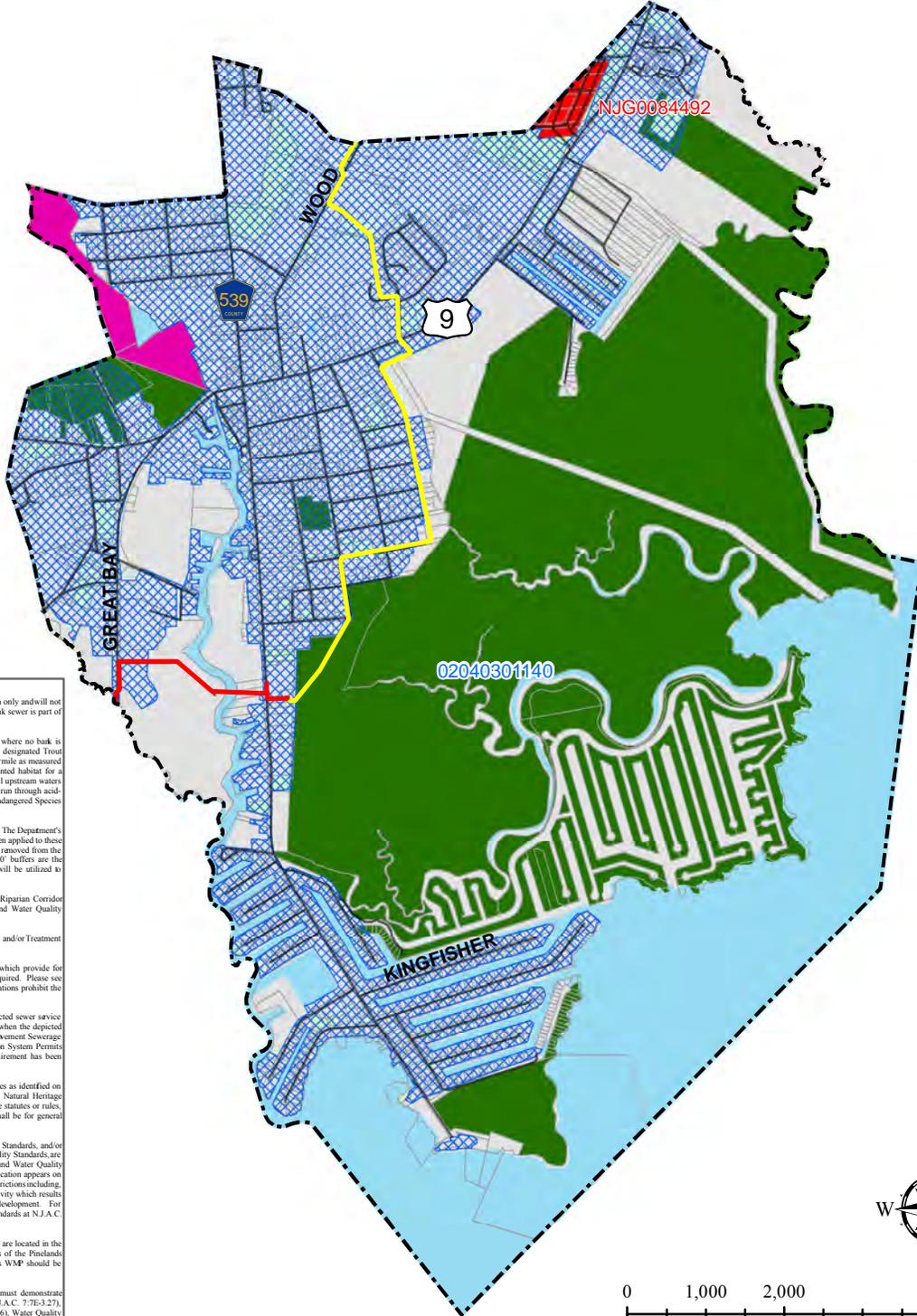
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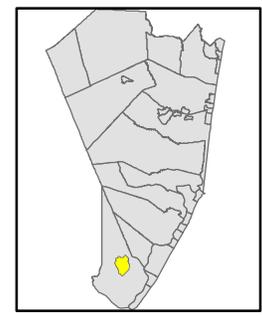
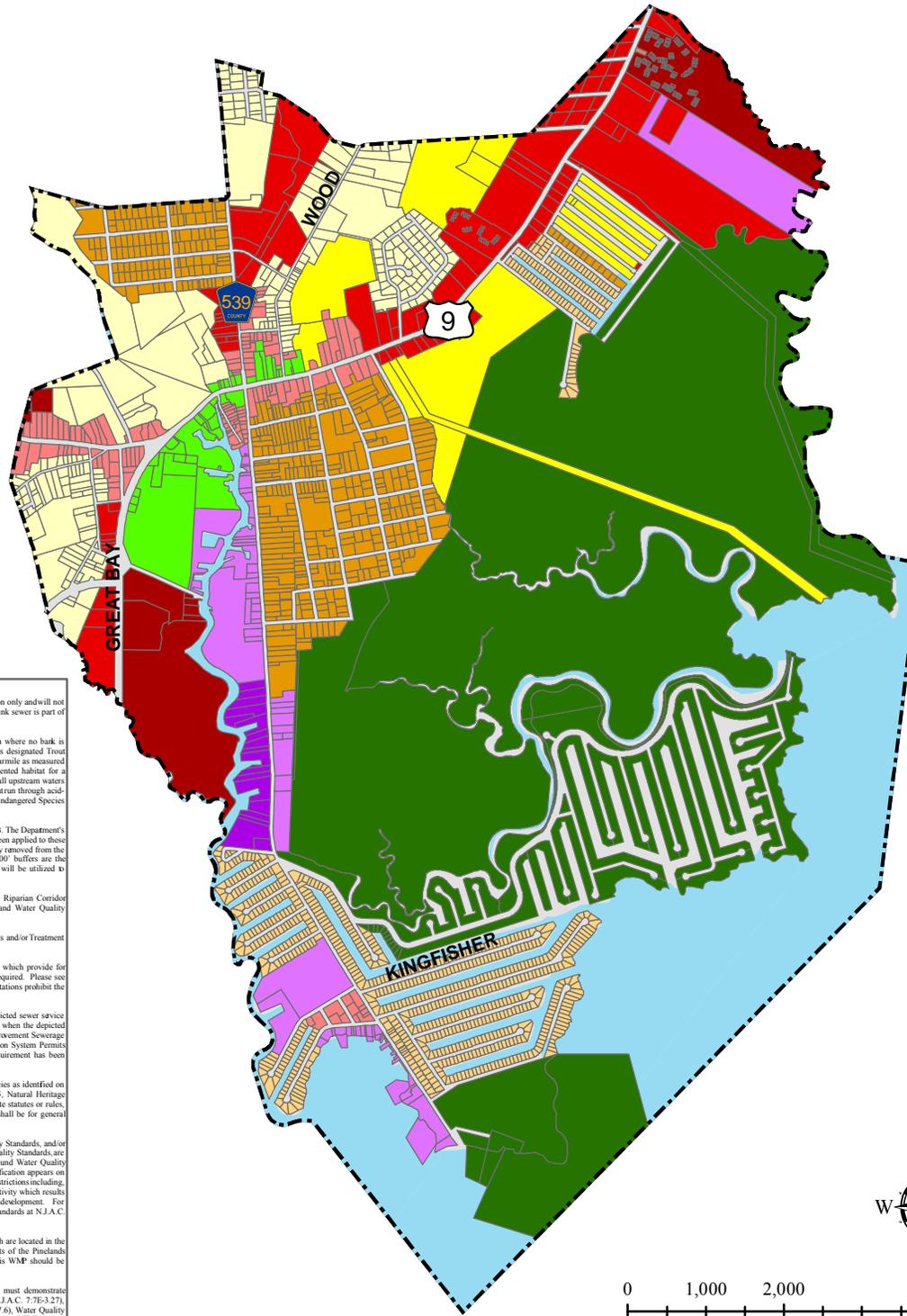


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TUCKERTON BOROUGH
 OCEAN COUNTY, NJ
 MAP 3
 ADOPTED SEWER SERVICE AREA

Legend

- B1 (Village Commercial and Office Professional)
- B2 (Highway Business)
- B3 (Marine Commercial)
- B4 (Marine Commercial/Waterfront Cluster)
- MF (Multi Family Residential)
- PSC (Planned Senior Citizen Residential)
- R100 (Single Family Residential)
- R200 (Single Family Residential)
- R400 (Federally Owned)
- R50 (Single Family Residential)
- R75 (Single Family Residential)
- SV (Seaport Village)



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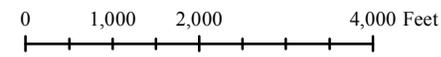
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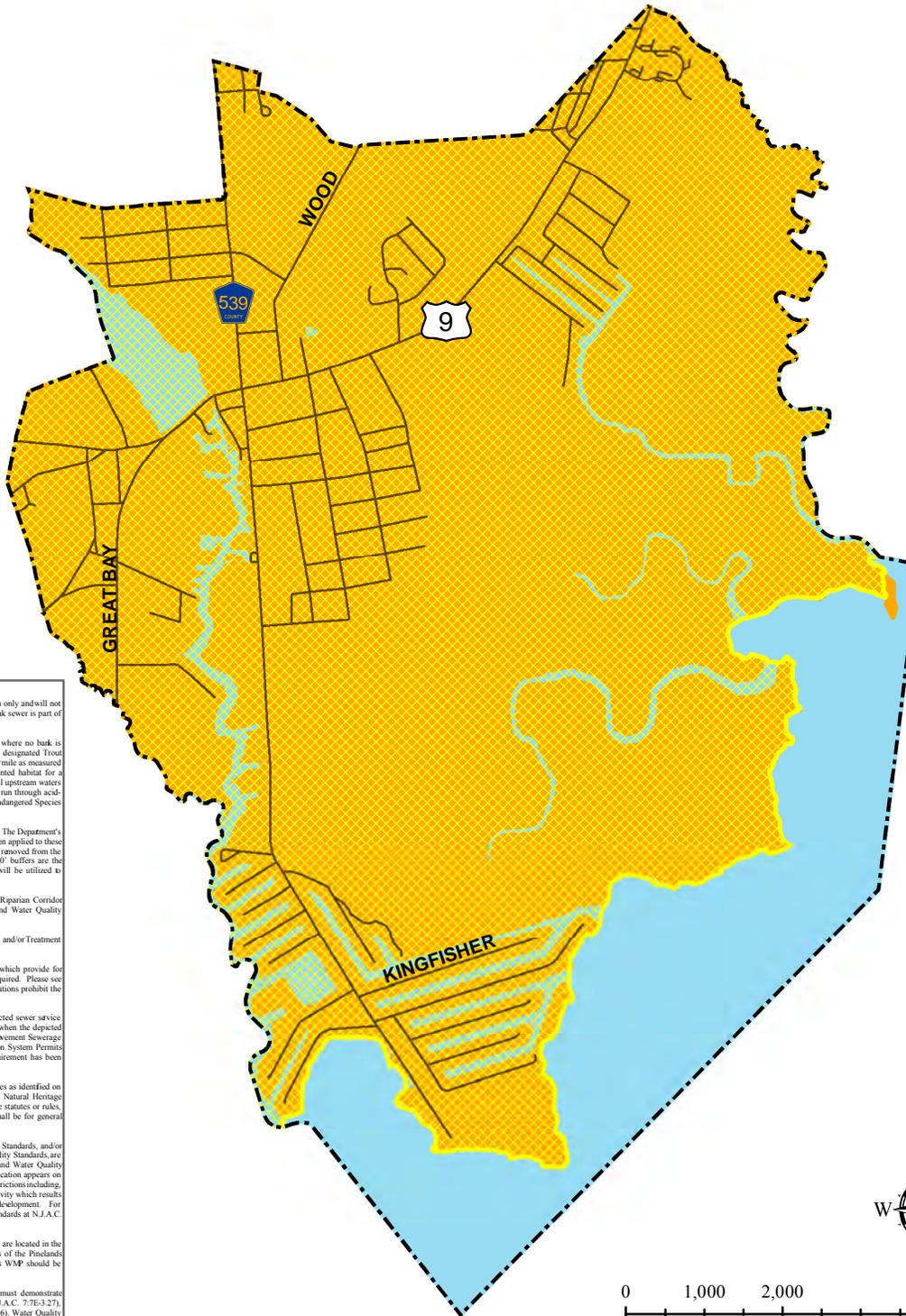
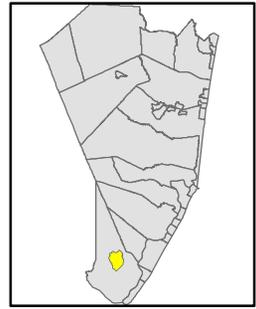
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TUCKERTON BOROUGH
 OCEAN COUNTY, NJ
 MAP 4
 MUNICIPAL ZONING

Prepared by: Ocean County Department of Planning, December 2012
 Sources: Borough of Tuckerton; Ocean County Tax Board

Legend

-  Roads
-  CAFRA
-  Surface Water
-  OCUA Southern Planning Area



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"Proposed developments tying into existing and proposed sewer service areas which require coastal permits must demonstrate compliance with all applicable sections of the Coastal Zone Management rules including, but not limited to, Wetlands (N.J.A.C. 7:27-2.2), Wetlands Buffers (N.J.A.C. 7:27-3.38), Secondary Impacts (N.J.A.C. 7:27-6.3), Public Facility Use Policies (N.J.A.C. 7:27-7.6), Water Quality (N.J.A.C. 7:27-8.4), Ground Water Use (N.J.A.C. 7:27-8.8) and the policies under General Land Areas rules, Subchapters 5, 5A and 5B."

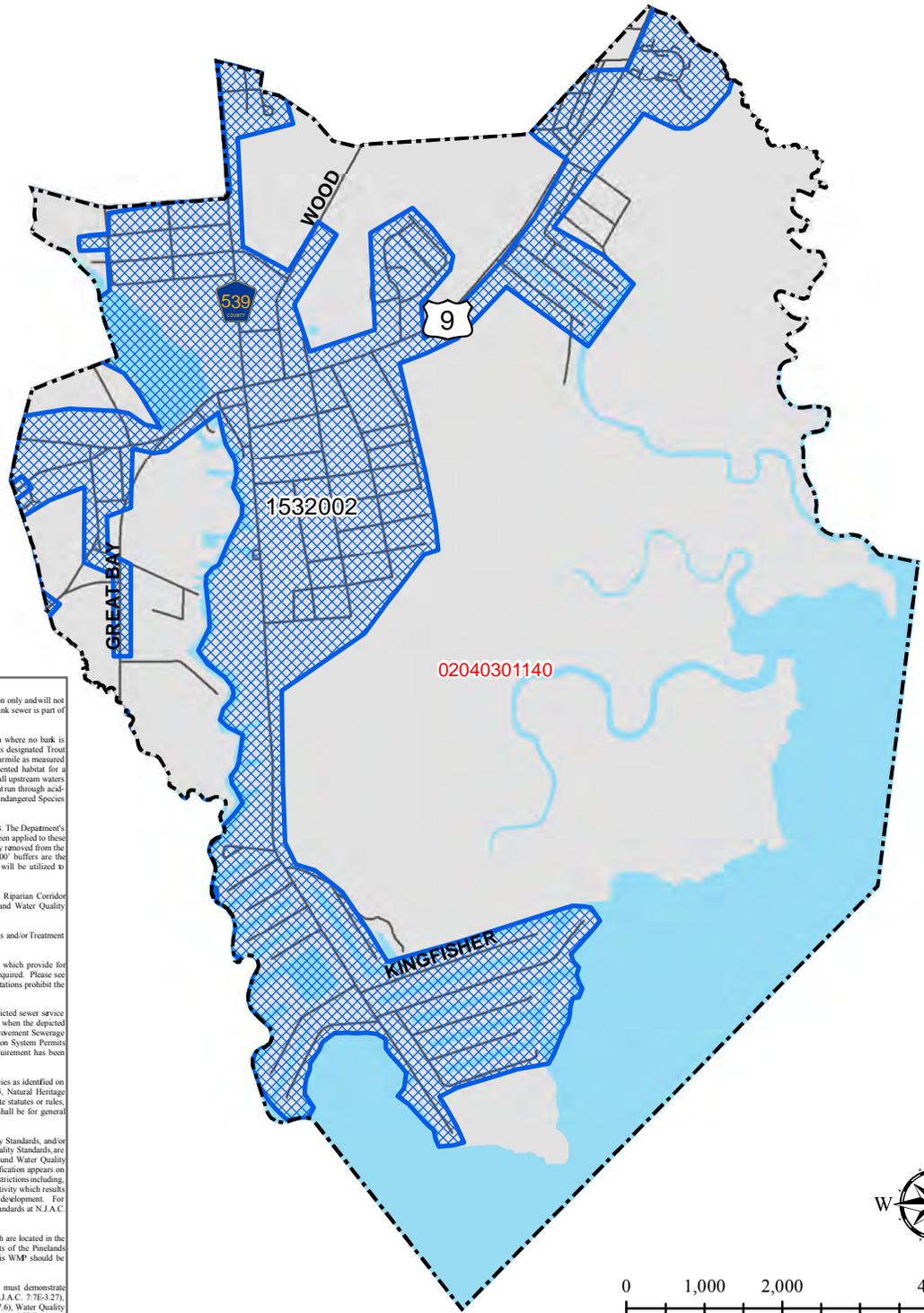
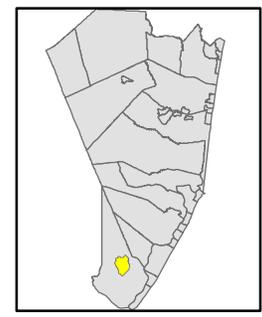


1 inch = 2,200 feet

TUCKERTON BOROUGH
 OCEAN COUNTY, NJ
 MAP 5
 REGIONAL PLANNING AREA

Legend

- HUC 11
- Public Water Purveyors
- Roads
- Surface Water



PWSID	PURVEYOR NAME
1532002	TUCKERTON WATER AND SEWER DEPARTMENT

"Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future consistency determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project."

"Pursuant to N.J.A.C. 7:15, Riparian zones are 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One and all upstream tributaries within the same HUC 14; 150 feet for waters designated Trout Production and all upstream waters, 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water; 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body; 150 feet for waters that run through acid-producing soils, and, 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils."

"Surface waters that are designated Category One are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. The applicable 300 foot buffer has been applied to these waterways and removed from the proposed sewer service areas on the mapping. Lesser width buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. (Counties may map out the lesser width buffers also but the 300' buffers are the minimum, the lesser buffers are removed during the build-out analysis.) Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots."

"Furthermore, compliance with the riparian zone standard has been demonstrated by the adoption of municipal Riparian Corridor Ordinances, which have been updated to be in compliance with the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15), was adopted on 06/10/1974."

"All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SUI) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent."

"Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) which provide for restriction of sewer service to environmentally sensitive areas, are unaffected by adoption of this WMP and compliance is required. Please see municipal WMP Chapters for the existence of any applicable environmentally sensitive areas in which Federal 201 grant limitations prohibit the extension of sewer service."

"Individual subsurface sewage disposal systems (ISSDS) for individual residences can only be constructed in depicted sewer service areas if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Really Improvement Sewerage and Facilities Act (N.J.S.A. 13:11-23) or individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. Compliance with the connection requirement has been demonstrated through the adoption of Borough of Tuckerton municipal code Chapter 249, Article II, Section 6."

"Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3.4, and 5, Natural Heritage Priority Sites, riparian zones, steep slopes, or designated river areas may be subject to special regulations under Federal or State statutes or rules, and interested persons should check with the Department for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules"

"Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water areas based on the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A. Where this requirement has been studied and reviewed as part of the WMP process this classification appears on Map #3. Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following: 1) DEP will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9A."

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Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection



0 1,000 2,000 4,000 Feet

1 inch = 2,200 feet

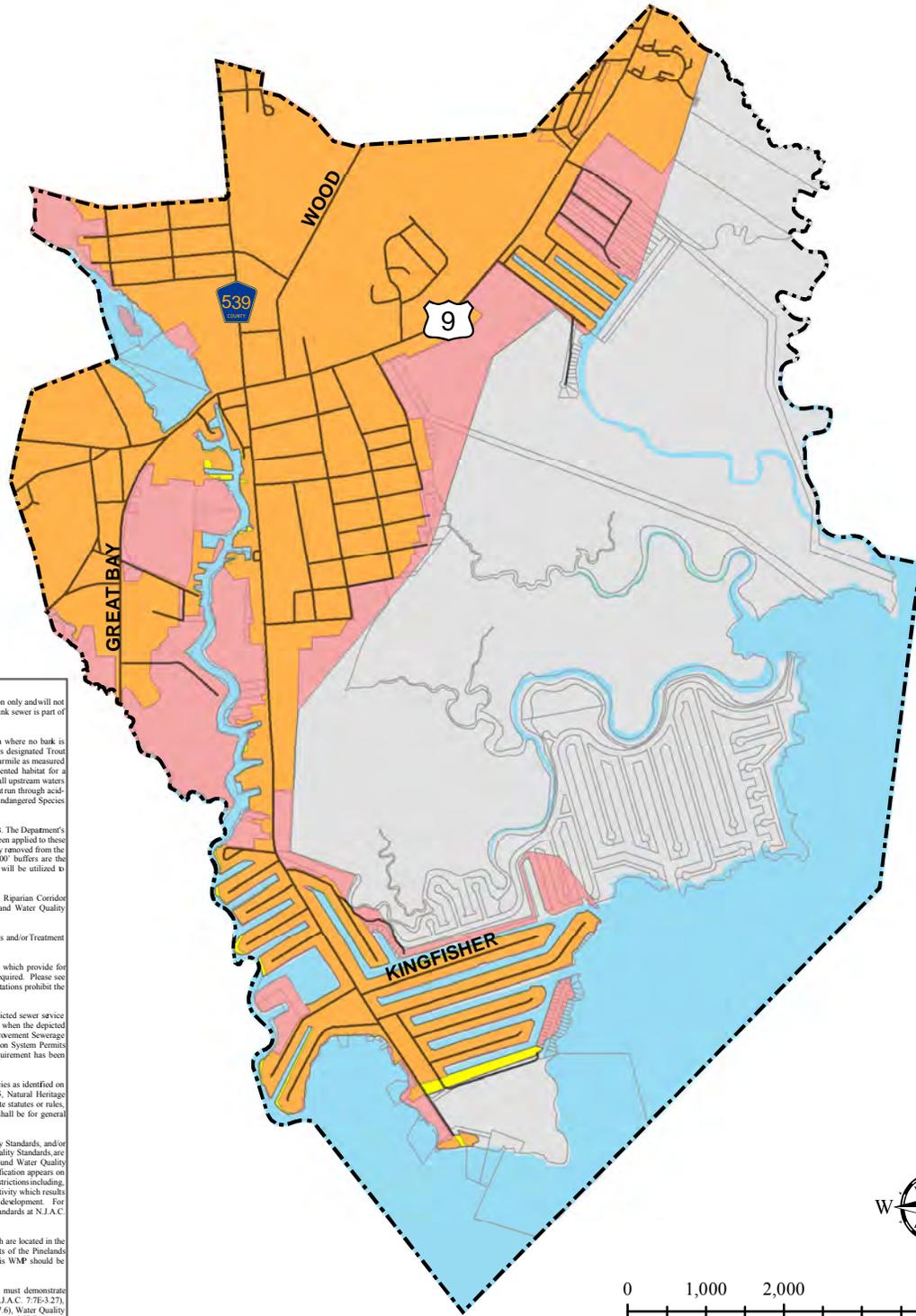
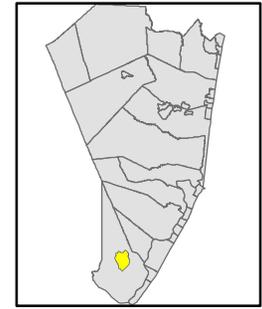
TUCKERTON BOROUGH
OCEAN COUNTY, NJ

MAP 6

WATER SUPPLY

Legend

-  Roads
-  Previously Approved Sewer Service Area
-  Adopted Sewer Service Area
-  Area of Overlap



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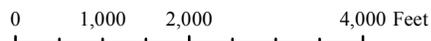
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1 inch = 2,200 feet

Prepared by: Ocean County Department of Planning, December 2012
Sources: New Jersey Department of Environmental Protection

TUCKERTON BOROUGH
OCEAN COUNTY, NJ

DELTA MAP

SIGNIFICANT CHANGES

