

DRAFT

Buildout Analysis of Future Sewer Service Areas

**Township of Middle
Cape May County, New Jersey**

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Prepared by:



Marcia R. Shiffman, PP, AICP, CLA
Project Manager

Daniel N. Bloch, PP
Senior Planner

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INTRODUCTION

This Buildout Analysis of the Future Sewer Service Areas has been prepared for the Township of Middle, in order to assess the amount of remaining developable lands within the Township's future sewer service areas and to evaluate the effect that proposed zoning regulations could have on the landscape if these lands were fully developed to their maximum potential. Utilizing GIS (geographic information system) technology, the amount of developable land can be assessed based on lot area and bulk requirements as compared to the minimum requirements of each individual zone district. Buildout analyses can be performed at various levels of detail (or scales), from a regional level (macro-scale) to a site-design level (micro-scale). This Buildout Analysis utilizes a zone district level (intermediate-scale) methodology at full buildout based on proposed zoning regulations and existing land use and environmental conditions.

The results generated by this intermediate analysis were based on mathematic calculations of lot area and contiguous unconstrained land with regards to the requirements of the respective zoning. There are other variable factors that were not taken into account by these analyses since they were not readily available for gross calculation, such as lot width, depth, frontage and setback requirements. These analyses represent the total development limits of Middle Township and do not account for time factors, economic factors or real estate trends. In other words, the analysis represents the maximum amount of development that could occur in the future sewer service areas based on the amount of remaining developable lands, however likely or unlikely it may be that this amount of development will ever occur.

This buildout analysis determines the amount of potential development remaining in the proposed sewer service area under the proposed zoning regulations and the resulting population growth, employment growth and sewer demand generated by such development.

BUILDOUT METHODOLOGY AND ASSUMPTIONS

Build-out Analyses can be performed at various levels of detail (or scales), from a regional level (macro-scale) to a site-design level (micro-scale). This Build-Out Analysis utilizes a zone district level (intermediate-scale) methodology at full build-out based on proposed zoning regulations within the future sewer service area of the Township. The results generated by this intermediate analysis were based on mathematic calculations of lot area and contiguous unconstrained land with regards to the requirements of the respective zoning. There are other variable factors that were not taken into account by this analysis since they were not readily available for gross calculation, such as lot width, depth, frontage, and setback requirements.

This study is meant to demonstrate that the overall extent of potential future development based on the proposed zoning and the implications to the wastewater treatment facilities serving existing and future development. The calculated development potential of each parcel is subject to site-specific review of applicable state environmental regulations as well as municipal subdivision and site plan procedures.



Data Sources

This build-out study is based on existing land use conditions and the most recently proposed zoning standards for Middle Township. Utilizing GIS (geographic information system) technology, the amount of developable land can be assessed based on lot area and contiguous unconstrained land compared to the minimum requirements of each individual zone district. The results of this analysis determine whether the zoning is feasible as proposed and, if not, what changes are necessary and appropriate. The following outlines the methodology and assumptions applied to the analysis:

Existing Land Use

- In order to analyze the remaining developable lands within Middle Township, a parcel database must be utilized, which includes the MOD-IV tax information for each parcel. Each parcel's land use type is based on the tax classification. Middle Township's parcel database and MOD-IV data were updated in May 2008 by Van Note - Harvey Associates, P.C. For this build-out, parcels crossed by a zoning boundary were calculated as separate lots within each zone.
- The parcel data base does contain a number of errors, where properties are left unclassified with no corresponding MOD-IV tax information. Maser attempted to resolve these errors, to the extent possible, by utilizing the "additional lots" field for other MOD-IV records or other data sources or aerial photographs to find developable lands.

Proposed Zoning Boundaries

- Maser has been working with the Township in developing a center-based zoning scheme that conforms to Smart Growth policies.
 - The Center boundaries were last revised on February 11, 2009. The NJDEP and NJOSG approved these seven Centers as of July 21, 2009.
 - The zoning boundaries were last revised on February 18, 2010.
- The most recent proposed Zoning Schedule (dated February 18, 2010) was utilized to select buildable properties and to calculate the development potential of such lots.

Environmental Constraints

- Environmental constraints were spatially attributed to the parcel database for Middle Township to assess the amount of contiguous unconstrained land (unconstrained or developable lands) within each parcel and the constrained lands were removed from the analysis. Environmental constraints utilized include the following:
 - Open Water Bodies (as delineated by the NJDEP).
 - Freshwater Wetlands (as delineated by the NJDEP). Transitional area buffers were added to the constrained area. Wetlands associated with a primary water body (river,



bay, ocean, etc.) were assumed to have exceptional resource value and 150-foot buffers were applied. Isolated patches of wetlands were assumed to have intermediate resource value and 50-foot buffers were applied.

- Category-One Waters and their Tributaries (as delineated by the NJDEP). Maser added a 300 foot buffer to the constrained area.

Assumptions

The following outlines the assumptions utilized for this analysis:

- Currently, not all areas within the Centers have public sewer available. The buildout assumes that all properties within the Center boundaries will be provided with public sewer for future development.
- The proposed permitted use(s) of each zone dictates whether each property is assigned a residential or non-residential development.
- The TC Town Center District is proposed to permit mixed-use development, consisting of retail on the first floor with residential on the upper floors. The TC District requires a minimum of two floors and a maximum of three floors. Although office uses could be permitted on the second floor, this analysis assumes that only residential would be located above the first floor.
- The TC District is also proposed to encourage structured parking beneath the building on the ground floor by permitting an increased building height and by providing a density and floor area ratio (FAR) bonus. This analysis does not assume that this option will be utilized.
- The TP Town Professional District is proposed to permit both residential and professional office as principal uses. Mixed-use development is also permitted on parcels greater than 2 acres, which would consist of professional office on the ground floor with residential on the second floor. This analysis assumes all new development to be professional office on lots less than 2 acres and mixed-use on lots greater than 2 acres.
- The TB Town Business District is proposed to permit mixed-use development on parcels greater than 2 acres, which would consist of commercial on the ground floor with residential on the second floor. This analysis assumed all new development to be commercial only on lots less than 2 acres and mixed-use on lots greater than 2 acres.
- The R Residential, TR Town Residential and VR Village Residential Districts are proposed to permit a variety of residential uses, such as single-family, two-family, townhouse and multi-family development. The residential development type yielding the highest number of units is the assumed development type.



- After locating further developable parcels, the number of new residential dwelling units available for further development under the current Proposed Zoning are based on contiguous unconstrained land area, excluding 10% for necessary utility improvements, such as roads or septic/sewer easements.
- Development potential resulting in a fraction of a residential unit is rounded down to the nearest unit.

Parameters for Assigning Development Potential

Consistent with the Existing Conditions Buildout, this analysis was based on contiguous unconstrained land, but also taking into account the total lot area of a parcel. Variances are not be considered by this analysis. Properties would be assumed further developable, subdividable or redevelopable according to the following parameters:

Vacant or Farmland Property Capable of Residential Development

- Property must be in a zone that permits residential uses.
- Property must contain a contiguous unconstrained land area greater than or equal to the minimum lot area requirement.
- Property will be assigned a development potential by subtracting 10 percent of the contiguous unconstrained land area for infrastructure and dividing the remaining 90 percent by the minimum lot area of the zone. (Contiguous Unconstrained Land Area X 90% / Minimum Lot Area = Potential Number of New Units).
- Properties containing a contiguous unconstrained land area between 1 and 2.2 times the minimum requirement will be assigned a development potential of one unit.

Vacant or Farmland Property Capable of Commercial Development

- Property must be in a zone that permits commercial uses.
- Property must contain a contiguous unconstrained land area greater than or equal to the minimum lot area requirement.
- Development potential was assigned based on the contiguous unconstrained land area times the maximum building coverage percentage times the maximum number of floors. (Contiguous Unconstrained Land Area X Coverage% X # of Floors = Potential Gross Floor Area).

Existing Residential Property Capable of Future Subdivision

- Property must be in a zone that permits residential uses.



- Property must contain a total lot area of at least 2.2 times the minimum lot area requirement in order to be assumed subdividable.
- Development potential was assigned by subtracting 10 percent of the lot area for infrastructure and dividing the remaining 90 percent by the minimum lot area. One unit will be subtracted from the development potential to account for the existing residence. (Contiguous Unconstrained Land Area X 90% / Minimum Lot Area - 1 unit = Potential Number of New Units).

Approved Development not yet Constructed

- Maser utilized the list of approved development, as supplied by the Township, to determine additional development expected to occur within the proposed Sewer Service Areas.

Parameters for Assigning Redevelopment Potential

The proposed zoning anticipates redevelopment to be prevalent in the Centers, especially in the TC District. It is likely that redevelopment will continue to occur within the Centers in the distant future, as existing structures continue to age and deteriorate naturally. This analysis seeks to identify only those properties that are likely to be redeveloped in the near future based on the existing conditions of the property. Maser coordinated with the Township Engineer to identify properties that were likely to redevelop under the proposed zoning in the near future. In general, the criteria below were utilized to identify properties with redevelopment potential:

Existing Commercial Property with Redevelopment Potential

- The property must be located within a non-residential zone. In some cases, large properties in residential zones, which are extremely underutilized or deteriorated, are identified as having redevelopment potential.
- The assessed building value must be no greater than the land value (building/land $\leq 1/1$).
- The property must contain an area of contiguous unconstrained land greater than the minimum lot area required by the zone. Multiple properties can be combined to meet this requirement.
- Redevelopment potential is calculated in accordance with the Parameters for Vacant or Farmland Property Capable of Commercial Development.

Existing Residential Property with Redevelopment Potential

- The property must be a nonconforming use located within a non-residential zone. In some cases, large properties in residential zones, which are extremely underutilized or deteriorated, are identified as having redevelopment potential.
- The assessed building value must be no greater than 50% of the land value (building/land $\leq 1/2$).



- The property must contain an area of contiguous unconstrained land at least the minimum lot area required by the zone. Multiple properties can be combined to meet this requirement.
- Redevelopment potential will be calculated in accordance with the Parameters for Vacant or Farmland Property Capable of Commercial Development.

Parameters for Assigning Non-Contiguous Parcel Density Cluster Potential

The proposed zoning scheme includes provisions for Non-Contiguous Parcel Density Cluster (NCPDC), allowing development rights to be clustered from one property to another from the RC Rural Conservation District into the TC, TR and R Districts within the Centers. Density to be clustered is based on one dwelling unit per one acre of contiguous unconstrained land.

Maser recently prepared a Buildout Analysis of Septic Areas of Middle Township based on current land use conditions and proposed zoning regulations to meet the target nitrate dilution in each HUC11 Watershed. The data used in this analysis provides the maximum potential number of units that could be clustered from the Environs into the Centers based on contiguous unconstrained land area. Under this portion of the analysis, the total density available for cluster is dispersed amongst the developable properties that meet the NCPDC standards, up to the maximum.



DEMOGRAPHIC IMPACTS ANALYSIS METHODOLOGY AND ASSUMPTIONS

In order to estimate the potential population impacts of the projected development in the future sewer service areas at full buildout, it must be determined how many persons are expected per new unit. This analysis utilizes David Listokin's report, *Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers*, to determine the potential population impacts from the development projected by each portion of the buildout.

In order to use Listokin's demographic multipliers, assumptions must be made as to the type, number of bedrooms and the sale price (above, at or below median value) of housing that will be constructed, which will provide with multipliers for new persons and SAC based on those housing types. This analysis assumes that mean new housing type constructed in the R, TR, TP or VR Districts will be single-family attached with 3 bedrooms and for sale at median value. New housing in the mixed use and multi-family (TC, TB, and VC) districts are assumed to be multi-family (with 5 or more units), 2 bedrooms, and for rent or sale at the median value.

Assumptions for New Housing Construction		
Zone	Housing Type	Persons per Unit
R, TR, TP, VR	Single-Family Attached, 3 Bedrooms, For Sale at Median Value	2.655
TC, TB, VC	Multi-Family (5+ Units), 2 Bedrooms, For Rent or Sale at Median Value	2.106

In order to estimate the potential employment impacts of the projected development in the future sewer service areas at full buildout, it must be determined how many new jobs are expected per square foot of floor area. This analysis utilizes the *UCC Use Groups for Projecting and Implementing Non-Residential Components of Growth Share*, as published in Appendix D of the New Jersey Council on Affordable Housing (COAH) Third Round Substantive Rules (N.J.A.C. 5:97).

In order to use COAH's job ratios, assumptions must be made as to the type of non-residential uses that will be constructed, which will provide with job ratios based on those housing types. This analysis assumes that new non-residential uses will be an equal mix of office and retail uses (50:50). Office uses have a job ratio of 2.8 new jobs per 1,000 square feet of floor area (jobs/KSF). Retail uses have a job ratio of 1.7 jobs/KSF. An average of 2.25 jobs/KSF are assumed for all new non-residential uses.



SEWER SERVICE AREA DEMAND METHODOLOGY AND ASSUMPTIONS

The buildout analysis provides a range of development potential at full buildout for the different scenarios, considering the base density, redevelopment and Non-Contiguous Parcel Density Cluster. The potential wastewater flows for each developable property was calculated based on the NJDEP projected flows criteria (N.J.A.C. 7:14A-23.3).

Assumptions

The following outlines the assumptions utilized for this analysis:

- The proposed sewer service area will be congruent with the approved Center boundaries. The segregating line between the Seven Mile/Middle Regional Wastewater Treatment Plant Service Area and the Wildwood/Lower Sewage Treatment Plant Service Area was utilized to dictate to which wastewater treatment facility future development will contribute.
- NJDEP projected flows for residential dwellings are based on the number of bedrooms in each unit (1 bedroom = 150 Gallons per Day (GPD), 2 bedroom = 225 GPD, 3+ bedroom = 300 GPD). An average of 225 GPD per unit is utilized, since this is the average projected flow of a 1 bedroom, a 2 bedroom and a 3 bedroom unit.
- NJDEP projected flows for nonresidential development differ based on type of development (i.e. office, retail, restaurant, church, theater, etc.). All nonresidential development is assumed to produce 0.100 GPD/sq. ft, which is the projected criterion for both office and retail.
- For properties identified for redevelopment, the actual development flows are subtracted from the current flows for the sewer service area. These flows are based on the existing floor area of each non-residential building, as measured from 2007 NJDEP aerial photography, and/or the number of residential units on each property identified for redevelopment.



RESULTS OF BASE DENSITY BUILDOUT ANALYSIS

Base Density Buildout Analysis

The Base Density Analysis provides a maximum yield for potential additional residential units and non-residential floor area within the proposed sewer service areas, assuming that only new development on vacant and oversized parcels will occur. The analysis projects a total of 4,053 residential units and 1,497,965 square feet of non-residential floor area, including recent approvals that have not yet been constructed and planned projects that have not yet been approved.

Base Density Buildout Analysis Results						
Zone	Approved Development		New Development		TOTAL	
	Residential (Units)	Non-Residential (Sq. Ft.)	Residential (Units)	Non-Residential (Sq. Ft.)	Residential (Units)	Non-Residential (Sq. Ft.)
R	81	0	864	0	945	0
TB	0	45,700	220	460,132	220	505,832
TC	380	54,000	419	604,949	799	658,949
TP	0	11,262	2	17,451	2	28,713
TR	175	37,000	1,612	0	1787	37,000
VC	40	0	126	267,471	166	267,471
VR	0	0	134	0	134	0
Total	676	147,962	3,377	1,350,003	4,053	1,497,965

Base Density Demographic Impact Analysis

The Base Density Analysis finds that the projected development at full buildout could result in an additional 10,110 new persons and 3,370 new jobs.

Base Density Demographic Impact Analysis Results				
Zone	Residential (Units)	Population (Persons)	Non-Residential (Sq. Ft.)	Employment (Jobs)
R	945	2,509	0	0
TB	220	463	505,832	1,138
TC	799	1683	658,949	1,483
TP	2	5	28,713	65
TR	1787	4,744	37,000	83
VC	166	350	267,471	602
VR	134	356	0	0
Total	4,053	10,110	1,497,965	3,370



Base Density Sewer Demand Analysis

Utilizing the NJDEP projected flows of 225 GPD per residential unit and 0.100 GPD per square foot of non-residential floor area, the Base Density Analysis projects a total of sewer demand of 911,925 GPD for new residential development and 149,797 GPD for new non-residential development. A total sewer demand of 1,061,772 GPD is anticipated at full buildout.

Base Density Sewer Demand Analysis Results					
Proposed Sewer Service Area	Total Residential		Total Non-Residential		TOTAL Sewer Demand (GPD)
	Units	Sewer Demand (GPD)	Floor Area (Sq. Ft.)	Sewer Demand (GPD)	
Lower Township STP Service Area	75	16,875	63,643	6,364	23,239
Seven Mile/Middle Regional WTP	2,228	501,300	1,033,425	103,343	604,643
Wildwood/Lower STP Service Area	1,749	393,525	400,898	40,090	433,615
Total	4,053	911,700	1,497,966	149,797	1,061,497



RESULTS OF REDEVELOPMENT ANALYSIS

Redevelopment Buildout Analysis

The Redevelopment Analysis provides a maximum yield for potential additional residential units and non-residential floor area within the proposed sewer service areas for properties that are currently developed but are likely to be redeveloped sometime in the near future under the proposed zoning. The analysis projects a net redevelopment potential of 757 new residential units and 506,400 square feet of new non-residential floor area. This assumes the demolition of 105 existing residential units and 683,691 square feet of non-residential floor area; to be replaced by 862 new residential units and 1,190,091 square feet of new non-residential floor area.

Redevelopment Buildout Analysis Results						
Zone	Existing Development		New Development		NET REDEVELOPMENT	
	Residential (Units)	Non-Residential (Sq. Ft.)	Residential (Units)	Non-Residential (Sq. Ft.)	Residential (Units)	Non-Residential (Sq. Ft.)
R	0	6,401	6	0	6	-6,401
TB	11	102,497	182	358,730	171	256,233
TC	41	500,507	545	702,033	504	201,526
TP	53	0	1	129,328	-52	129,328
TR	0	74,286	128	0	128	-74,286
Total	105	683,691	862	1,190,091	757	506,400

Redevelopment Demographic Impact Analysis

The Redevelopment Analysis finds that the projected redevelopment could result in a net of 1,639 new persons and 1,140 new jobs.

Redevelopment Demographic Impact Analysis Results				
Zone	Net Residential (Units)	Population (Persons)	Net Non-Residential (Sq. Ft.)	Employment (Jobs)
R	6	16	-6,401	-14
TB	171	360	256,233	577
TC	504	1,061	201,526	453
TP	-52	-138	129,328	291
TR	128	340	-74,286	-167
Total	757	1,639	506,400	1,140



Redevelopment Sewer Demand Analysis

Utilizing the NJDEP projected flows of 225 GPD per residential unit and 0.100 GPD per square foot of non-residential floor area, the Redevelopment Analysis projects a total net sewer demand of 170,325 GPD for new residential development and 50,640 GPD for new non-residential development. A total sewer demand of 220,965 GPD is anticipated for redevelopment.

Redevelopment Sewer Demand Analysis Results					
Proposed Sewer Service Area	Total Residential		Total Non-Residential		TOTAL Sewer Demand (GPD)
	Units	Sewer Demand (GPD)	Floor Area (Sq. Ft.)	Sewer Demand (GPD)	
Seven Mile/Middle Regional WTP	544	122,400	518,801	51,880	174,280
Wildwood/Lower STP Service Area	213	47,925	-12,401	-1,240	46,685
Total	757	170,325	506,400	50,640	220,965



RESULTS OF NON-CONTIGUOUS PARCEL DENSITY CLUSTER ANALYSIS

Non-Contiguous Parcel Density Cluster Buildout Analysis

The *Buildout Analysis of Septic Areas* indicates that there are a total of 682 acres of contiguous unconstrained land within the RC District that have a potential to be clustered into the Centers. Based on one dwelling unit per one acre of contiguous unconstrained land, this translates to an assumed maximum density of 682 units that could be clustered from the RC District into the Centers.

Lands in RC District Capable of NCPDC	
HUC11 Watershed	Unconstrained Area
Cape May Bays & Tributaries East	34.16
Cape May Tributaries West	600.66
Dennis Creek	47.85
Total	682.67

The NCPDC Analysis identified a total of 46 properties within the TC, TR and R Districts that were potentially eligible for NCPDC. The potential maximum development potential of each property was calculated by multiplying the developable area by the density bonus for each zone (i.e. 2 du/ac in the R District, 3 du/ac in the TR District, and 4 du/ac in the TC District). The results found that 712 new residential units could be developed in addition to the base density or redevelopment density under the NCPDC provisions. Since this exceeds the potential number of units available in the RC District for clustering, it is assumed that a maximum of 682 units could be clustered from the RC District into the Centers. Since the NCPDC potential of the parcels in the Centers exceeded the NCPDC potential of the properties in the RC District, the amount of NCPDC development was decreased evenly across all of the 46 properties in the Centers until the aggregate was equal to 682 new units.

NCPDC Buildout Analysis Results	
Zone	Total (Units)
R	219
TR	114
TC	349
Total	682



Non-Contiguous Parcel Density Cluster Demographic Impact Analysis

The NCPDC Analysis finds that the projected development could result in a population growth of 1,556 new persons.

NCPDC Demographic Impact Analysis Results		
Zone	Net Residential (Units)	Population (Persons)
R	219	581
TB	114	240
TC	349	735
Total	682	1,557

Non-Contiguous Parcel Density Cluster Sewer Demand Analysis

In order to determine the impacts of NCPDC on each of the wastewater treatment facilities, it was necessary to assign additional flows generated from the increase in density under the NCPDC provisions to each of the 46 properties. The NCPDC potential of each property was reduced by 4.21 percent to be consistent with the NCPDC potential of the properties in the RC District. Utilizing the NJDEP projected flows of 225 GPD per residential unit, the NCPDC Analysis projects a total sewer demand of 153,450 GPD.

NCPDC Sewer Demand Analysis Results		
Proposed Sewer Service Area	Total (Units)	Sewer Demand (GPD)
Lower Township STP Service Area	4	900
Seven Mile/Middle Regional WTP	398	89,550
Wildwood/Lower STP Service Area	280	63,000
Total	682	153,450

SUMMARY

Assuming that all approved development will be constructed according to the approvals, that all vacant and subdividable lands would be developed to their highest potential, that the 46 properties identified will be redeveloped to their highest potential and that the Non-Contiguous Parcel Density Cluster provisions would be utilized to increase the density to the highest potential, the following findings may result:

Summary of Buildout Analysis

In terms of new residential units and new non-residential floor area, the buildout study finds the following:

- Approved development within the Centers that has not yet been constructed or is currently under construction amounts to 676 residential units and 147,962 square feet of non-residential floor area.
- New development that could occur on vacant or further subdividable lands is expected to total 3,377 new residential units and 1,350,003 square feet of non-residential floor area at full buildout.
- Redevelopment that is expected to could occur would result in a net development of 757 new residential units and 506,400 square feet of non-residential floor area.
- The Non-Contiguous Parcel Density Cluster provisions could allow for an additional 682 new residential units within the Centers as a density bonus. However, this would also reduce the development potential of lands in the RC District, as lands would be preserved as open space.
- A total of 5,492 new residential units could be developed at full buildout.
- A total of 2,004,365 square feet of new non-residential floor area could be developed at full buildout.

Summary of Buildout Analysis Results		
Development Type	Total Residential (Units)	Total Non-Residential Floor Area (Sq. Ft.)
Approved Development	676	147,962
New Development	3,377	1,350,003
Net Redevelopment	757	506,400
NCPDC Density Bonus	682	N/A
Total	5,492	2,004,365



Summary of Demographic Impact Analysis

In total, the projected development and redevelopment at full buildout could result in a net of 13,306 new persons and 4,510 new jobs.

Summary of Demographic Impact Analysis Results		
Development Type	Population (Persons)	Employment (Jobs)
Base Density	10,110	3,370
Net Redevelopment	1,639	1,140
NCPDC Density Bonus	1,557	0
Total	13,306	4,510

Summary of Sewer Demand Analysis

This study assumes that all approved development will be constructed according to the approvals, that all vacant and subdividable lands would be developed to their highest potential, that the 46 properties identified will be redeveloped to their highest potential and that the Non-Contiguous Parcel Density Cluster provisions would be utilized to increase the density to the highest potential. In terms of sewer demand generated by new residential and new non-residential development, the sewer demand analysis finds the following:

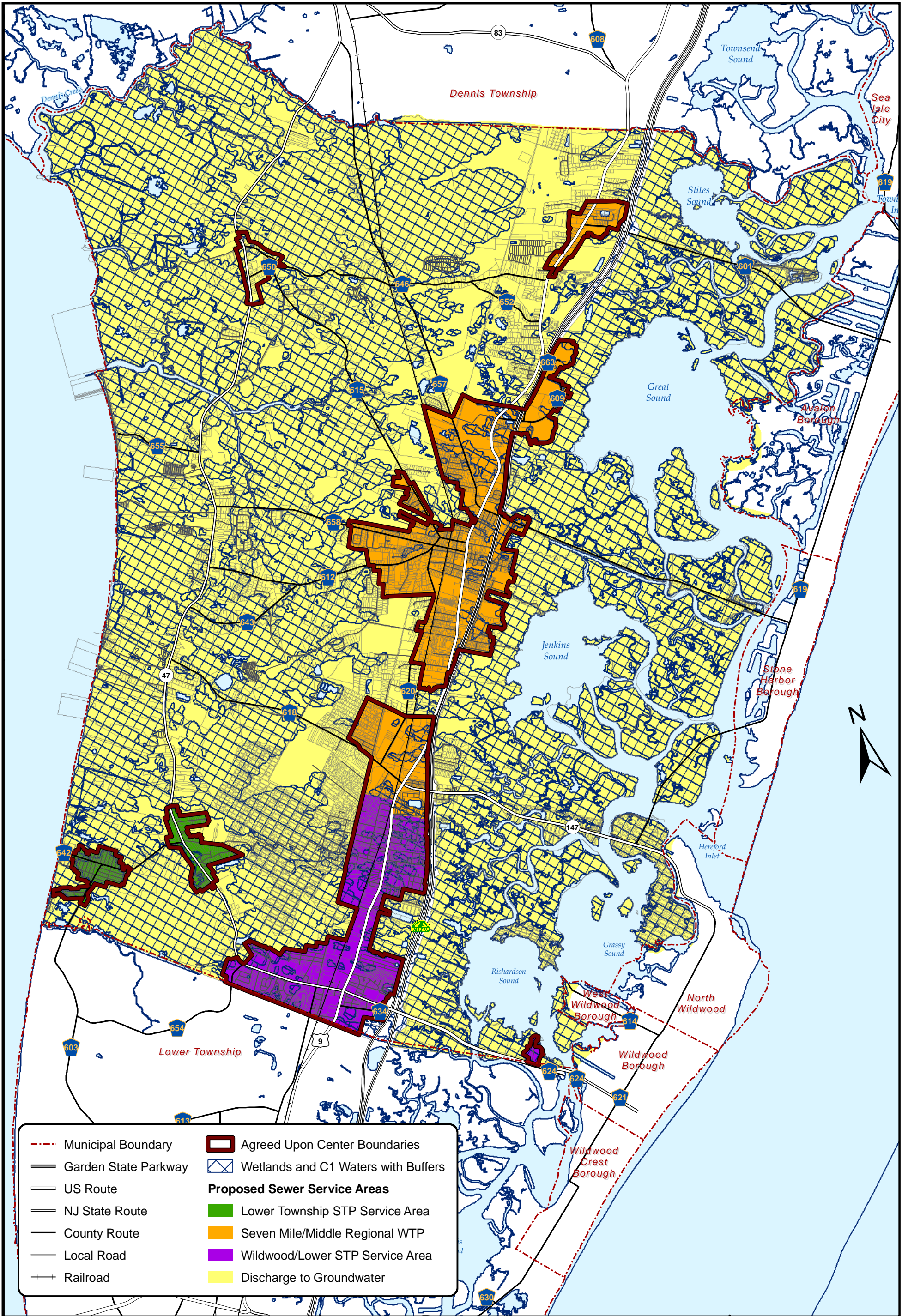
- A total sewer demand of 1.436 million gallons per day (MGD) is expected for new residential and non-residential development in the Township at full buildout.
- Within the Lower Township STP Service Area, a total sewer demand of 0.024 MGD is expected for new residential and non-residential development at full buildout.
- Within the Seven Mile/Middle Regional WTP, a total sewer demand of 0.868 MGD is expected for new residential and non-residential development at full buildout.
- Within the Wildwood/Lower STP Service Area, a total sewer demand of 0.543 MGD is expected for new residential and non-residential development at full buildout.
- Overall, approved development within the Centers that has not yet been constructed or is currently under construction and new development that could occur on vacant or further subdividable lands has a sewer demand of 1.061 MGD in the Township at full buildout.
- Overall, redevelopment that is expected to could occur within the near future has a sewer demand of 0.221 MGD in the Township.
- Overall, the Non-Contiguous Parcel Density Cluster provisions could generate an additional 0.154 MGD of sewer demand in the Township.



Summary of Sewer Demand Results				
Proposed Sewer Service Area	New & Approved Development (GPD)	Redevelopment (GPD)	NCPDC (GPD)	TOTAL Sewer Demand (GPD)
Lower Township STP Service Area	23,239	0	900	24,139
Seven Mile/Middle Regional WTP	604,643	174,280	89,550	868,473
Wildwood/Lower STP Service Area	433,615	46,685	63,000	543,300
Total	1,061,497	220,965	153,450	1,435,912

This study does not make any assumptions as to timeframe for the Township to reach full buildout, or even if it will. The results of this study are meant to illustrate the effects that the proposed zoning would have if the Township were to become fully built-out.





- | | |
|-------------------------|---------------------------------------|
| --- Municipal Boundary | ▭ Agreed Upon Center Boundaries |
| == Garden State Parkway | ▨ Wetlands and C1 Waters with Buffers |
| == US Route | Proposed Sewer Service Areas |
| == NJ State Route | ▭ Lower Township STP Service Area |
| == County Route | ▭ Seven Mile/Middle Regional WTP |
| == Local Road | ▭ Wildwood/Lower STP Service Area |
| ++ Railroad | ▭ Discharge to Groundwater |

0 5,000 10,000 15,000
Feet

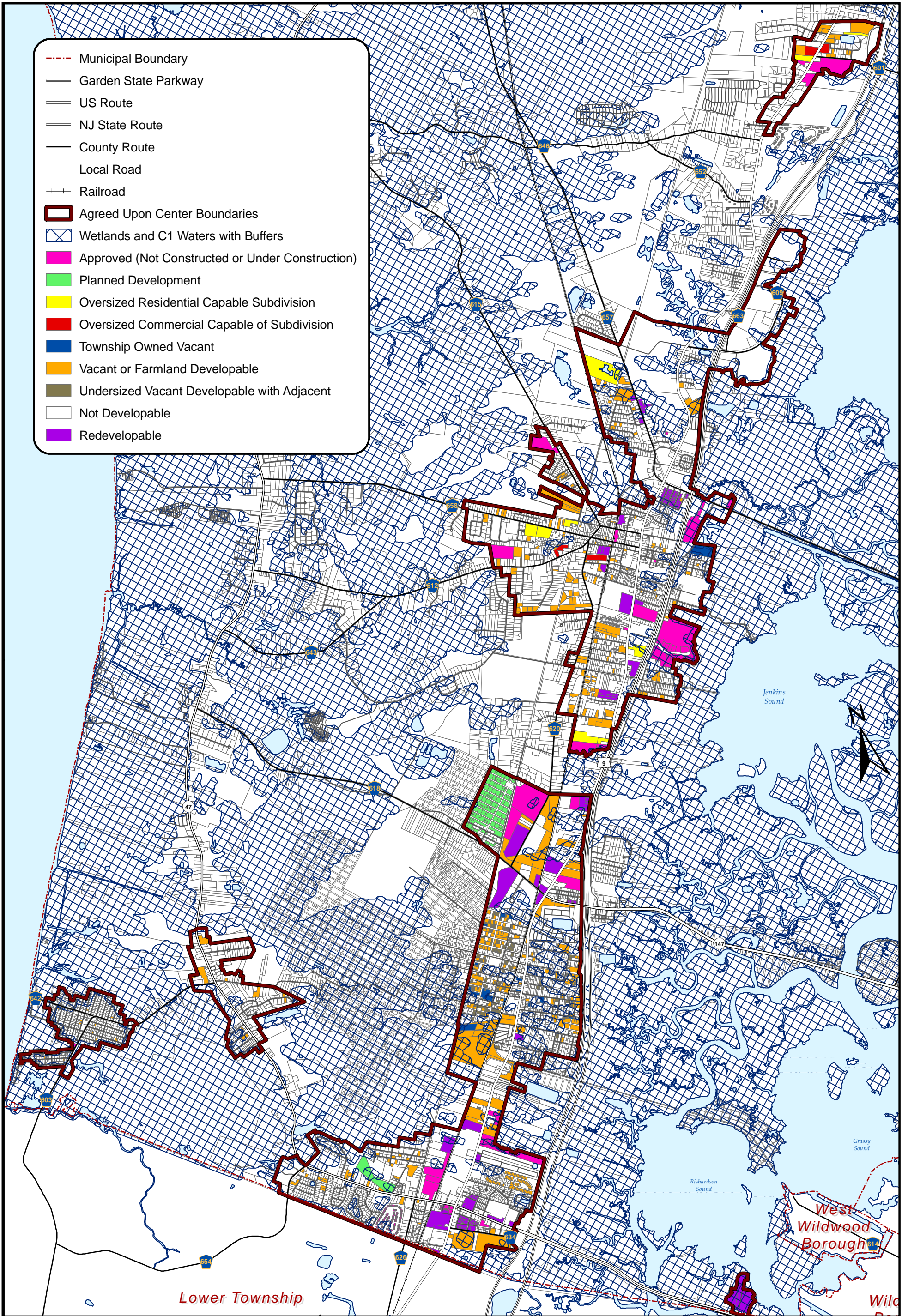
PROPOSED SEWER SERVICE AREAS

TOWNSHIP OF MIDDLE
CAPE MAY COUNTY NEW JERSEY



FEBRUARY 2010

THIS MAP WAS DEVELOPED USING CAPE MAY COUNTY AND NJDEP DIGITAL DATA.
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BUILDOUT RESULTS OF PROPOSED SEWER SERVICE AREAS

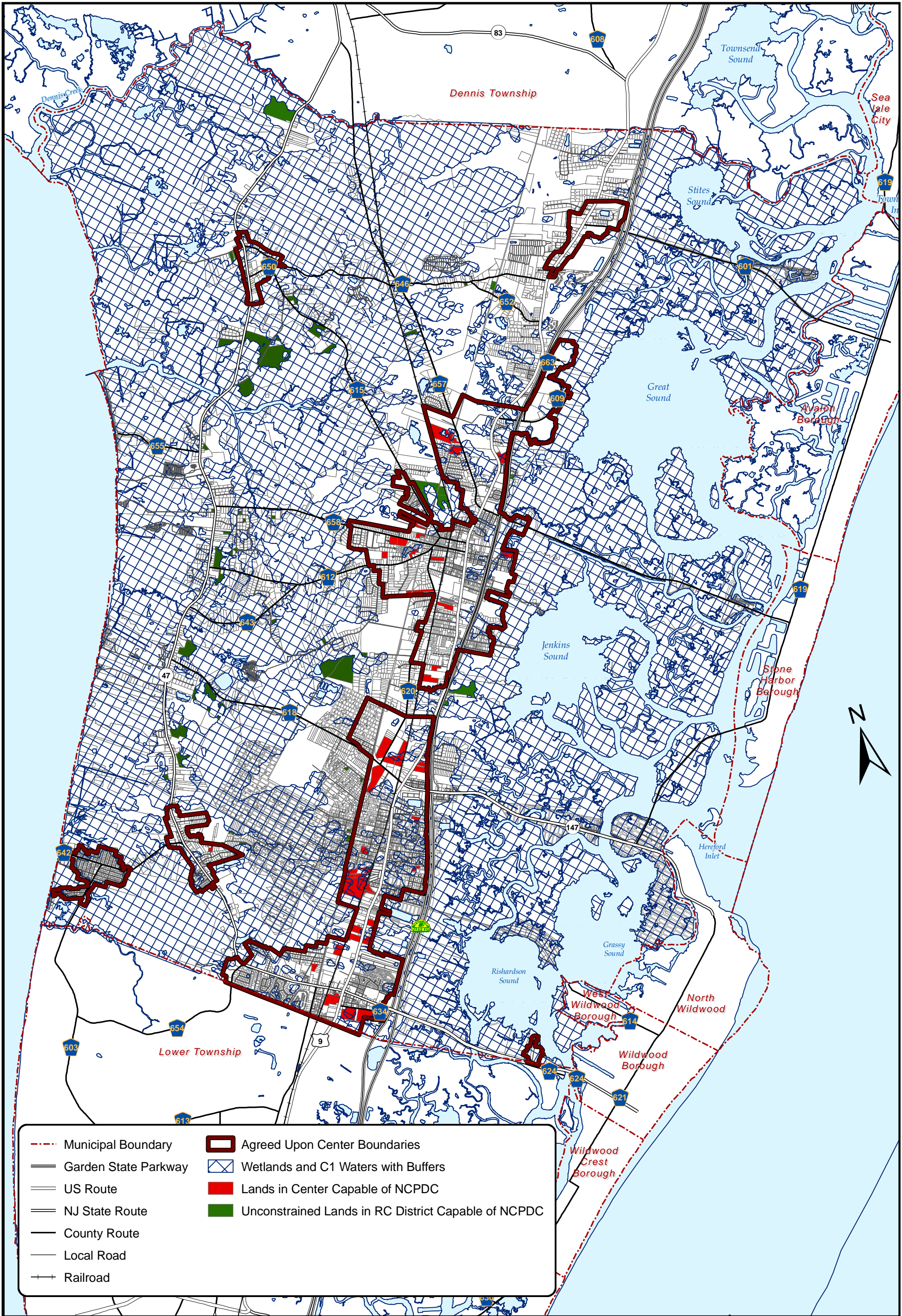
TOWNSHIP OF MIDDLE
CAPE MAY COUNTY NEW JERSEY



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BUILDOUT RESULTS OF NCPDC

TOWNSHIP OF MIDDLE
CAPE MAY COUNTY NEW JERSEY



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