

# **MUNICIPAL STORMWATER MANAGEMENT PLAN**

## **FOR THE TOWNSHIP OF LITTLE EGG HARBOR OCEAN COUNTY, NEW JERSEY**

March, 2005  
Revised October 2007  
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703 MILL CREEK ROAD | SUITE A | MANAHAWKIN, NJ 08050  
TEL 609.597.3123 | FAX 609.597.8978 | [WWW.CMXENGINEERING.COM](http://WWW.CMXENGINEERING.COM)

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## Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for the Township of Little Egg Harbor (“the Township”) to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides baseflow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

A “build-out” analysis has been included in this plan based upon existing zoning and land available for development. The plan also addresses the review and update of existing ordinances, the Township Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

## Goals

The goals of this MSWMP are to:

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

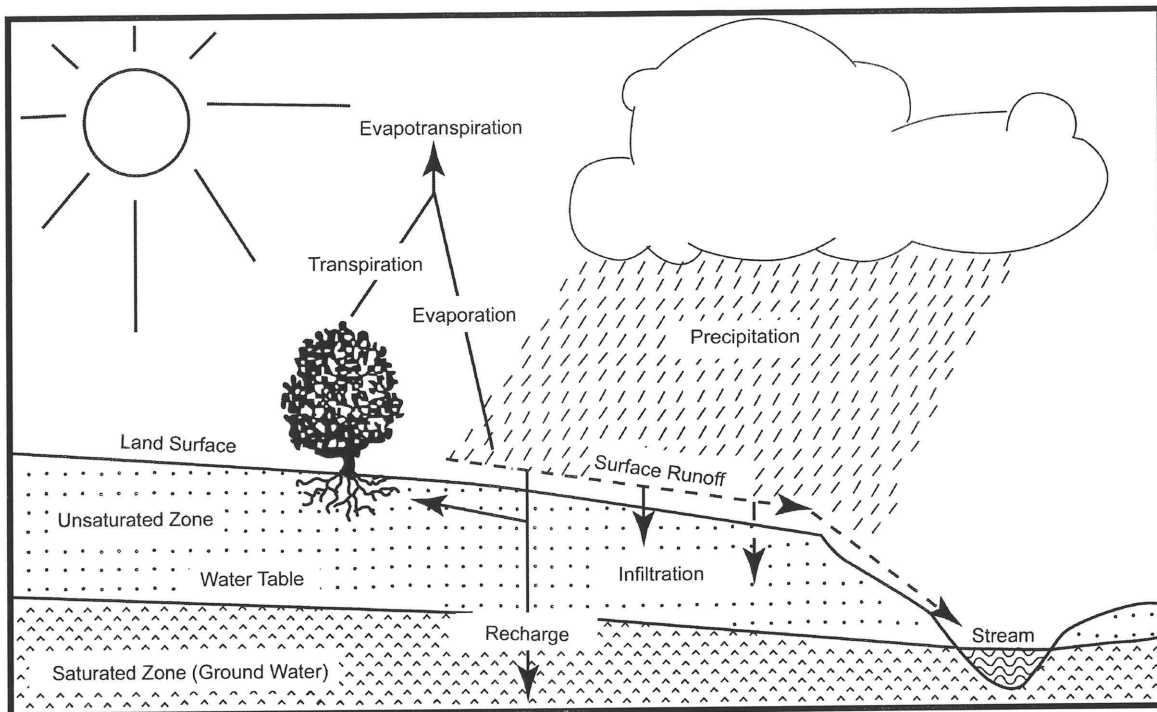
To achieve these goals, this plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan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

## Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (See Figure C-1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

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

Figure C-1: Groundwater Recharge in the Hydrologic Cycle



Source: New Jersey Geological Survey Report GSR-32.

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

## Background

The Township encompasses a 73.17 square mile area in Ocean County, New Jersey. In recent years, the Township has been under significant development pressure. The population of the Township has increased from 8,483 in 1980, to 13,333 in 1990, to 15,945 in 2000, **to 19,834 in 2005 according to Ocean County estimates**. This ~~88~~ **134%** population increase has resulted in considerable demand for new development; changes in the landscape have most likely increased stormwater runoff volumes and pollutant loads to the waterways of the municipality. Figure C-2 illustrates the waterways in the Township. Figure C-3 depicts the Township boundary on the USGS quadrangle maps.

The New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics. Although several minor water bodies transverse throughout the Township including the Giffords Mill Branch, Governors Branch Creek, Log Swamp Branch and Willis Creek, only one (1) is currently monitored by AMNET, the Mill Branch.

This water body is classified as nonimpaired, based on AMNET data. In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. This data shows that the benthic macroinvertebrates of the Mill Branch has not exceeded the state's criteria. This means that this river is a nonimpaired waterway and the NJDEP is not required to develop a Total Maximum Daily Load (TMDL) for this pollutant for the waterway.

**In addition to the AMNET data, the NJDEP, Barnegat Bay Estuary Program (BBEP), and other regulatory agencies collect water quality chemical data on the streams and waterways in and around Little Egg Harbor Township. Also the Little Egg Harbor Environmental Commission through a joint project with Ocean County tests the waters of the Township biweekly during the summer for fecal coliform levels. The NJDEP data is located on Sublist 5 of New Jersey's Integrated List of Waterbodies (<http://www.state.nj.us/dep/wmm/sgwqt/wat/integratedlist/integratedlist2004.html>). It shows that the total coliform levels of the Tuckerton Creek Estuary, and Westecunk Creek Estuary frequently exceeds the state's criteria. This means that this is an impaired waterway and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for this pollutant for the waterway. The NJDEP adopted TMDL for total coliform to address shellfish-impaired waters in the Barnegat Bay, Little Egg Harbor, Jesse Creek, Parker Run Estuary, Tuckerton Creek Estuary, Westecunk Creek Estuary, and Willis Creek Estuary on September 27, 2006. The TMDL established in the report are significantly lower than the existing loads on the Tuckerton Creek Estuary, and Westecunk Creek Estuary and respectively require an 86% and 87% reduction in the current total coliform load. The total coliform load on the Little Egg Harbor, Jesse Creek, Parker Run Estuary, Willis Creek Estuary, and Barnegat Bay in close proximity to Little Egg Harbor Township do not exceed the established TMDL and thus require no reduction.**

A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards, and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

In addition to water quality problems, flooding in the Township of Little Egg Harbor occurs infrequently because of the low-runoff generating character of the soil and the extensive areas of wetlands which absorb the impact of runoff. However, as land is developed, the permeable soils are replaced by impermeable surfaces which increase runoff volumes. All future development in Little Egg Harbor Township 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. **In general non-point source pollution from the Township is collected with stormwater runoff and is a potential source of the coliform impairment to the Tuckerton Creek Estuary and Westecunk Creek Estuary since the stormwater discharges into the waterways. In addition, the large number of water fowl in and around Little Egg Harbor contribute to the coliform levels.**

**In an effort to reduce non-point source pollution, the Township of Little Egg Harbor has taken several actions. First, a pet waste ordinance, wildlife feeding ordinance, yard waste ordinance, illicit connection ordinance, and improper disposal of waste ordinance have been adopted and are being enforced. Standard operating procedures have been developed and implemented for fueling Township vehicles, vehicle maintenance, storage of deicing materials, and street sweeping. In addition, Little Egg Harbor has been labeling the storm drains, training employees, and distributing stormwater brochures in an effort to educate the public of the effects of non-point source pollution. Furthermore, all future development in the Little Egg Harbor 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. Aside from the aforementioned efforts to reduce the daily pollutant loads, Little Egg Harbor will continue to implement the adopted Stormwater Pollution Prevention Plan of the Township.

A map of the groundwater recharge areas is shown in Figure C-4. Wellhead protection areas, also required as part of the Municipal Stormwater Management Plan, are shown in Figure C-5.

## Design and Performance Standards

The Township will adopt the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances will be submitted to the county for review and approval within 24 months of the effective date of the Stormwater Management Rules.

Non-structural measures to be considered first shall include site design and preventive source controls. To confirm the effectiveness of such measures, applicants must verify that control of stormwater quantity impacts as detailed in the Stormwater Management rules. The tests of assuring control of the quantity impacts as detailed in these rules have been incorporated into the Township's Stormwater Ordinance.

The general standards for structural measures are specified in the Stormwater Management rules and have been incorporated into the Township of Little Egg Harbor's Ordinance. These measures shall be incorporated as needed to meet the soil erosion, infiltration and runoff quantity standards included in the Township's Stormwater Ordinance. The design standards for the specific structural stormwater management measures as those included in the New Jersey Stormwater Best Management Practices Manual. Other designs or practices may be used if they are approved by the Soil Conservation District. The design and construction of such facilities must comply with the Soil Erosion and Sediment Control Standards as well as any other applicable state regulation including the Freshwater Wetland Protection Act rules, the Flood Hazard Control rules, the Surface Water Quality Standards and the Dam Safety rules. The requirement to be consistent with all other applicable rules has been included in the Township's Stormwater Ordinance. Stormwater runoff quality controls for total suspended solids and nutrient load shall meet the design and performance standards as specified in the Stormwater Management rules. The minimum design and performance standards for infiltration and groundwater recharge specified in the Stormwater Management Rules have been incorporated into the Township's Stormwater Ordinance and must be met for all applicable development. Consistent with the Stormwater Management Rules, the Ordinance allows for an exemption from this requirement where the applicant can demonstrate that it is not practicable to meet the standards but has taken all possible steps to meet all stormwater management measures.

During construction, Township inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed. Adequate long term operation as well as preventative and corrective maintenance of the



selected stormwater management measures will be ensured by requiring the design engineer to prepare a maintenance plan for its stormwater management facilities incorporated into the design of the major development. The maintenance plan shall have specific preventative maintenance tasks, schedules and cost estimates as well as the responsible party for corrective and preventative maintenance.

Where the Township assumes maintenance responsibility, preventative maintenance shall be performed on a regular basis and will be appropriate for the particular structural management measure being implemented. These maintenance measures shall be in accordance with N.J.A.C. 7:8-5 and may include: periodic inspections, vegetation management, sediment, debris and trash removal and mosquito control. Corrective maintenance shall be performed on an as needed basis for structure repairs or replacements, removal of outlet and pipe blockages, erosion restoration, snow and ice removal, etc. The person or persons responsible for maintenance shall keep a detailed log of all preventative and corrective maintenance for the structural management measures incorporated into the design of the development, including a record of all inspections and work orders. **In the event that a stormwater management facility is in need of maintenance or repair and those responsible for the maintenance fails or refuses to perform such maintenance and repair, the stormwater control ordinance permits the Township to perform the required work and to bill the cost thereof to the responsible person.**

## Plan Consistency

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

**The Township is within Watershed Management Area 13 and TMDL have been developed for the Barnegat Bay, Little Egg Harbor, Jesse Creek, Parker Run Estuary, Tuckerton Creek Estuary, Westecunk Creek Estuary, and Willis Creek Estuary. This plan has taken into account the TMDL developed in the report “Fourteen Total Maximum Daily Loads for Total Coliform to Address Shellfish-Impaired Waters in Watershed Management Area 13 Atlantic Coastal Water Region” as prepared by the NJDEP and approved September 27, 2006 and has developed actions that will potentially reduce the total coliform load on the aforementioned waterways so that the TMDL can be achieved.**

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

The Township's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Township inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District.

**CAFRA and the Township of Little Egg Harbor both comply with the Phase 2 Stormwater Regulations. As such, individuals submitting for a CAFRA permit and requesting a waiver from the performance standards may be required to submit a mitigation plan to the NJDEP even if the Township does not require one.**

**Thirty percent (30%) of Little Egg Harbor is in the Pinelands and as such the Pinelands Commission regulates development on these lands. This Municipal Stormwater Management Plan is consistent with the requirements of the Pinelands Comprehensive Management Plan and will be updated to be consistent with any future updates to the Comprehensive Management Plan. All development within the Pinelands must comply with the alternative design standards and specific mitigation criteria as required by the Pinelands Commission specifically the regulations of the Pinelands Commission N.J.A.C. 7:50-6.84.**

## Nonstructural Stormwater Management Strategies

The Township has reviewed the master plan and ordinances, and has provided a list of the sections in the Township land use and zoning ordinances that are to be modified to incorporate nonstructural stormwater management strategies. These are the ordinances identified for revision. Once the ordinance texts are completed, they will be submitted to the county review agency for review and approval within 24 months of the effective date of the Stormwater Management Rules. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 15 of the Little Egg Harbor Township Code was reviewed with regard to incorporating nonstructural stormwater management strategies. Several amendments were recommended to be made to Chapter 15, entitled "Land Use and Development" to incorporate these strategies, **as outlined in bold below.**

Chapter 15-11.7: Buffers describes that buffers shall be developed in an aesthetic manner for the primary purpose of screening views, providing physical separation and reducing noise and glare from beyond the buffer area. The preservation of all desirable existing vegetation in a buffer area shall be assured through sensitive grading and development practices. ***This section should be amended to include the required use of native vegetation in buffer areas and also to allow buffer areas to be utilized for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces.***

Chapter 15-11.9: Bulk Storage describes that in zoning districts where bulk storage is a permitted accessory use, some minimum requirements include that no bulk storage materials or equipment shall be permitted in any required front yard and all bulk storage

areas shall be screened from public view by means of suitable fencing and/or evergreen plantings as required by the Planning Board. ***This section should be amended to include language that no bulk storage shall be stored within 50 feet of a stormwater management basin/facility.***

Chapter 15-11.10: Floodplain regulations requires that when a development is traversed by a watercourse, surface or underground drainageway or drainage system, channel or stream, there shall be provided and dedicated a drainage right-of-way easement to the municipality conforming substantially to the lines of such watercourse and such further width or construction, or both, as will be adequate to accommodate expected stormwater runoff in the future, based upon reasonable growth potential in the community. ***Language should be added to this section to state that the drainage right-of-way easement should be kept in a pervious state to treat runoff before it reaches the watercourse.***

Chapter 15-12.3: Curbs, nonresidential development describes that concrete curb shall be installed along every street within the development and at intersections with local roads, county roads and state highways, except in the PA, PV and FA Zones, where secondary local streets serving primarily a residential land access function shall be exempt from the curb installation requirement. At locations specified by the approving authority and at all intersections, the curbing shall have a barrier-free design to provide a ramp for bicycles and/or wheelchairs, details for which may be obtained from the Engineer. In certain instances it may be necessary or desirable to construct alternate curb types. For example, these may be required by the Planning Board on the perimeter of channelizing islands or in areas of unusually heavy gutter drainage flow or to preserve vegetation. ***This section should be amended to allow for curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas.***

Chapter 15-12.4: Curbs; residential development describes that curbs, gutters, and shoulders in all residential developments shall be designed and constructed in accordance with Subchapter 4 (Streets and Parking ) of NJAC 5:21. ***This section should be amended to allow for curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas.***

Chapter 15-12.8: Sidewalks, nonresidential development describes that sidewalks shall be required in a non-residential zone except in the PA, PV and FA Zones. Sidewalks shall be at least four inches thick of Class B concrete having a twenty-eight day compressive strength of 4,500 pounds per square inch. ***Language should be added to this section to require developers to design sidewalks to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate.***

Chapter 15-12.8.1: Sidewalks; residential development describes that sidewalks in all residential developments shall be designed and constructed with Subchapter 4 (Streets and Parking) of NJAC 5:21. ***This section should be amended to require developers to design sidewalks to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate.***

Chapter 15-12.12: Drainage requires that all streets shall be provided with storm water inlets and pipes where same may be necessary for proper surface drainage. ***This section should be amended to encourage the use of natural vegetated swales in lieu of inlets and pipes.***

Chapter 15-12.15: Driveways describes the procedure for construction of any new driveway or accessway to any street. ***This section should be amended to allow the use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge.***

Chapter 15-12.16: Off-street parking and loading areas describes that parking areas serving light-duty vehicles shall be constructed with a minimum of two inches of stabilized base course and one and ½ inches of FABC surface course, or an approved equal, and shall be sufficiently drained so as to prevent an accumulation of water on the site. ***This section should be amended to allow for flush curb with curb stop, or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. Also, language should be added to allow for use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers.***

## **Land Use/Build-Out Analysis**

A detailed land use analysis for the Township was conducted assuming full build out under existing zoning for each HUC 14 drainage area in the Township. Figure C-6 illustrates the existing land use in the Township based on the 1995/1997 GIS information from NJDEP. Figure C-7 illustrates the HUC 14s within the Township. The Township zoning map is shown in conjunction with the HUC 14 zones in the Township in order to complete the build out calculations. Figure C-9 illustrates the constrained lands within the Township. The build-out calculations for impervious cover are shown in Table C-1. Table C-2 presents the pollutant loading loads at full build-out by multiplying the build out acreage of each land use for each HUC 14 by the appropriate pollutant loading coefficients by land cover.

## Mitigation Plans

This mitigation plan is provided for a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. **It should be noted that the issuance of a waiver by the NJDEP under a Land Use Permit does not automatically waive the requirement for mitigation to be performed under the municipal review. In addition, all required permits must be obtained by the applicant for a mitigation project prior to municipal approval.** Presented is a hierarchy of options.

**Mitigation for stormwater management deficiencies should be addressed on the site as much as possible before offsite mitigation projects are considered. Any** The mitigation project must be implemented in the same drainage area as the proposed development. **Additionally, any mitigation project generated from stormwater management deficiencies within the Pinelands Area must be implemented within the Pinelands Area as well as within the same drainage area as the parcel proposed for development.** The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

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

### Water Quality

- Retrofit the existing stormwater management facilities at the following facilities to provide the removal of 80 percent of total suspended solids.
  - Municipal Complex at 665 Radio Road
  - Recreation Complex at Sports Complex Drive
  - Community Center on West Calabreeze Way
  - Mystic Island Park
  - Pinelands Regional School
  - Frog Pond Intermediate School
  - George J. Mitchell School
  - Building Department at 7 Gifford Road
  - Municipal Utility Authority Building on Radio Road
- Retrofit the existing stormwater systems that outfall into the lagoons in the Mystic Island section of town to provide the removal of 80 percent of total suspended solids and oils.

- Retrofit the heads on catch basins as specified by the township engineer to comply with NJDEP Phase II regulations.

The municipality may allow a developer to provide funding or partial funding to the municipality for an environmental enhancement project that has been identified in a Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The funding must be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure. **The Township of Little Egg Harbor must expend any contributions from a developer for environmental enhancement projects within five (5) years of receipt of the funds.**



Table C-1  
Little Egg Harbor Township Build-Out Calculations

ID	HUC14 and Zone	Total Area (acres)	Existing Impervious (%)	Existing Impervious (acres)	Constraints [Wetlands, Water, FEMA 100-yr Floodplains] (acres)	Developable Area (acres)	Allowable Impervious (%)	Build-Out Impervious (acres)
<b>02040301130060 - Manahawkin/ Upper Little Egg Harbor tris</b>								
1	GENERAL BUSINESS (GB)	185.45	20.00%	33.09	2.41	129.96	50%	64.98
2	LIGHT INDUSTRIAL (LI)	24.63	20.00%	4.93	0.00	19.71	50%	9.85
3	PRESERVATION AREA (PA)	63.95	10.00%	6.40	15.87	41.69	1%	0.42
4	RESIDENTIAL (R-100)	14.20	70.00%	9.94	0.00	4.26	30%	1.28
5	RESIDENTIAL (R-1A)	197.30	30.00%	59.19	7.58	130.53	20%	26.11
6	RESIDENTIAL (R-200)	37.53	10.00%	3.75	0.00	33.78	20%	6.76
7	RESIDENTIAL (R-3A)	865.81	30.00%	259.74	151.87	454.19	5%	22.71
8	RESIDENTIAL (R-5A)	52.24	0.00%	0.00	0.00	52.24	3%	1.57
<b>TOTALS</b>		<b>1,421.12</b>		<b>377.04</b>	<b>177.73</b>	<b>868.35</b>		<b>133.65</b>
<b>02040301140010 - Lower Little Egg Harbor Bay tris</b>								
9	PRESERVATION AREA (PA)	13.91	0.00%	0.00	7.50	6.40	1%	0.06
<b>TOTALS</b>		<b>13.91</b>		<b>0.00</b>	<b>7.50</b>	<b>6.40</b>		<b>0.06</b>
<b>02040301140020 - Lower Little Egg Harbor Bay tris</b>								
10	GENERAL BUSINESS (GB)	194.95	10.00%	19.49	0.00	175.45	50%	87.73
11	LIGHT INDUSTRIAL (LI)	60.50	5.00%	3.02	0.00	57.47	50%	28.74
12	PRESERVATION AREA (PA)	15.69	5.00%	0.78	14.75	0.15	1%	0.00
13	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	85.75	5.00%	4.29	0.00	81.46	25%	20.36
14	RESIDENTIAL (R-1A)	189.50	30.00%	56.85	13.55	119.11	20%	23.82
15	RESIDENTIAL (R-200)	33.87	30.00%	10.16	0.00	23.71	20%	4.74
16	RESIDENTIAL (R-3A)	79.45	10.00%	7.95	3.85	67.66	5%	3.38
17	RESIDENTIAL (R-5A)	1,111.96	10.00%	111.20	5.52	995.24	3%	29.86
<b>TOTALS</b>		<b>1,771.66</b>		<b>213.74</b>	<b>37.87</b>	<b>1,520.25</b>		<b>198.63</b>
<b>02040301140030 - Lower Little Egg Harbor Bay tris</b>								
18	GENERAL BUSINESS (GB)	362.53	70.00%	253.77	10.09	98.67	50%	49.34
19	HIGHWAY BUSINESS (HB)	75.85	20.00%	15.17	11.10	49.58	50%	24.79
20	MARINE COMMERCIAL (MC)	21.77	1.00%	0.22	21.39	0.16	50%	0.08
21	MULTI-FAMILY RESIDENTIAL (MF)	165.40	80.00%	132.32	14.20	18.88	30%	5.66
22	NEIGHBORHOOD BUSINESS (NB)	17.01	0.00%	0.00	13.86	3.15	50%	1.58
23	PRESERVATION AREA (PA)	8.08	0.00%	0.00	3.48	4.60	1%	0.05
24	PLANNED RETIREMENT COMMUNITY (PRC)	79.14	0.00%	0.00	7.45	71.69	25%	17.92
25	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	149.32	70.00%	104.52	2.22	42.58	25%	10.64
26	RESIDENTIAL (R-100)	490.54	62.50%	306.59	183.49	0.46	30%	0.14
27	RESIDENTIAL (R-150)	405.32	20.00%	81.06	35.39	288.87	30%	86.66
28	RESIDENTIAL (R-1A)	411.92	66.20%	272.69	138.98	0.25	20%	0.05
29	RESIDENTIAL (R-200)	122.30	80.00%	97.84	13.66	10.80	20%	2.16
30	RESIDENTIAL (R-3A)	195.11	50.00%	97.56	18.23	79.32	5%	3.97
31	RESIDENTIAL (R-400)	9.10	80.00%	7.28	0.00	1.82	20%	0.36
32	RESIDENTIAL (R-50)	68.49	0.00%	0.00	68.49	0.00	30%	0.00



Table C-1  
Little Egg Harbor Township Build-Out Calculations

ID	HUC14 and Zone	Total Area (acres)	Existing Impervious (%)	Existing Impervious (acres)	Constraints [Wetlands, Water, FEMA 100-yr Floodplains] (acres)	Developable Area (acres)	Allowable Impervious (%)	Build-Out Impervious (acres)
33	RESIDENTIAL (R-5A)	223.71	0.00%	0.00	182.33	41.38	3%	1.24
34	RESIDENTIAL (R-75)	165.58	83.52%	138.29	27.27	0.02	30%	0.01
35	RESIDENTIAL (R-75A)	28.86	80.00%	23.09	0.72	5.05	30%	1.52
36	WATERFRONT DEVELOPMENT (WFD)	9.48	0.00%	0.00	9.48	0.00	50%	0.00
<b>TOTALS</b>		<b>3,009.51</b>		<b>1,530.40</b>	<b>761.82</b>	<b>717.29</b>		<b>206.17</b>
<b>02040301140040 - Lower Little Egg Harbor Bay tribs</b>								
37	GENERAL BUSINESS (GB)	107.92	70.00%	75.54	19.34	13.03	50%	6.52
38	LIGHT INDUSTRIAL COMMERCIAL (LIC)	59.77	30.00%	17.93	5.65	36.19	50%	18.09
39	MARINE COMMERCIAL (MC)	13.79	0.00%	0.00	13.79	0.00	50%	0.00
40	PLANNED RETIREMENT COMMUNITY (PRC)	57.82	5.00%	2.89	0.93	54.00	25%	13.50
41	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	182.45	30.00%	54.73	0.00	127.71	25%	31.93
42	RESIDENTIAL (R-100)	115.18	10.00%	11.52	19.33	84.33	30%	25.30
43	RESIDENTIAL (R-150)	111.54	0.00%	0.00	46.58	64.96	30%	19.49
44	RESIDENTIAL (R-1A)	210.21	80.00%	168.16	3.33	38.71	20%	7.74
45	RESIDENTIAL (R-200)	28.17	0.00%	0.00	2.83	25.34	20%	5.07
46	RESIDENTIAL (R-3A)	4.30	0.00%	0.00	0.00	4.30	5%	0.22
47	RESIDENTIAL (R-400)	170.14	50.00%	85.07	4.93	80.14	20%	16.03
48	RESIDENTIAL (R-5A)	848.57	0.00%	0.00	839.03	9.54	3%	0.29
49	RESIDENTIAL (R-75)	48.94	33.00%	16.15	32.41	0.38	30%	0.11
50	RESIDENTIAL (R-75A)	0.02	90.00%	0.02	0.00	0.00	30%	0.00
<b>TOTALS</b>		<b>1,958.78</b>		<b>432.01</b>	<b>988.15</b>	<b>538.63</b>		<b>144.29</b>
<b>02040301140050 - Lower Little Egg Harbor Bay tribs</b>								
51	CEMETERY - (C)	0.06	0.00%	0.00	0.06	0.00		0.00
52	GENERAL BUSINESS (GB)	79.80	59.00%	47.08	32.53	0.19	50%	0.09
53	MARINE COMMERCIAL (MC)	23.34	0.00%	0.00	23.34	0.00	50%	0.00
54	MULTI-FAMILY RESIDENTIAL (MF)	17.33	100.00%	17.33	0.00	0.00	30%	0.00
55	RESIDENTIAL (R-100)	63.34	10.00%	6.33	30.03	26.98	30%	8.09
56	RESIDENTIAL (R-150)	1.48	100.00%	1.48	0.00	0.00	30%	0.00
57	RESIDENTIAL (R-50)	795.34	13.00%	103.39	690.57	1.38	30%	0.41
58	RESIDENTIAL (R-5A)	2,434.12	0.00%	0.00	2,424.83	9.29	3%	0.28
59	RESIDENTIAL (R-70)	6.62	0.00%	0.00	6.62	0.00	30%	0.00
60	RESIDENTIAL (R-75)	74.32	90.00%	66.89	5.39	2.04	30%	0.61
61	RESIDENTIAL (R-75A)	237.53	48.90%	116.15	121.17	0.21	30%	0.06
62	SENIOR CITIZEN / GENERAL BUSINESS (SC/GB)	3.96	100.00%	3.96	0.00	0.00	20%	0.00
63	WATERFRONT DEVELOPMENT (WFD)	80.19	0.00%	0.00	80.19	0.00	50%	0.00
<b>TOTALS</b>		<b>3,817.43</b>		<b>362.63</b>	<b>3,414.74</b>	<b>40.07</b>		<b>9.54</b>
<b>02040301140060 - Lower Little Egg Harbor Bay tribs</b>								
64	MARINE COMMERCIAL (MC)	4.75	0.00%	0.00	4.75	0.00	50%	0.00
65	RESIDENTIAL (R-5A)	10,273.63	0.00%	0.00	10,273.63	0.00	3%	0.00



Table C-1  
Little Egg Harbor Township Build-Out Calculations

ID	HUC14 and Zone	Total Area (acres)	Existing Impervious (%)	Existing Impervious (acres)	Constraints [Wetlands, Water, FEMA 100-yr Floodplains] (acres)	Developable Area (acres)	Allowable Impervious (%)	Build-Out Impervious (acres)
<b>TOTALS</b>		<b>10,278.38</b>		<b>0.00</b>	<b>10,278.38</b>	<b>0.00</b>		<b>0.00</b>
<b>02040301200050 - Mullica River (GSP bridge to Turtle Ck)</b>								
66	PRESERVATION AREA (PA)	205.91	10.00%	20.59	0.00	185.32	1%	1.85
67	RESIDENTIAL (R-1A)	34.23	90.00%	30.81	0.00	3.42	20%	0.68
68	RESIDENTIAL (R-3A)	6.06	0.00%	0.00	0.00	6.06	5%	0.30
<b>TOTALS</b>		<b>246.19</b>		<b>51.40</b>	<b>0.00</b>	<b>194.80</b>		<b>2.83</b>
<b>02040301200070- Mullica River (GSP bridge to Turtle Ck)</b>								
69	GENERAL BUSINESS (GB)	98.015	50.00%	49.01	0.07	48.94	50%	24.47
70	HIGHWAY BUSINESS (HB)	96.067	5.00%	4.80	11.23	80.04	50%	40.02
71	MULTI-FAMILY RESIDENTIAL (MF)	0.13	100.00%	0.13	0.00	0.00	30%	0.00
72	PLANNED RETIREMENT COMMUNITY (PRC)	246.369	55.50%	136.73	108.82	0.81	25%	0.20
73	RESIDENTIAL (R-150)	5.026	100.00%	5.03	0.00	0.00	30%	0.00
74	RESIDENTIAL (R-1A)	22.75	50.00%	11.38	0.00	11.38	20%	2.28
75	RESIDENTIAL (R-3A)	7.609	0.00%	0.00	0.00	7.61	5%	0.38
76	RESIDENTIAL (R-50)	0.457	100.00%	0.46	0.46	-0.46	30%	-0.14
77	RESIDENTIAL (R-5A)	1326.788	1.40%	18.58	1,308.13	0.08	3%	0.00
78	RESIDENTIAL (R-75)	38.98	53.00%	20.66	18.25	0.07	30%	0.02
<b>TOTALS</b>		<b>1,842.19</b>		<b>246.77</b>	<b>1,446.95</b>	<b>148.47</b>		<b>67.23</b>
<b>02040301210010 - Great Bay / Mullica R (below GSP bridge)</b>								
79	RESIDENTIAL (R-50)	251.01	1.00%	2.51	248.30	0.19	30%	0.06
80	RESIDENTIAL (R-5A)	1,456.48	0.00%	0.00	1,456.48	0.00	3%	0.00
81	RESIDENTIAL (R-70)	0.22	0.00%	0.00	0.22	0.00	30%	0.00
82	RESIDENTIAL (R-75)	15.12	64.00%	9.67	5.33	0.12	30%	0.04
83	WATERFRONT DEVELOPMENT (WFD)	12.79	0.00%	0.00	12.79	0.00	50%	0.00
<b>TOTALS</b>		<b>1,735.62</b>		<b>12.18</b>	<b>1,723.12</b>	<b>0.31</b>		<b>0.10</b>
<b>02040301210040 - Great Bay / Mullica R (below GSP bridge)</b>								
84	MARINE COMMERCIAL (MC)	13.32	0.00%	0.00	13.32	0.00	50%	0.00
85	RESIDENTIAL (R-100)	19.49	0.00%	0.00	19.49	0.00	30%	0.00
86	RESIDENTIAL (R-50)	97.53	0.00%	0.00	97.53	0.00	30%	0.00
87	RESIDENTIAL (R-5A)	8,581.65	0.00%	0.00	8,581.65	0.00	3%	0.00
88	RESIDENTIAL (R-70)	14.39	0.00%	0.00	14.39	0.00	30%	0.00
89	WATERFRONT DEVELOPMENT (WFD)	35.87	0.00%	0.00	35.87	0.00	50%	0.00
<b>TOTALS</b>		<b>8,762.24</b>		<b>0.00</b>	<b>8,762.24</b>	<b>0.00</b>		<b>0.00</b>



Table C-2  
Little Egg Harbor Township Build-Out Calculations

ID	HUC14 and Zone	Build-Out Zoning	Developable Area (acres)	TP (lbs/ac/yr)	TP (lbs/yr)	TN (lbs/ac/yr)	TN (lbs/yr)	TSS (lbs/ac/yr)	TSS (lbs/yr)
<b>02040301130060 - Manahawkin/ Upper Little Egg Harbor tribs</b>									
1	GENERAL BUSINESS (GB)	Commercial	129.96	2.1	272.92	22	2,859.12	200	25,992.00
2	LIGHT INDUSTRIAL (LI)	Industrial	19.71	1.5	29.57	16	315.36	200	3,942.00
3	PRESERVATION AREA (PA)	Forest/Wetlands	41.69	0.1	4.17	3	125.07	40	1,667.60
4	RESIDENTIAL (R-100)	Residential	4.26	1.4	5.96	15	63.90	140	596.40
5	RESIDENTIAL (R-1A)	Rural Residential	130.53	0.6	78.32	5	652.65	100	13,053.00
6	RESIDENTIAL (R-200)	Residential	33.78	1.4	47.29	15	506.70	140	4,729.20
7	RESIDENTIAL (R-3A)	Rural Residential	454.19	0.6	272.51	5	2,270.95	100	45,419.00
8	RESIDENTIAL (R-5A)	Rural Residential	52.24	0.6	31.34	5	261.20	100	5,224.00
<b>TOTALS</b>					<b>742.08</b>		<b>7,054.95</b>		<b>100,623.20</b>
<b>02040301140010 - Lower Little Egg Harbor Bay tribs</b>									
9	PRESERVATION AREA (PA)	Forest/Wetlands	6.40	0.1	0.64	3	19.20	40	256.00
<b>TOTALS</b>					<b>0.64</b>		<b>19.20</b>		<b>256.00</b>
<b>02040301140020 - Lower Little Egg Harbor Bay tribs</b>									
10	GENERAL BUSINESS (GB)	Commercial	175.45	2.1	368.45	22	3,859.90	200	35,090.00
11	LIGHT INDUSTRIAL (LI)	Industrial	57.47	1.5	86.21	16	919.52	200	11,494.00
12	PRESERVATION AREA (PA)	Forest/Wetlands	0.15	0.1	0.02	3	0.45	40	6.00
13	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	Residential	81.46	1.4	114.04	15	1,221.90	140	11,404.40
14	RESIDENTIAL (R-1A)	Rural Residential	119.11	0.6	71.47	5	595.55	100	11,911.00
15	RESIDENTIAL (R-200)	Residential	23.71	1.4	33.19	15	355.65	140	3,319.40
16	RESIDENTIAL (R-3A)	Rural Residential	67.66	0.6	40.60	5	338.30	100	6,766.00
17	RESIDENTIAL (R-5A)	Rural Residential	995.24	0.6	597.14	5	4,976.20	100	99,524.00
<b>TOTALS</b>					<b>1,311.11</b>		<b>12,267.47</b>		<b>179,514.80</b>
<b>02040301140030 - Lower Little Egg Harbor Bay tribs</b>									
18	GENERAL BUSINESS (GB)	Commercial	98.67	2.1	207.21	22	2,170.74	200	19,734.00
19	HIGHWAY BUSINESS (HB)	Commercial	49.58	2.1	104.12	22	1,090.76	200	9,916.00
20	MARINE COMMERCIAL (MC)	Commercial	0.16	2.1	0.34	22	3.52	200	32.00
21	MULTI-FAMILY RESIDENTIAL (MF)	Residential	18.88	1.4	26.43	15	283.20	140	2,643.20
22	NEIGHBORHOOD BUSINESS (NB)	Commercial	3.15	2.1	6.62	22	69.30	200	630.00
23	PRESERVATION AREA (PA)	Forest/Wetlands	4.60	0.1	0.46	3	13.80	40	184.00
24	PLANNED RETIREMENT COMMUNITY (PRC)	Residential	71.69	1.4	100.37	15	1,075.35	140	10,036.60
25	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	Residential	42.58	1.4	59.61	15	638.70	140	5,961.20
26	RESIDENTIAL (R-100)	Residential	0.46	1.4	0.64	15	6.90	140	64.40
27	RESIDENTIAL (R-150)	Residential	288.87	1.4	404.42	15	4,333.05	140	40,441.80
28	RESIDENTIAL (R-1A)	Rural Residential	0.25	0.6	0.15	5	1.25	100	25.00
29	RESIDENTIAL (R-200)	Residential	10.80	1.4	15.12	15	162.00	140	1,512.00
30	RESIDENTIAL (R-3A)	Rural Residential	79.32	0.6	47.59	5	396.60	100	7,932.00
31	RESIDENTIAL (R-400)	Residential	1.82	1.4	2.55	15	27.30	140	254.80
32	RESIDENTIAL (R-50)	Residential	0.00	1.4	0.00	15	0.00	140	0.00



Table C-2  
Little Egg Harbor Township Build-Out Calculations

ID	HUC14 and Zone	Build-Out Zoning	Developable Area (acres)	TP (lbs/ac/yr)	TP (lbs/yr)	TN (lbs/ac/yr)	TN (lbs/yr)	TSS (lbs/ac/yr)	TSS (lbs/yr)
33	RESIDENTIAL (R-5A)	Rural Residential	41.38	0.6	24.83	5	206.90	100	4,138.00
34	RESIDENTIAL (R-75)	Residential	0.02	1.4	0.03	15	0.30	140	2.80
35	RESIDENTIAL (R-75A)	Residential	5.05	1.4	7.07	15	75.75	140	707.00
36	WATERFRONT DEVELOPMENT (WFD)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
<b>TOTALS</b>					<b>1,007.54</b>		<b>10,555.42</b>		<b>104,214.80</b>
<b>02040301140040 - Lower Little Egg Harbor Bay tribs</b>									
37	GENERAL BUSINESS (GB)	Commercial	13.03	2.1	27.36	22	286.66	200	2,606.00
38	LIGHT INDUSTRIAL COMMERCIAL (LIC)	Industrial	36.19	1.5	54.29	16	579.04	200	7,238.00
39	MARINE COMMERCIAL (MC)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
40	PLANNED RETIREMENT COMMUNITY (PRC)	Residential	54.00	1.4	75.60	15	810.00	140	7,560.00
41	PLANNED RESIDENTIAL DEVELOPMENT (PRD)	Residential	127.71	1.4	178.79	15	1,915.65	140	17,879.40
42	RESIDENTIAL (R-100)	Residential	84.33	1.4	118.06	15	1,264.95	140	11,806.20
43	RESIDENTIAL (R-150)	Residential	64.96	1.4	90.94	15	974.40	140	9,094.40
44	RESIDENTIAL (R-1A)	Rural Residential	38.71	0.6	23.23	5	193.55	100	3,871.00
45	RESIDENTIAL (R-200)	Residential	25.34	1.4	35.48	15	380.10	140	3,547.60
46	RESIDENTIAL (R-3A)	Rural Residential	4.30	0.6	2.58	5	21.50	100	430.00
47	RESIDENTIAL (R-400)	Residential	80.14	1.4	112.20	15	1,202.10	140	11,219.60
48	RESIDENTIAL (R-5A)	Rural Residential	9.54	0.6	5.72	5	47.70	100	954.00
49	RESIDENTIAL (R-75)	Residential	0.38	1.4	0.53	15	5.70	140	53.20
50	RESIDENTIAL (R-75A)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
<b>TOTALS</b>					<b>724.78</b>		<b>7,681.35</b>		<b>76,259.40</b>
<b>02040301140050 - Lower Little Egg Harbor Bay tribs</b>									
51	CEMETARY (C)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
52	GENERAL BUSINESS (GB)	Commercial	0.19	2.1	0.40	22	4.18	200	38.00
53	MARINE COMMERCIAL (MC)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
54	MULTI-FAMILY RESIDENTIAL (MF)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
55	RESIDENTIAL (R-100)	Residential	26.98	1.4	37.77	15	404.70	140	3,777.20
56	RESIDENTIAL (R-150)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
57	RESIDENTIAL (R-50)	Residential	1.38	1.4	1.93	15	20.70	140	193.20
58	RESIDENTIAL (R-5A)	Rural Residential	9.29	0.6	5.57	5	46.45	100	929.00
59	RESIDENTIAL (R-70)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
60	RESIDENTIAL (R-75)	Residential	2.04	1.4	2.86	15	30.60	140	285.60
61	RESIDENTIAL (R-75A)	Residential	0.21	1.4	0.29	15	3.15	140	29.40
62	SENIOR CITIZEN/GENERAL BUSINESS (SC/GB)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
63	WATERFRONT DEVELOPMENT (WFD)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
<b>TOTALS</b>					<b>48.83</b>		<b>509.78</b>		<b>5,252.40</b>
<b>02040301140060 - Lower Little Egg Harbor Bay tribs</b>									
64	MARINE COMMERCIAL (MC)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
65	RESIDENTIAL (R-5A)	Rural Residential	0.00	0.6	0.00	5	0.00	100	0.00



Table C-2  
Little Egg Harbor Township Build-Out Calculations

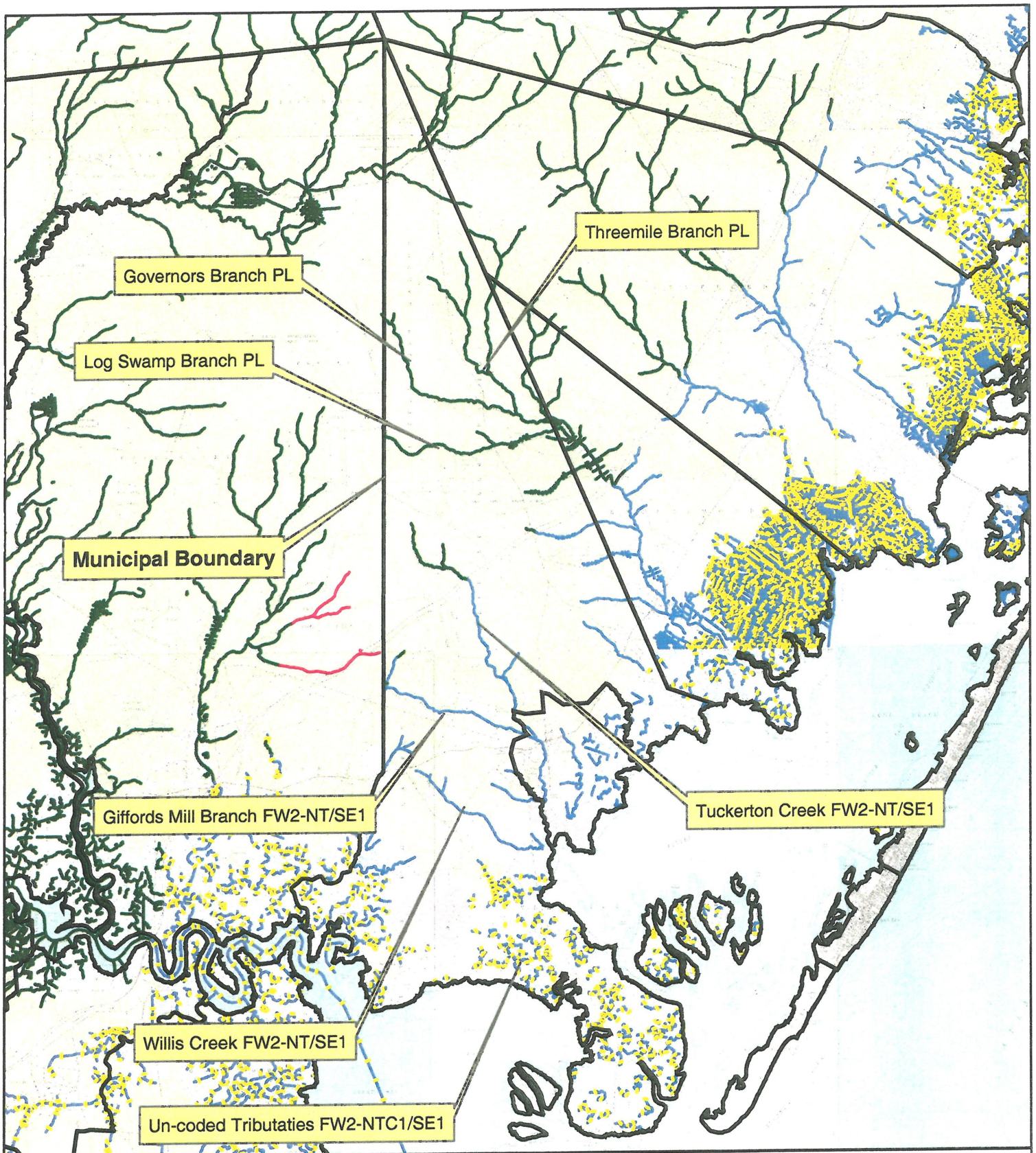
ID	HUC14 and Zone	Build-Out Zoning	Developable Area (acres)	TP (lbs/ac/yr)	TP (lbs/yr)	TN (lbs/ac/yr)	TN (lbs/yr)	TSS (lbs/ac/yr)	TSS (lbs/yr)
<b>TOTALS</b>					<b>0.00</b>		<b>0.00</b>		<b>0.00</b>
<b>02040301200050 - Mullica River (GSP bridge to Turtle Ck)</b>									
66	PRESERVATION AREA (PA)	Forest/Wetlands	185.32	0.1	18.53	3	555.96	40	7,412.80
67	RESIDENTIAL (R-1A)	Rural Residential	3.42	0.6	2.05	5	17.10	100	342.00
68	RESIDENTIAL (R-3A)	Rural Residential	6.06	0.6	3.64	5	30.30	100	606.00
<b>TOTALS</b>					<b>24.22</b>		<b>603.36</b>		<b>8,360.80</b>
<b>02040301200070 - Mullica River (GSP bridge to Turtle Ck)</b>									
69	GENERAL BUSINESS (GB)	Commercial	48.94	2.1	102.77	22	1,076.68	200	9,788.00
70	HIGHWAY BUSINESS (HB)	Commercial	80.04	2.1	168.08	22	1,760.88	200	16,008.00
71	MULTI-FAMILY RESIDENTIAL (MF)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
72	PLANNED RETIREMENT COMMUNITY (PRC)	Residential	0.81	1.4	1.13	15	12.15	140	113.40
73	RESIDENTIAL (R-150)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
74	RESIDENTIAL (R-1A)	Rural Residential	11.38	0.6	6.83	5	56.90	100	1,138.00
75	RESIDENTIAL (R-3A)	Rural Residential	7.61	0.6	4.57	5	38.05	100	761.00
76	RESIDENTIAL (R-50)	Residential	-0.46	1.4	-0.64	15	-6.90	140	-64.40
77	RESIDENTIAL (R-5A)	Rural Residential	0.08	0.6	0.05	5	0.40	100	8.00
78	RESIDENTIAL (R-75)	Residential	0.07	1.4	0.10	15	1.05	140	9.80
<b>TOTALS</b>					<b>282.89</b>		<b>2,839.21</b>		<b>27,761.80</b>
<b>02040301210010 - Great Bay / Mullica R (below GSP bridge)</b>									
79	RESIDENTIAL (R-50)	Residential	0.19	1.4	0.27	15	2.85	140	26.60
80	RESIDENTIAL (R-5A)	Rural Residential	0.00	0.6	0.00	5	0.00	100	0.00
81	RESIDENTIAL (R-70)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
82	RESIDENTIAL (R-75)	Residential	0.12	1.4	0.17	15	1.80	140	16.80
83	WATERFRONT DEVELOPMENT (WFD)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
<b>TOTALS</b>					<b>0.43</b>		<b>4.65</b>		<b>43.40</b>
<b>02040301210040 - Great Bay / Mullica R (below GSP bridge)</b>									
84	MARINE COMMERCIAL (MC)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
85	RESIDENTIAL (R-100)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
86	RESIDENTIAL (R-50)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
87	RESIDENTIAL (R-5A)	Rural Residential	0.00	0.6	0.00	5	0.00	100	0.00
88	RESIDENTIAL (R-70)	Residential	0.00	1.4	0.00	15	0.00	140	0.00
89	WATERFRONT DEVELOPMENT (WFD)	Commercial	0.00	2.1	0.00	22	0.00	200	0.00
<b>TOTALS</b>					<b>0.00</b>		<b>0.00</b>		<b>0.00</b>

N:\project\2004\040427801\regulatory\SWMP\NPS Loads final.xls\Build-Out Calculations



## FIGURES





Data Type	Source	Relevant Time Period
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USGS Quad	USGS	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
C1 Waters	NJDEP	2003

0.00000  
Feet

This map was developed using Geographic Information System digital data developed under the auspices of the Department of Environmental Protection, Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

## Figure C-2

### Township and its Waterways

Township of Little Egg Harbor  
Ocean County, New Jersey



#### Symbol Legend

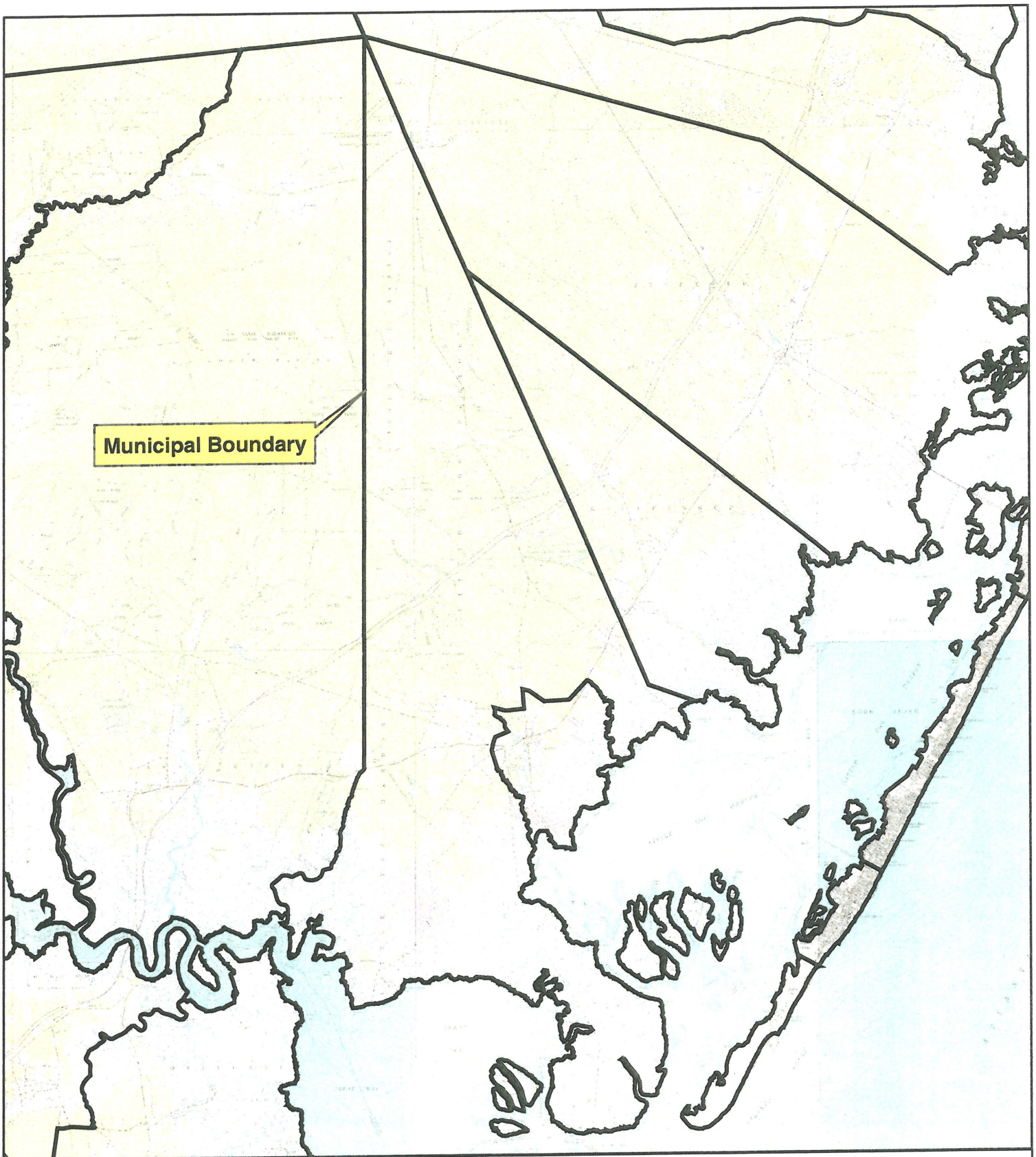
□ Municipal Boundary

#### C1 Waters

— FW2-NT/SE1  
 — FW2-NTC1/SE1  
 — FW1  
 — PL







Data Type	Source	Relevant Time Period
USGS Quadrangles	NJDEP	Feb-Apr 2002
Municipal Boundary		1989

**Figure C-3**

## Township Boundary on USGS Quadrangles

**Township of Little Egg Harbor  
Ocean County, New Jersey**

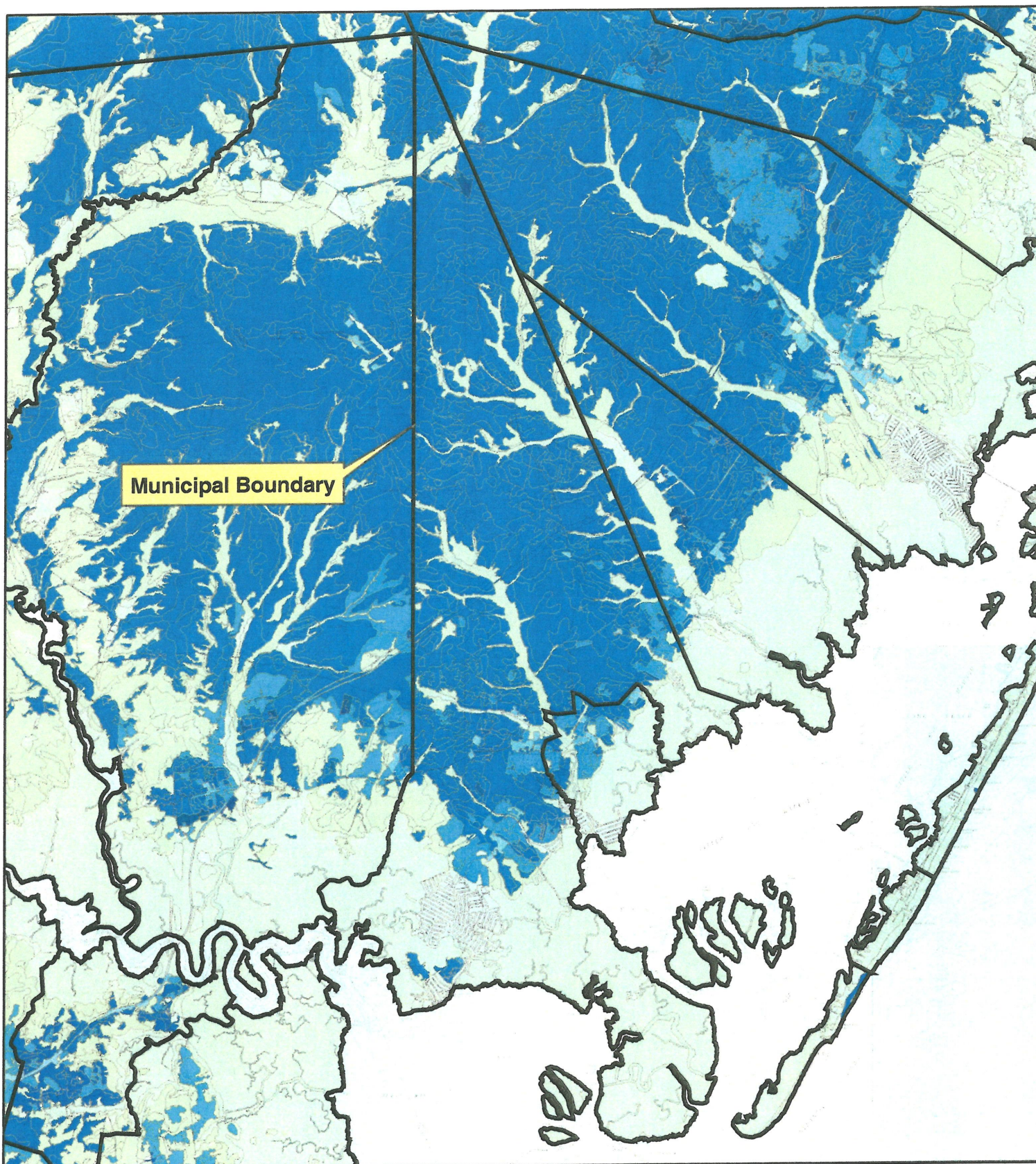


0.0000  
Feet

This map was developed using Geographic Information System digital data developed under the auspices of the Department of Environmental Protection, Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.







Data Type	Source	Relevant Time Period
USGS Quad	USGS	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
Groundwater Recharge Areas	NJDEP	Various

0.0000  
Feet

This map was developed using Geographic Information System digital data developed under the auspices of the Department of Environmental Protection, Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

## Figure C-4

### Groundwater Recharge Areas in the Township

Township of Little Egg Harbor  
Ocean County, New Jersey

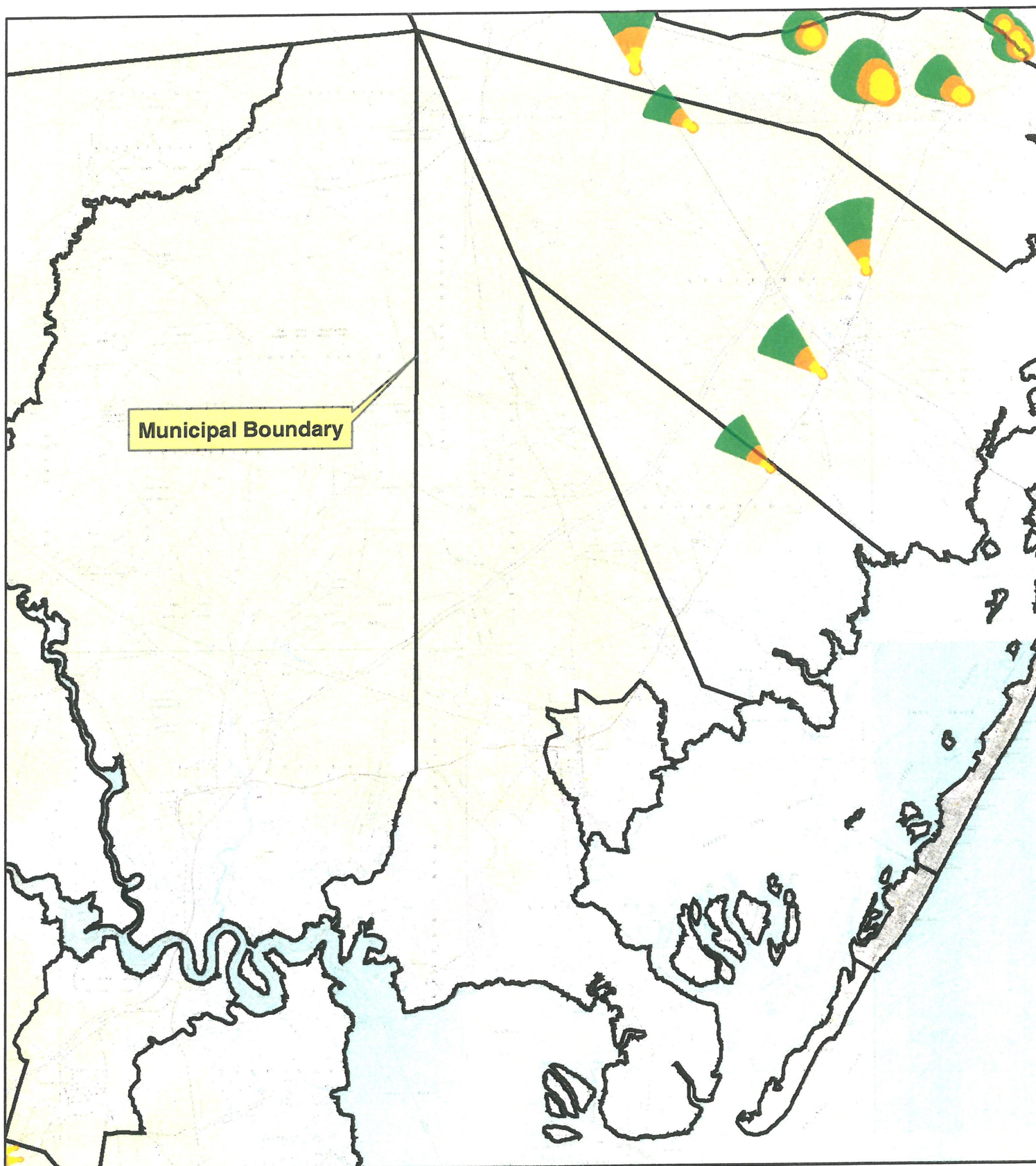


#### Symbol Legend

- Municipal Boundary
- Ground Water Recharge Areas**
- 0.00 in/yr
- 0.01 - 9.00 in/yr
- 9.01 - 12.00 in/yr
- 12.01 - 16.00 in/yr
- 16.01 - 22.74 in/yr







Data Type	Source	Relevant Time Period
USGS Quadrangles	USGS	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
Wellhead Protection Areas	NJDEP	2004 (Updated)

0,00000  
Feet

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## Figure C-5

### Wellhead Protection Areas in the Township

Township of Little Egg Harbor  
Ocean County, New Jersey

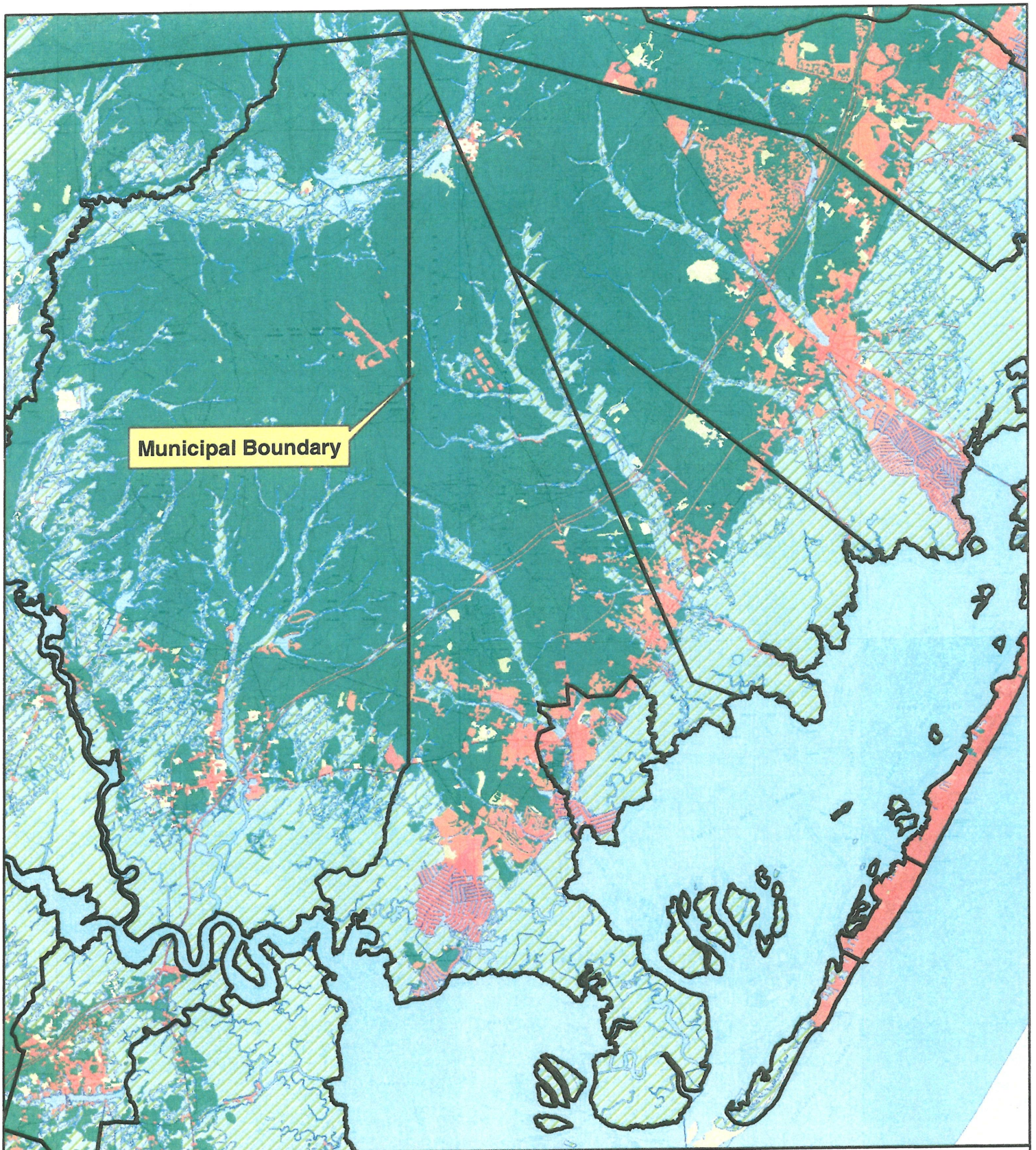


#### Symbol Legend

- Municipal Boundary
- Wellhead Protection Areas**
- 2 Year
- 5 Year
- 12 Year







Data Type	Source	Relevant Time Period
USGS Quad	UGSG	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
Land Use/ Land Cover	NJDEP	1995/1997

0,00000  
Feet

This map was developed using Geographic Information System digital data developed under the auspices of the Department of Environmental Protection, Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

**Figure C-6**  
**Township's Existing**  
**Land Use**  
**Township of Little Egg Harbor**  
**Ocean County, New Jersey**



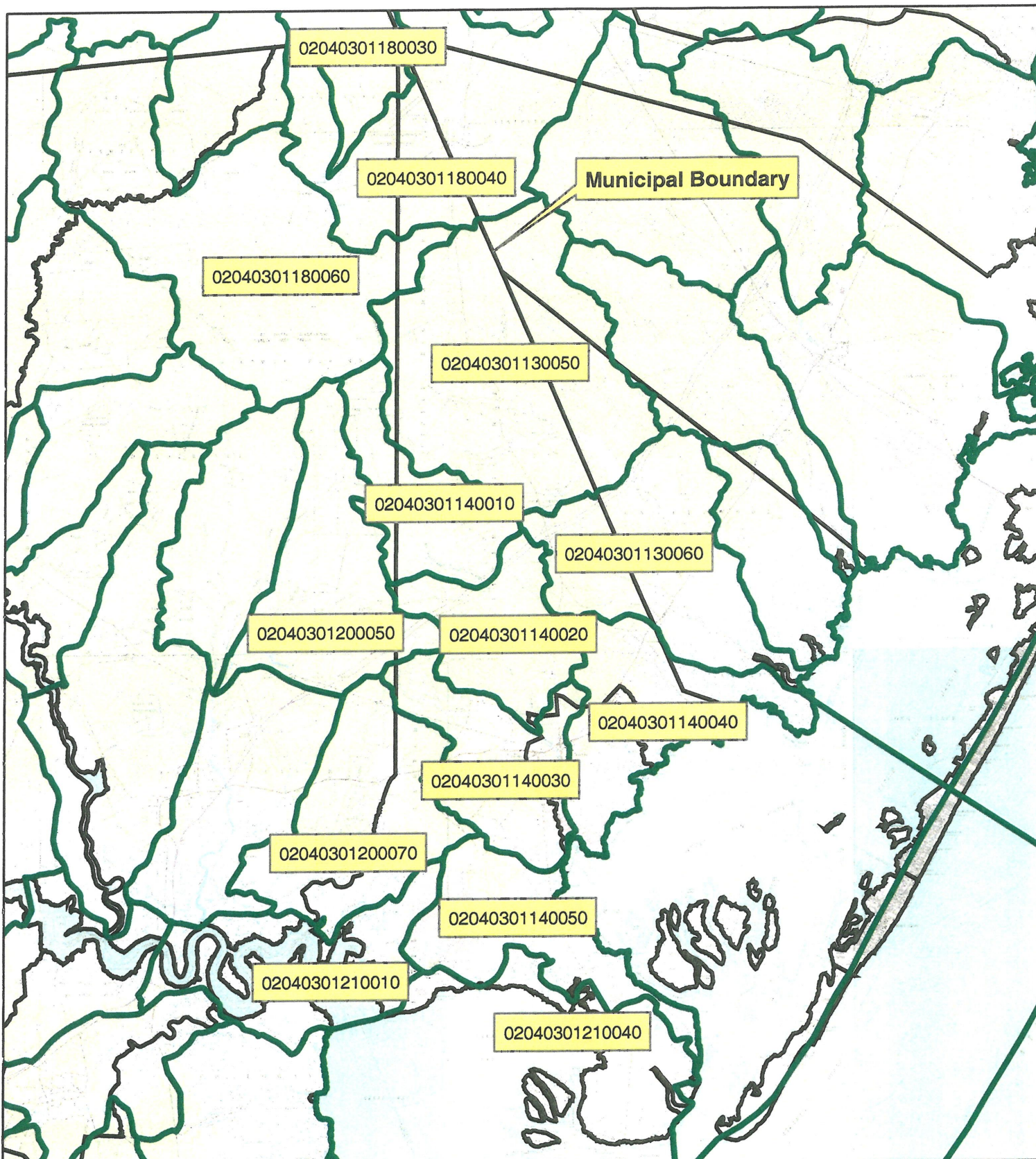
#### Symbol Legend

Municipal Boundary

#### Land Use

- AGRICULTURE
- BARREN LAND
- FOREST
- URBAN
- WATER
- WETLANDS





Data Type	Source	Relevant Time Period
USGS Quad	USGS	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
HUC14	NJDEP	2000

0.0000  
Feet

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## Figure C-7

### Hydrologic Units (HUC14) Within the Township

Township of Little Egg Harbor  
Ocean County, New Jersey

#### Symbol Legend

- NJDEP Huc 14
- Municipal Boundary





# Zoning Map

## Little Egg Harbor Township

Ocean County, New Jersey  
March 10, 2005

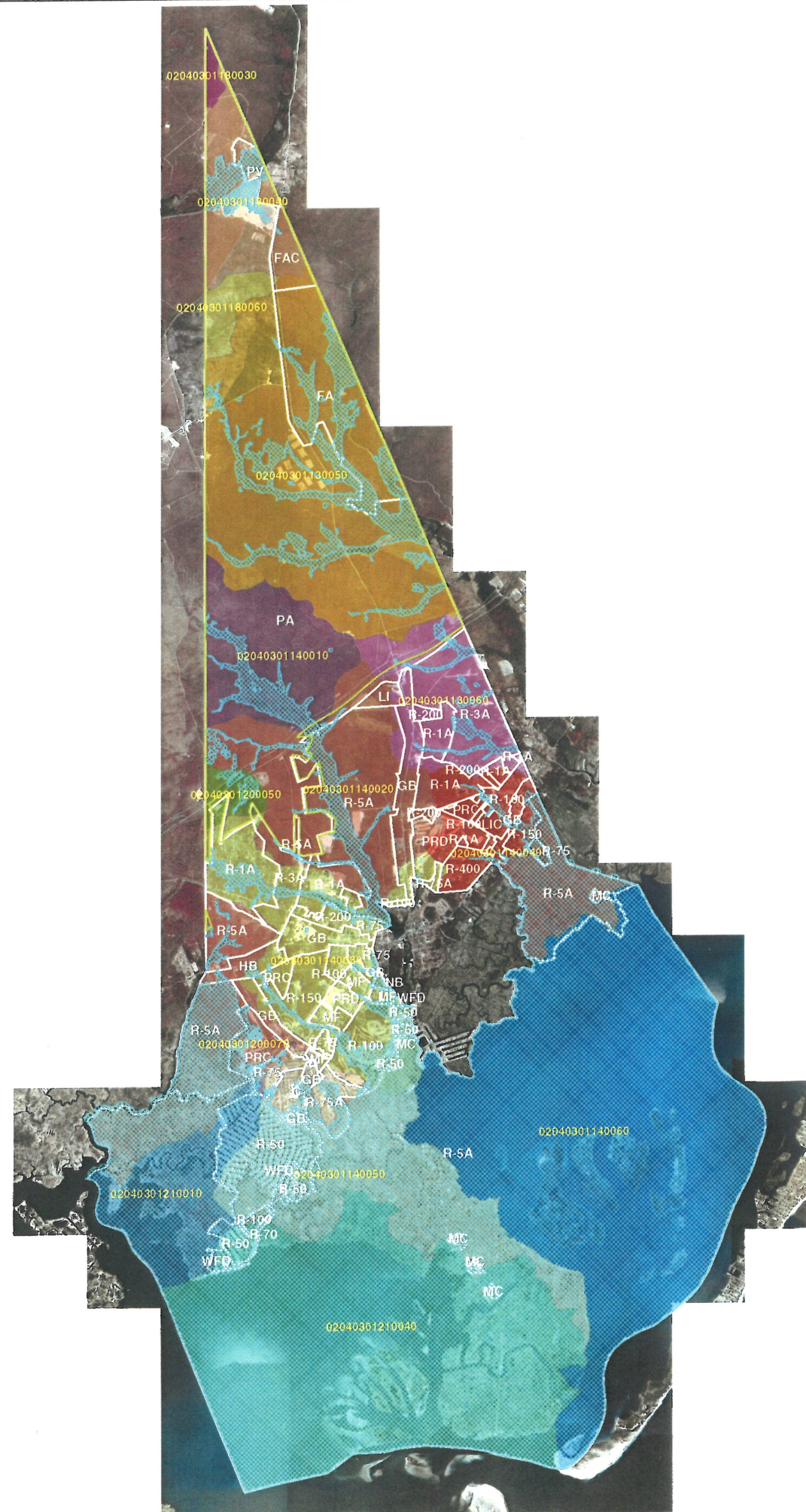
### Legend

Constraints  
Pinelands

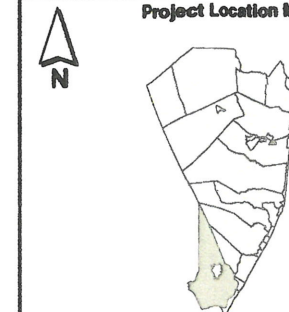
**HUC14**  
 02040301130050 - Manahawick/Upper Little Egg Harbor Tribe  
 02040301130080 - Manahawick/Upper Little Egg Harbor Tribe  
 02040301140010 - Lower Egg Harbor Bay Tribe  
 02040301140020 - Lower Egg Harbor Bay Tribe  
 02040301140030 - Lower Egg Harbor Bay Tribe  
 02040301140040 - Lower Egg Harbor Bay Tribe  
 02040301140050 - Lower Egg Harbor Bay Tribe  
 02040301140060 - Lower Egg Harbor Bay Tribe  
 02040301140080 - Lower Egg Harbor Bay Tribe  
 02040301180030 - Oswego River  
 02040301180040 - Oswego River  
 02040301180050 - Oswego River  
 02040301200050 - Mullica River (GSP bridge to Turtle Ck)  
 02040301200070 - Mullica River (GSP bridge to Turtle Ck)  
 02040301210010 - Great Bay / Mullica R (below GSP bridge)  
 02040301210040 - Great Bay / Mullica R (below GSP bridge)

### ZONING LEGEND

FA FOREST AREA  
 PA PRESERVATION AREA  
 FAC FOREST AREA CLUSTER  
 PV PINELANDS VILLAGE  
 R-3A RESIDENTIAL  
 R-5A RESIDENTIAL  
 R-1A RESIDENTIAL  
 R-400 RESIDENTIAL  
 R-200 RESIDENTIAL  
 R-150 RESIDENTIAL  
 R-100 RESIDENTIAL  
 R-75 RESIDENTIAL  
 R-75A RESIDENTIAL  
 R-70 RESIDENTIAL  
 R-50 RESIDENTIAL  
 PRC PLANNED RETIREMENT COMMUNITY  
 PRD PLANNED RESIDENTIAL DEVELOPMENT  
 MF MULTI-FAMILY RESIDENTIAL  
 NB NEIGHBORHOOD BUSINESS  
 GB GENERAL BUSINESS  
 HB HIGHWAY BUSINESS  
 MC MARINE COMMERCIAL  
 LI LIGHT INDUSTRIAL  
 LC LIGHT INDUSTRIAL / COMMERCIAL  
 SC/GB SENIOR CITIZEN / GENERAL BUSINESS  
 WFD WATERFRONT DEVELOPMENT  
 C CEMETERY



### Project Location Map

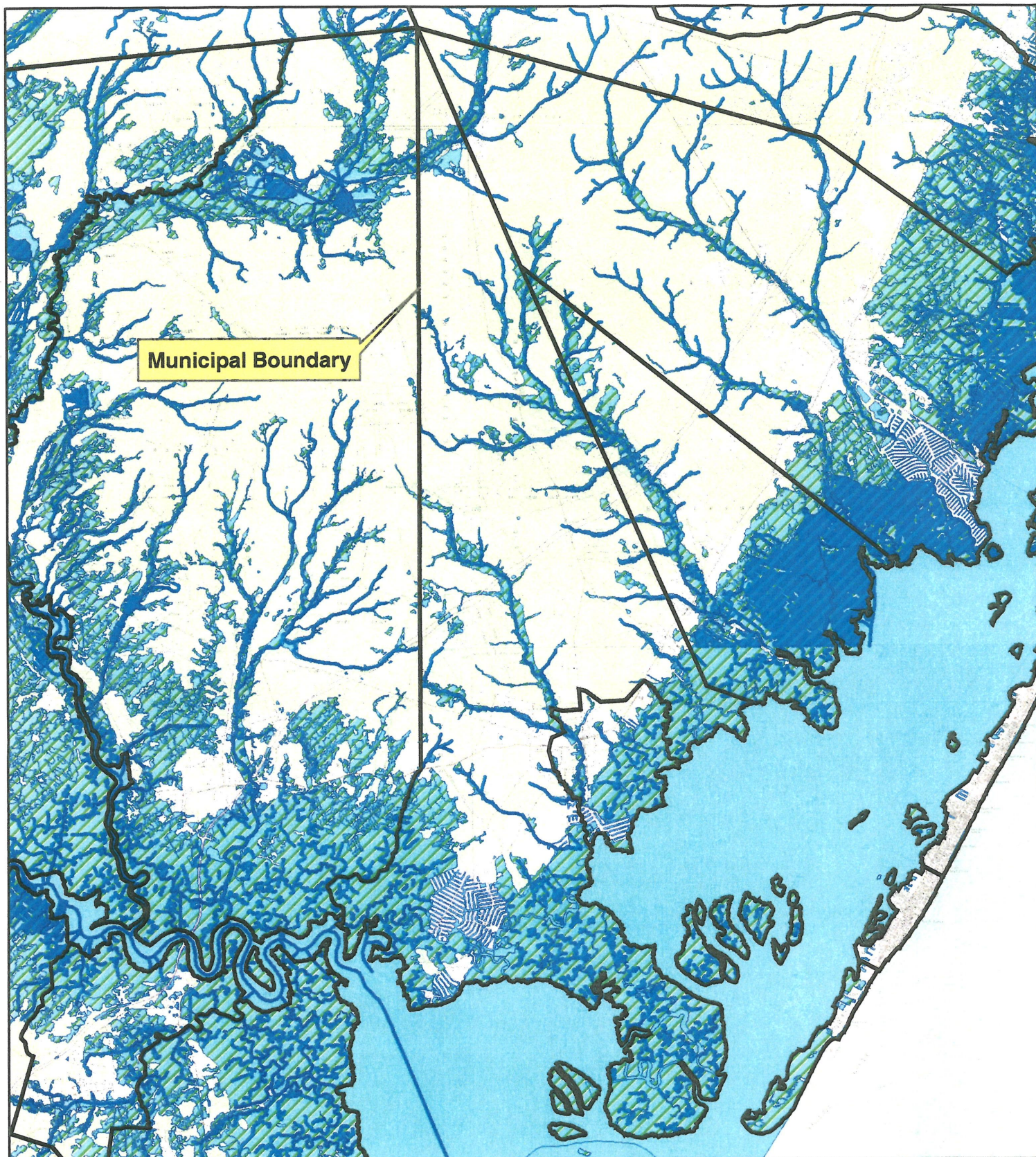


0 1,600 3,200 6,400 Feet  
 1 inch equals 3,200 feet

**SCHOOR DEPALMA**  
 Engineers and Consultants







Data Type	Source	Relevant Time Period
USGS Quad	USGS	Feb-Apr 2002
Municipal Boundary	NJDEP	1989
Wetlands	NJDEP	1986
Lakes	NJDEP	1986
Streams	NJDEP	1998

0, 20, 400  
Feet

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## Figure C-9

### Wetlands and Water Land Uses within the Township

Township of Little Egg Harbor  
Ocean County, New Jersey

#### Symbol Legend

- Streams
- Lakes
- Wetlands
- Municipal Boundary



**SCHOOR DEPALMA**  
Engineers and Consultants