



Consulting, Municipal & Environmental Engineers
Planners ■ Surveyors ■ Landscape Architects

One River Centre - Building Two
331 Newman Springs Road, Red Bank, NJ 07701
Tel: 732.383.1950 ■ Fax: 732.383.1984
www.maserconsulting.com

Stormwater Management Plan

For

**Borough of Oceanport
Monmouth County, New Jersey**

March 2005
Revised October 2008
Revised February 2009
Revised September 2009

05000417

TABLE OF CONTENTS

	<u>Page</u>
Introduction.....	1
MSWMP Goals.....	1
Stormwater Discussion.....	2
Background.....	3
Design and Performance Standards.....	7
Nonstructural Stormwater Management Strategies.....	8
Land Use/Build-Out Analysis.....	11
Mitigation Plans.....	11
Recommended Implementing Stormwater Control Ordinances.....	14

List of Figures

- Figure 1 – Hydrologic Cycle
- Figure 2 – Oceanport Borough Waterways
- Figure 3 – Oceanport Borough USGS Quadrangle Map
- Figure 4 – Oceanport Borough Hydrologic Unit Code 14 (HUC 14) Drainage Areas Map
- Figure 5 – Oceanport Borough 100-Year Frequency Floodplain Map
- Figure 6 – Oceanport Borough Land Use Map
- Figure 7 – Oceanport Borough Zoning Map
- Figure 8 – Oceanport Borough Aerial Photo Map
- Figure 9 – Oceanport Borough Average Annual Groundwater Recharge Map
- Figure 10 – Oceanport Borough Well Head Protection Areas Map
- Figure 11 – Oceanport Borough Wetlands and Water Map

Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for Borough of Oceanport (“the Borough”) 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 or increase impervious surface by ¼ acre or more.. 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.

This plan also addresses the review and update of existing ordinances, the Borough Master Plan, and other planning documents to allow for project designs that include low impact development techniques. In addition, the plan includes 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.

MSWMP 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 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.

Within the Borough’s Master Plan, the following goals were described:

- To require all development to be compatible with soil and land capabilities.

- Prohibit intensive land development in areas which are unsuitable because of wetlands or other physical deterrents to development.

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. Preventive 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. In addition to the MSWMP, the Borough has established a stormwater management program through the implementation of its Stormwater Pollution Prevention Plan (SPPP). The SPPP incorporates existing and new programs to improve stormwater management, promote public education, maximize solids and floatables control, and maintain stormwater facilities. The SPPP and the stormwater management programs will allow the Borough to address stormwater management from existing development.

Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (see Figure 1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. 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.

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

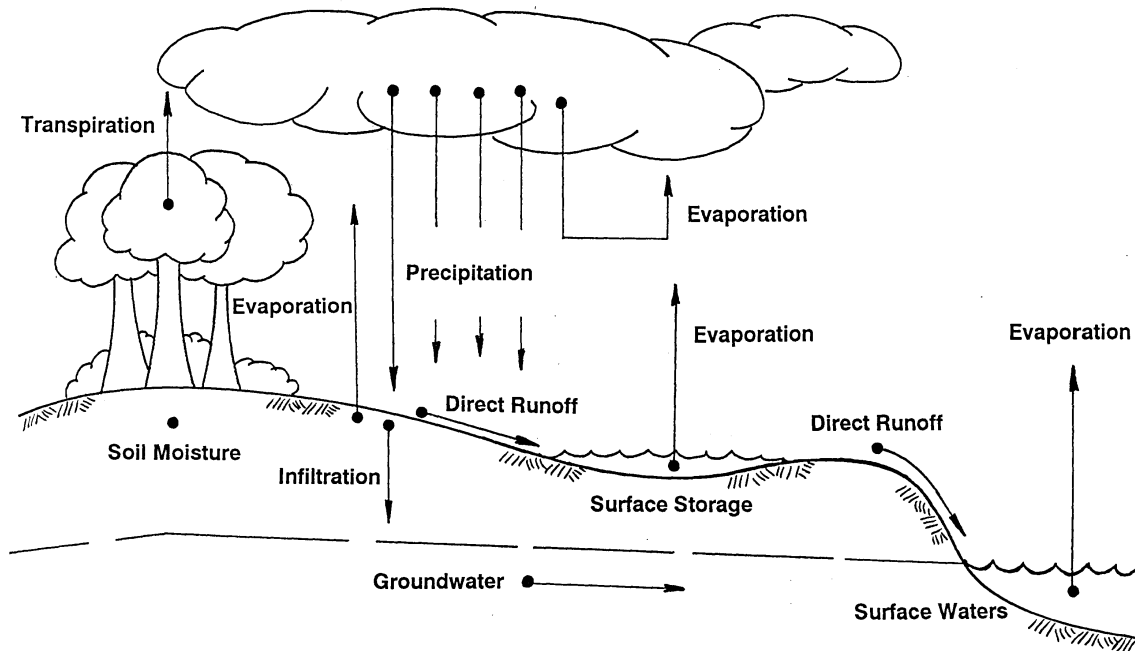


Figure 1 – Hydrologic Cycle
(Source – NJDEP Model Ordinance)

Background

The Borough encompasses 3.10 square miles in eastern portion of Monmouth County, New Jersey. The Borough is located on the Shrewsbury River. The Borough is generally residential community, but does have a mix of commercial and professional properties. The municipality is a popular destination in the summer months due to access to a variety of water related activities. The Borough has no large areas of developable land remaining. The water bodies within and around the Borough are shown in Figure 2 and include the Shrewsbury River, Branchport Creek, Oceanport Creek and Blackberry Creek. The municipal boundary and topography of the Borough is shown in Figure 3.

According to the 2000 census, the Borough has 5,807 residents, which is 339 less than the 1990 census numbers. The population decreased by approximately 6 percent since the 1990 census is contrary to the overall state and county increases of approximately 9 percent respectively over the same period.

The Borough falls in Watershed Management Area 12 which extends from Perth Amboy to Point Pleasant Beach. WMA 12 is comprised of an assemblage of coastal subwatersheds, all or a portion of which fall into 56 municipalities in the Raritan Bay and Atlantic Coastal drainage basins. The Borough contains portions of Hydrologic Unit Code (HUC-14) areas for three (3) areas. These HUC14 areas are shown in Figure 4.

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 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. Based on the AMNET data, there are no sites located in Oceanport. There are a number of estuaries draining into the Shrewsbury River that have been identified by the NJDEP as being somewhat impaired by total fecal coliform and dissolved oxygen. These estuaries have been classified as medium priority.

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 show that the instream total fecal coliform and dissolved oxygen concentrations of a number of estuaries of the Shrewsbury frequently exceed the state's criteria. This means that these streams are impaired waterways and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for these pollutants.

A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source pollution, 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 BMP's.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report

presents the extent to which New Jersey waters are attaining water quality standards, and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDL's are needed.

The Monmouth Park Race Track (MPRT) located in Oceanport, New Jersey, is owned and operated by the New Jersey Sports Exposition Authority (NJSEA). The MPRT maintains thirty-eight (38) barns for approximately one thousand six hundred (1,600) transient thoroughbred race horses from mid April to late November. The MPRT is classified as a Concentrated Animal Feeding Operation (CAFO) per NJAC 7:14A-3.4 because there are more than five hundred (500) horses occupying the facility for over forty-five (45) days per year.

In 2003 the EPA revised the CAFO Regulations resulting in MPRT being out of compliance with the following new requirement outlined in the Technical Guidance Document for CAFO Comprehensive Nutrient Management Planning: "There shall be no discharge from a CAFO to the waters of the State, except when chronic or catastrophic storm events cause an overflow from a facility designed, constructed, and operated to hold process wastewater, process generated wastewater plus stormwater runoff from up to a 25-year, 24-hour storm event."

During 2006 and 2007, facility improvements were undertaken to improve NJDEP Best Management Practices (BMP), to improve the wastewater meter and control system and replace tide-check valves on the stormwater outfalls. In addition, MPRT installed silt barriers at all catch basins near the race track basins and began bi-weekly jetting of the pipes.

MPRT is presently under a draft Administrative Consent Order (ACO) that was issued in 2007 due to a discharge from the site that is alleged to contribute to the extremely high levels of fecal coliform that have been found in Branchport Creek. Further discussion regarding the particulars is not appropriate until the ACO is finalized. Currently NJSEA has retained an engineering firm to develop construction documents that will address the CAFO requirements for stormwater over the next 4-5 years.

In addition to water quality problems, the Borough has flooding problems. Flooding from the Shrewsbury River and its tributaries occurs throughout the northern portion of Borough. Flooding from the Branchport Creek occurs along the southern portion of the Borough. The 100-year floodplain, shown in Figure 5, depicts the floodplain. The Borough is participating with the County to obtain funding for the creation of an All Hazard Mitigation Plan. The Borough will be applying for a grant to utilize a GIS system to identify the extent and magnitude of tidal flooding, location and condition of the existing stormwater systems, and possible mitigation project to minimize and possibly eliminate the flooding to the greatest extent possible.

The Borough is almost fully developed. The land use, based on 1995/1997 aerial photography, is shown in Figure 6. The existing zoning is shown in Figure 7. A current aerial photo with parcel lot lines overlain on it is shown in Figure 8. The vast majority of land is residential urban land with little chance for groundwater recharge. The Borough

has 12 Zoning Districts: Single Family Residential (R-1, R-2, R-3, R-4, R-5, R-7.5), Multi-Family (RM & RMO), Village Center (VC), Professional and Office (B-1), General and Recreational Commercial (B-2), and Industrial (I).

The Fort Monmouth military installation will be closed as a result of the 2005 Base Realignment and Closure (BRAC) decision and the land will be disposed of in coordination with the Local Redevelopment Authority and its adopted zoning, Fort Monmouth Economic Revitalization and Planning Authority (FMERPA), as of September 2011. FMERPA was created in response to this BRAC decision and for the purpose of preparing for the base's closure and planning for its reuse.

The Final Draft Fort Monmouth Reuse and Redevelopment Plan dated June 30, 2008 was approved by the FMERPA Committee for submission to HUD and the Department of Defense. The Borough of Oceanport was represented on the FMERPA Committee by Mayor Mahon. The Borough has no zoning jurisdiction over the approximately 419 acres located within the Borough boundaries. It appears that the draft plan may undergo further revision and is only a concept at this stage. Future Master Plan Reexaminations should address the status of the Fort's Reuse Plan.

The Borough is entirely within the State Plan Designation PA1 (Metropolitan Planning Area) where infiltration requirements are not applicable. A portion of the Borough is designated P2 (County Park). However, groundwater recharge rates for native soils in this area are generally between 1 and 19 inches annually. The average annual groundwater recharge rates are shown graphically in Figure 9.

According to the NJDEP, "A Well Head Protection Area (WHPA) in New Jersey is a map area calculated around a Public Community Water Supply (PCWS) well in New Jersey that delineates the horizontal extent of ground water captured by a well pumping at a specific rate over a two-, five-, and twelve-year period of time for unconfined wells. ... The confined wells have a fifty foot radius delineated around each well serving as the well head protection area to be controlled by the water purveyor in accordance with Safe Drinking Water Regulations (see NJAC 7:10-11.7(b)1)."

WHPA delineations are conducted in response to the Safe Drinking Water Act Amendments of 1986 and 1996 as part of the Source Water Area Protection Program (SWAP). The delineations are the first step in defining the sources of water to a public supply well. Within these areas, potential contamination will be assessed and appropriate monitoring will be undertaken as subsequent phases of the NJDEP SWAP. As shown in Figure 10, the Borough is not in a Tier 3 well-head protection area.

The Borough has a number of wetland areas. These wetland areas, shown in Figure 11, provide flood storage, nonpoint source pollutant removal and habitat for flora and fauna.

Design and Performance Standards

The Borough has adopted the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality 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 were submitted to the County for review and approval within 24 month of the effective date of the Stormwater Management Rules.

Plan Consistency

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

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

The Borough’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, Borough inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District. All pertinent design calculations for stormwater management facilities should adhere to the new design rainfall depths for Monmouth County as revised by the Natural Resources Conservation Service as of September 2004 accordingly:

NRCS 24 Hour Design Storm Rainfall Depths

as Revised September 2004

Storm Period	1 Year		2 Year		5 Year		10 Year		25 Year		50 Year		100 Year	
	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
Monmouth County	2.8	2.9	3.4	3.4	4.4	4.4	5.3	5.2	6.0	6.6	6.5	7.7	7.5	8.9

The Stormwater Management Plan is consistent with and requires all new development and redevelopment plans to comply with the Monmouth County Growth Management Guide’s objective to Water Resources as follows:

1. Encourage the protection and conservation of all water resources.
2. Encourage the protection of potable water resources.
3. Encourage the preservation and improvement of coastal water resources.
4. Promote preservation and improvement of surface water quality.
5. Encourage the preservation and improvement of groundwater quality and quantity.
6. Promote and protection of water-oriented wildlife habitat.
7. Promote the preservation, restoration and enhancement of wetlands and stream corridors in order to protect the adjacent water bodies, such as streams, rivers, lakes, bays and oceans.

This Plan is consistent with the County Growth Management Guide by encouraging the protection of stream corridors, encouraging flood control and groundwater recharge, and through the implementation of the non-structural and structural strategies. This Plan is also consistent with the Monmouth County Growth Management Guide by preserving and protecting valuable natural features within the Borough.

The Borough's Plan is consistent with the plans and policies of the State Redevelopment or Development Plan (SDRP), which was adopted in 2001. The SDRP places the entire Borough in the Metropolitan Planning Area (PA1). According to the State Plan, most of the communities within the PA1 planning area are fully developed or almost fully developed with little vacant land available for new development. This plan is consistent with the State Plan by preserving and protecting the established residential character, preserving and upgrading the existing utility infrastructure, providing adequate open space facilities, and preserving and protecting valuable natural features within the Borough.

Nonstructural Stormwater Management Strategies

The Borough has reviewed the master plan and ordinances, and has provided a list of the sections in the Borough 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. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 55 of the Borough Code, entitled "**Subdivision of Land**", and **Chapter 68**, entitled "**Zoning**" were reviewed in regard to incorporating non-structural stormwater management strategies. Several changes are recommended to these chapters accordingly:

Chapter 55

ARTICLE IV Improvements

Section 55-15. Required Improvements This section of the ordinance lists the requirements and standards of final subdivision approval for the following items:

Item B. Storm Drains indicates, culverts, catch basins and other drainage structures shall be installed in each subdivision in accordance with the map submitted to the Planning Board.

This section should be revised to include language to encourage the use of natural vegetated swales in lieu of inlets and pipes and drainage improvements must conform to the Borough's Stormwater Management Ordinance.

Item E. Sidewalks Indicates where sidewalks are required to be installed, they shall be four (4) feet wide and four (4) inches thick, of concrete, according to specifications required for curbing.

Language should be added to require developers to design sidewalks to discharge stormwater to neighboring lawns and where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate.

Item F Shade Trees. Indicates subdivisions shall be required to plant such number of trees as shall be necessary, when taking into consideration existing trees, to provide at least one (1) tree every fifty (50) feet in front yards. Such trees shall be a minimum of two and one-half (2) inches in diameter, measured one (1) foot from the butt, and shall be of a kind and size approved by the Shade Tree Committee. No tree shall be planted less than twenty-five (25) feet from an existing or proposed street light or street intersection. The subdivider shall be responsible for the care and/or replacement of such trees for a period of three (3) years from the date of approval.

This section should be amended to require the use of native vegetation, which requires less fertilization and watering than non-native species.

Item G. Topsoil protection. Topsoil moved during the course of construction shall be redistributed evenly to all areas of the subdivision and shall be stabilized by seeding or planting. Said seeding and planting must have attained a growth sufficient to stabilize the soil before this section of the ordinance will be considered an being complied with No topsoil shall be removed from the subdivision site

This should be revised to include language requiring developers to comply with the New Jersey Soil Erosion and Sediment Control Standards and outline some general design principles, including: whenever possible, retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and, install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.

ARTICLE V Design Standards

Section 55-23. Lots describes the requirements and principles for the design of individual lots within a subdivision.

The section should be amended to include language referencing the Municipal Stormwater Management Ordinance.

Item “D” indicates where there is a question as to the suitability of a lot or lots for their intended use due to factors such as rock formations, flood conditions, topographic irregularities, erosion conditions, or similar circumstances, the Planning Board may after adequate investigation, withhold approval of such lots.

This section should be amended to include language that encourages such features to be left in its natural state wherever possible. Other existing natural features, such as trees, brooks and drainage channels shall be preserved as well.

Item “E” indicates all grading of the subdivision shall be in accordance with the final plan.

This section should be amended to reference the Borough’s Stormwater Management Ordinance, which should be updated to include all requirements outlined in N.J.A.C. 7:8. Additional language should be included to minimize the disturbance of large tracts of land, which is a key nonstructural stormwater management strategy.

Item “F” indicates only those trees shall be removed as necessary to permit construction of streets, driveways, lawns and dwellings and other authorized structures.

This section should be revised to set out a “critical footprint area” that extends beyond the driveway and building footprint where clearing of trees cannot occur. This would minimize land disturbance, which is a nonstructural stormwater management strategy.

Section 55-24. Public use and service areas indicates the uses of public lands

Item C of this section indicates that natural features such as trees, brooks, hilltops and views shall be preserved whenever possible in designing any subdivision containing such features.

Other existing natural features, such as forested areas, brooks and drainage channels shall be include for preservation as well

Chapter 68

ARTICLE V Supplementary Lot Regulations

The Borough has 8 types of residential districts. Each residential district has the same maximum percent building coverage allocation of 25 percent. These zones range in

minimum lot area of 7,500 sf in the R-7.5 Zone to 5 acres in the RM Multiple-Family Development Zone. The Borough has 4 types of non-residential districts. Each of these districts has a maximum percent building coverage allocation, ranging from 15 percent for the B-2 General Recreation and Commercial District to 30 percent for the I -Industrial District. In addition to the allowable percent building coverage of each zone, the Borough Code should be amended to remind developers that satisfying this requirement does not relieve them of responsibility for complying with the Municipal Stormwater Ordinance. **The Borough should introduce a maximum allowable impervious cover for each zone to determine whether a reduction in impervious cover is appropriate.** The Borough should also evaluate a maximum percent of disturbance for each zone, for those areas identified as natural features in Section 77- 60. Also, if a developer is given a variance to exceed the maximum allowable percent imperviousness, the developer must mitigate the impact of the additional impervious surfaces. This mitigation effort must address water quality, flooding, and groundwater recharge as described in Municipal Stormwater Ordinance.

Land Use/Build-Out Analysis

The Borough of Oceanport has a combined total of less than one square mile of vacant lands; the Borough is not required to do a build-out analysis, based on the 1995 Land Use Land Cover data provided by the NJDEP and the Monmouth County's 2003 Vacant Land inventory. This information represents land use/land cover (LU/LC) as it existed in New Jersey as of 1995. The LU/LC categories were interpreted from 1995 color infrared aerial photography, and mapped in parcels as small as one acre for the entire state. This information was created as part of the 1995/97 Land Use/Land Cover Update Project.

Mitigation Plan

The Borough of Oceanport is unique in that it does not have undeveloped land within the Borough that could be used for mitigation. Therefore, any development applications will have to either provide the appropriate mitigation on site or make provisions off-site in order to provide compliance to the regulations.

This mitigation Plan is provided for proposed development or redevelopment projects that seek a variance or exemption from the stormwater management design and performance standards set forth in this MSWMP and N.J.A.C. 7:8-5.

Mitigation Project Criteria

To grant a variance or exemption from the stormwater regulations, new development and redevelopment plan applications must propose a mitigation project affecting the impacted sensitive receptor and located within the same drainage basin as the proposed development/redevelopment project. Proposed mitigation projects must provide for additional groundwater recharge benefits, protection from stormwater runoff quantity or

quality from previously developed property that does not currently meet the design and performance standards outlined in this MSWMP.

The proposed mitigation project must be completed for the performance standard for which the variance or exemption is requested. Performance standards must ensure the long-term maintenance of the approved mitigation system, which include the maintenance requirements under Chapters 8 and 9 of the NJDEP BMP Manual. The Borough does not anticipate granting variances or exemptions for “major developments” until a detailed mitigation plan is developed and approved. The Borough will consider granting variances or exemptions for “major developments” subject to the following NJDEP and local requirements:

1. The Developer shows that literal compliance is technically impractical or presents a substantial economic hardship.
2. The project must be within the same area that would contribute to the receptor impacted by the project. Note that depending on the specific performance standard waived, the sensitive receptor and/or the contributory area to the receptor may be different. If there are no specific sensitive receptors that would be impacted as the result of the grant of the waiver/exemption, then the location of the mitigation project can be located anywhere within the Borough, and should be selected to provide the most benefit relative to an existing stormwater problem in the same category (quality, quantity or recharge).
3. Legal authorization must be obtained to construct the project at the location selected. This includes the maintenance and any access needs for the project in the future.
4. The project should be close to the location of the original project, and if possible, be located upstream at a similar distance from the identified sensitive receptor. This distance should not be based on actual location, but on a similar hydraulic distance to the sensitive receptor. For example, if the project for which the waiver is obtained discharges to a tributary, but the closest location discharges to the main branch, it may be more beneficial to identify a location discharging to the same tributary.
5. For ease of administration, if sensitive receptors are addressed, it is preferable to have one location that addresses any and all of the performance standards waived, rather than one location for each performance standard.
6. It must be demonstrated that implementation of the mitigation project will result in no adverse impacts to other properties or the environment.

7. Mitigation projects that address stormwater runoff quantity can provide storage for proposed increases in runoff volume, as opposed to a direct peak flow reduction.

Developer Mitigation Plan Requirements

Proposed projects shall have Mitigation Plans submitted to the Borough for review and approval prior to granting final approval for site development. Developers should include the following in a Mitigation Plan:

- Mitigation Project Name, Owner name and address, Developer name and address, Mitigation Project Location, Drainage Area, Cost Estimate;
- Proposed Project and Mitigation Project Descriptions, Proposed mitigation strategy and impact to sensitive receptor. Descriptions should include what is being impacted, how it is impacted, what is being mitigated and how; Mitigation Project Location, Drainage Area, Cost Estimate;
- Sensitive Receptor: Identify the sensitive receptor(s) related to the performance standard from which a waiver is sought. Demonstrate that the mitigation site contributes to the same sensitive receptor;
- Legal authorization required for construction, maintenance and access;
- Responsible Party including: a schedule of required maintenance or maintenance plan, who will perform the maintenance, proposed cost of maintenance, and how it will be funded;
- All other permits required for construction of the mitigation project;
- Cost estimate of construction inspection; and
- Reason a waiver or exemption is required and supporting evidence;

It is anticipated that the majority of the mitigation projects proposed will result in retrofitting/rehabilitation of existing stormwater facilities and natural infrastructures. Any applicant seeking relief via a mitigation option shall provide such relief that is equal to or greater than the parameter being sought for relief. Mitigation options shall be quantifiable in order to be compared to that being substandard on the proposed site. More detailed information may be available from the Borough or the Borough Engineer's office.

It is the developer's responsibility to provide a detailed study of any proposed mitigation project, and provide the Borough with a proposed mitigation plan for review and approval. Mitigation projects should meet all applicable safety, design and performance

standards. Approval of the mitigation option will be under the sole discretion of the Board based on calculations provided by the applicant and reviewed by the Board's professional consultants.

Recommended Implementing Stormwater Control Ordinances

The Borough has implemented the following ordinances:

- Illicit Connection Ordinance
- Improper Waste Disposal Ordinance
- Litter Ordinance
- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Yard Waste Ordinance
- The Stormwater Control Ordinance shall be implemented in accordance with NJAC 7:8-4.