PLANNING BOARD

BOROUGH OF METUCHEN, NEW JERSEY

RESOLUTION

WHEREAS, N.J.S.A. 40:55D-93 and 40:55D-94 require every Municipality in the State of New Jersey to prepare a storm water management plan and that the storm water management plan be an integral part of the Master Plan; and

WHEREAS, a storm water management plan as a proposed amendment to the Master Plan has been prepared by Maser Consulting, P.A. (the "Amendment") to address storm water management in the Borough as described in the Amendment; and

WHEREAS, The Planning Board has reviewed the Amendment for adoption as part of the Utility Service Plan Elements of the Master Plan; and

WHEREAS, the Board held a public hearing on April 7, 2005, having filed proper proof of publication in compliance with statutory and ordinance requirements;

NOW THEREFORE, be it

RESOLVED, by the Planning Board of the Borough of Metuchen, County of Middlesex and State of New Jersey, that the Amendment be and is hereby adopted and incorporated as part of the Utility Service Plan Elements of the Master Plan.

I hereby certify that the foregoing is a true copy of a Resolution prepared to reflect the action taken by the Planning Board of the Borough of Metuchen, on April 7, 2005.

Sharon Hollis

SHARON HOLLIS, Secretary

PLANNING BOARD

BOROUGH OF METUCHEN, NEW JERSEY

RESOLUTION

WHEREAS, N.J.S.A. 40:55D-93 and 40:55D-94 require every Municipality in the State of New Jersey to prepare a stormwater management plan and that the storm water management plan be an integral part of the Master Plan; and

WHEREAS, a stormwater management plan dated March 2005 as a proposed amendment to the Master Plan was prepared by Maser Consulting, P.A. (the "Amendment") to address stormwater management in the Borough as described in the Amendment; and

WHEREAS, the Board held a public hearing on April 7, 2005, having filed proper proof of publication in compliance with statutory and ordinance requirements and the Amendment was by resolution adopted and incorporated as part of the Utility Service Plan Elements of the Master Plan; and

WHEREAS, a revised stormwater management plan dated August 2005 as a proposed amendment to the Master Plan was prepared by Maser Consulting, P.A. to address stormwater management in the Borough; and

WHEREAS, The Planning Board has reviewed the revised stormwater management plan dated August 2005 for adoption as part of the Utility Service Plan Elements of the Master Plan; and

WHEREAS, the Board held a public hearing on September 15, 2005, having filed proper proof of publication in compliance with statutory and ordinance requirements;

NOW THEREFORE, be it

RESOLVED, by the Planning Board of the Borough of Metuchen, County of Middlesex and State of New Jersey, that the revised stormwater management plan dated August 2005 prepared by Maser Consulting, P.A. is hereby adopted and incorporated as part of the Utility Service Plan Elements of the Master Plan.

I hereby certify that the foregoing is a true copy of a Resolution prepared to reflect the action taken by the Planning Board of the Borough of Metuchen, on September 15, 2005.

Sharon Hollis

SHARON HOLLIS, Secretary

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Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for Metuchen Borough ("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. 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.

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.

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 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 flood for the aquatic community.

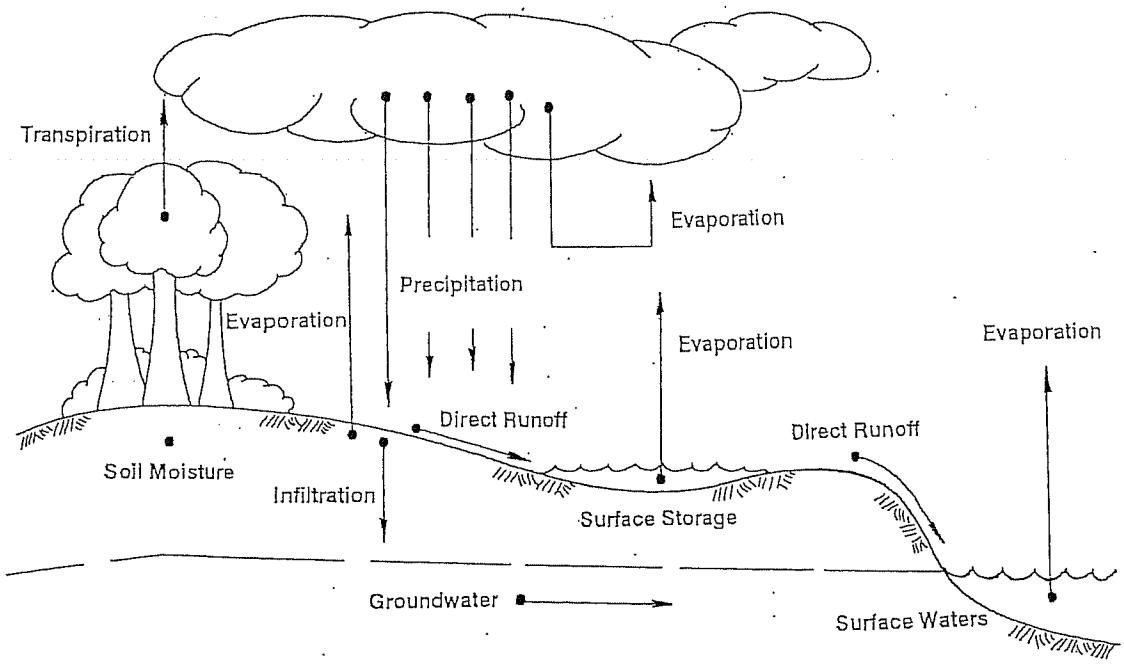

Figure 1 – Hydrologic Cycle

Background

The Borough encompasses 2.79 square miles in northern portion of Middlesex County and is completely surrounded by the Township of Edison. The Borough "enjoys a mix of commercial, professional and residential development while also enjoying the ambiance of a small town with a main street setting." The Borough is an older community and has no large areas of undeveloped area remaining.

According to the 2000 census, the Borough has 12,840 residents. The population has increased by less than 1 percent since the 1990 census. This population increase is far less than the overall state and county increases of approximately 9 and 24 percent respectively over the same period. The Borough has few streams, but does experience some flooding on Main Street at the Train overpass as well as in and around the floodplain of Myrtle Field. Figure 2, illustrates the waterways in the Township. Figure 3 depicts the Borough boundary with topography on the USGS quadrangle maps.

The Borough is situated north of the main stem of the Raritan River in the Raritan Basin. The municipality is located in Watershed Management Area (WMA 9) - Lower Raritan, South River, and Lawrence River as well as (WMA 7) – Arthur Kill. The Borough contains portions of Hydrologic Unit Code (HUC) areas three (3) areas as shown on Figure 4.

The Hydrologic Unit system is a standard watershed classification system developed by the USGS in the mid 1970s. Hydrologic units are watershed boundaries organized in nested hierarchy by size. The United States is divided and sub-divided into successively

smaller hydrologic units, which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The US is divided into 21 regions that have 2 digit codes (HUC 2 areas) and New Jersey is located in the Mid-Atlantic Region (HUC2=02). These 22 regions are divided into 222 subregions (HUC 4 areas) where New Jersey is subdivided into three of these subregions. These subregions are further broken down into 12 HUC8 regional watersheds within New Jersey. T There are 921 HUC 14 sub watersheds in New Jersey that range in size from .1 to 42 square miles. The average size of a HUC 14 is 8.5 square miles. There are 150 HUC 11 watersheds in New Jersey ranging in size from .1 to 143 square miles with an average size of 51.9 square miles. The two HUC14 areas within the Borough 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 impaired water bodies bordering the Borough The closest AMNET site is located just north of I-287 exit 10 on the Raritan River (AN0428).

In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. These data show that the instream total phosphorus, total suspended solids, arsenic and benzene concentrations of the Raritan River frequently exceed the state's criteria. This means that the river is an impaired waterway 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 water body 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 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 Mill Brook is not listed on the 2004 proposed Sublist 5 (March 1, 2004), thus not requiring the preparation of a TMDL or any other action.

The Borough has occasional flooding problems affects a few properties in the northwestern portion of the municipality. This is associated with a portion of the Bound Brook located in Edison. The 100-year floodplain, shown in Figure 5, depicts the Bound Brook floodplains.

The Borough is fully developed. The existing 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 urban land with little chance for groundwater recharge. The Borough is entirely within the State Plan Designation PA1 Metropolitan Planning Area where infiltration requirements are not applicable. 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 SWA. As shown in Figure 10, the Borough is not in a tier 3 well head protection area.

There are a number of wetland areas located within the Borough. These wetland areas, shown in Figure 11, provide flood storage, nonpoint pollutant removal and habitat for flora and fauna.

Design and Performance Standards

The Borough 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 month of the effective date of the Stormwater Management Rules.

Plan Consistency

The Borough is within the Raritan Basin Watershed Management Plan and much information on the basin and about its characteristics has been developed as part of the Raritan Plan. Additional information concerning this plan can be found at: http://www.raritanbasin.org. The Borough supports the Goals, Objectives and Strategies of the Raritan Basin Watershed Management Plan as follows:

- No degradation or destruction of headwaters in the North and South Branch Raritan Watershed Management Area, so that these areas and their associated water resources will be protected now and into the future.
- The quality of stormwater runoff will not cause or contribute to a violation of surface water quality standards.
- No degradation or destruction of headwater in the WMA, so that these areas and their associated water resources will be protected now and into the future.
- Restoration and enhancement of degraded headwaters.

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.

A Regional Stormwater Management Plan being prepared for the Robinson Branch of the Rahway River. The Regional Stormwater Management Plan has not been completed nor have any TMDL's been approved. When the RSWMPs is developed and approved, this Municipal Stormwater Management Plan will be updated to be consistent. The Municipal Stormwater Management Plan will also be updated to address approved TMDL's from the Robinson Branch of the Rahway River or any other impaired waterway directly affected by the municipality.

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 Freehold Soil Conservation District.

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 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 110 of the Borough Code, entitled "Land Development", was reviewed in regard to incorporating non-structural stormwater management strategies. Several changes are recommended to Part IV of this chapter, entitled "Development and Design Standards" to incorporate these strategies.

- The protection of areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss.
- Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces
- Maximize the protection of natural drainage features and vegetation
- Minimize the decrease in the pre-construction "time of concentration."
- Minimize land disturbance including clearing and grading.
- Minimize soil compaction.
- Provide low maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers, and pesticides.
- Provide vegetated open-channel conveyance systems discharge into and through stable vegetated areas.
- Provide preventative source controls.

The following sections shall be reviewed for consistency:

ARTICLE 24 Flood Damage Prevention describes the methods for promoting the public health, safety and general welfare while minimize public and private losses due to flood conditions in areas by specific design provisions.

This article should be revised to incorporate the goals of this MSWMP in the section outlining the Methods for reducing losses. Additional language should be added to encourage the used of natural vegetated swales in lieu of inlets and pipes.

ARTICLE 33 Curb Design Standards requires that concrete curb designed to define the sides of streets, driveways, parking lots and loading areas. Such curbing should direct surface water runoff along, on and/or across paved surfaces to drainage facilities. The section further indicates that the area located between curbs and sidewalks or walkways shall be either planted with grass or another type of ground cover plant material Planting and in no instance shall a planting strip be permitted to be covered with asphalt or loose stones of any variety.

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.

ARTICLE 34 Sidewalk and Walkway Design Standards describes the standards to be used for the preparation and review of development plans that involves the construction of a new public sidewalk or private walkways.

Public sidewalks are required along all public streets. The location and width of sidewalks shall be consistent with the location and width of existing sidewalks adjacent to or near the site to be developed, but in no case shall be less than four feet in width

Private walkways shall be located on a site to facilitate pedestrian access between the public sidewalk, buildings, parking lots and other facilities and to provide for pedestrian circulation generally within a site, Where walkways abut the ends of parking spaces and wheel stops are not provided, the minimum width of such walkways shall be a minimum of five feet in order to provide for the front ends of vehicles to overhang onto such walkways with appropriate space remaining for the passage of pedestrians

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.

ARTICLE 35 Driveway Design Standards describes the standards to be used for the preparation and review of development plans that involves the construction of a new drive way or the expansion or repair of an existing driveway.

This section should be amended to allow the use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge. Design of such driveways should be directed to discharge stormwater to lawns or vegetative swales, where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate.

ARTICLE 36 Parking Lot and Loading Area Design Standards details off-street parking and loading requirements. This section also provides guidance on the minimum parking space requirements. These requirements are based on the number of dwelling units and/or gross floor area. The section allows the Board to grant waivers to permit a lesser number of spaces, provided that provisions are made for construction of future spaces, shared parking arrangements, or off-site parking facilities.

This section should be amended to allow pervious paving to be used in areas to provide overflow parking, vertical parking structure and smaller parking stall for compact cars The design requirements should be expanded to include the use of flush curb with curb stop, or curbing with curb cuts to encourage . 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.

ARTICLE 41 Clearing and Grading Standards describes the standards to be used for the preparation and review of development plans that involves the clearing, grading or regrading of land.

This section should be amended to provide more restrictions on the disruption of existing natural features, such as trees, brooks, swamps, hilltops, and views, be preserved whenever possible. Requirements to preserve selected trees to enhance soil stability and landscaped treatment should be implemented. The identification and preservation of forested area should also be addressed, to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees. A percentage of forested areas should be protected from disturbance in order to limit the amount of land disturbance, discourage unnecessary tree removal and limit the possibilities of clear cutting.

ARTICLE 42 Drainage Standards addresses stormwater volume and time of concentration for various storm events.

This section should be amended to reference Section 25-12, the Borough's Stormwater Management Ordinance, which should be updated to include all requirements outlined in N.J.A.C. 7:8. These changes were presented earlier in this document.

ARTICLE 43 Vegetation Preservation and Protection Standards restricts to the greatest extent possible, existing vegetation on the tract in good health and condition shall be preserved. Particular consideration shall be given to individual trees with a diameter at breast height of four inches or greater, stands of trees and mature shrubs and hedgerows located within yard setback and buffer areas and greater than 10 feet from a building foundation The placement of buildings, driveways, parking lots and other improvements shall take into consideration the location of existing vegetation and attempt to preserve such wherever possible.

This complies with minimizing land disturbance, which is a nonstructural stormwater management strategy. This sections should be amended to require the identification of forested areas, and that a percentage of forested areas should be protected from disturbance in order to limit the amount of land disturbance, discourage unnecessary tree removal and limit the possibilities of clear cutting.

ARTICLE 44 Buffering and Screening Guidelines and Standards provides the standards for buffering and screening associated with development. Buffers are required to minimize the impacts of noise, glare, vibration, vehicular traffic, pedestrian activity and other potential nuisances. Buffers are required for residential uses and districts, driveways and parking lots, loading areas, disposal and collection areas, etc.

Although the section sets the requirements for the height, width and type of screening, the landscape requirements do not recommend the use of native vegetation. The language of this section should be amended to require the use of native vegetation, which requires less fertilization and watering than non-native species. Additionally, language should be included to allow buffer areas to be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces.

ARTICLE 45 Landscaping Design Guidelines and Standards describes guidelines used for the preparation and review of landscaping for any development plan.

Language should be added to this section encouraging the use of native species.

ARTICLE 46 Shade Tree Standards describes guidelines used for the location and spacing shade trees. The section also indicates approval of a major or minor subdivision or a site plan that requires the removal of trees shall include an application for a tree removal permit. The requirements for such a permit are outlined in this section and include the following standards: site and tree protection,. tree replacement and reforestation, tree replacement schedule and application review standards.

No more than sixty (60) percent of existing tree canopy within the property boundaries shall be removed. The location of the remaining forty (40) percent of the tree canopy to be preserved shall be noted on the landscape plan. Steep slopes limits of disturbance shall

supersede this section when appropriate. This complies with minimizing land disturbance, which is a nonstructural stormwater management strategy.

Language should be added to this section requiring the shade trees to be planted shall be of native species.

ARTICLE 60 Off-tract Improvements describes the responsibility of the developer for essential off-site improvements created by a development and where the Board determines that properties outside the development will also be benefited by the improvement.

Language should be added to this section to require that any off-site and off-tract stormwater management and drainage improvements must conform to the "Drainage Standards" described in this plan and provided in ARTICLE 42 of the Borough Code.

Several changes should be made to the Borough Code entitled "Districts and Standards." The Borough has 9 types of residential districts. Each district has a maximum percent impervious surface allocation, ranging from 30 to 40 percent. The R5 District has a minimum lot size of five acres for Townhouses and or apartments, while the R2 District has a minimum lot size of 7,500 square feet for single-family homes. The Borough has 6 types of nonresidential districts. Each of these districts has a maximum percent impervious surface allocation, ranging from 30 percent for the Gateway Development District to 70 percent for the B1, B2 and D1 Districts. Although each zone has a maximum allowable percent impervious surface, the Borough Code should be amended to remind developers that satisfying the percent impervious requirements does not relieve them of responsibility for complying with the Design and Performance Standards for Stormwater Management Measures contained in ARTICLE 42 Drainage Standards. The Borough should evaluate the maximum allowable impervious cover for each zone to determine whether a reduction in impervious cover is appropriate. Also, if a developer is given a variance to exceed the maximum allowable percent imperviousness, the developer should mitigate the impact of the additional impervious surfaces. This mitigation effort must address water quality, flooding, and groundwater recharge included in this Municipal Stormwater Management Plan.

All levels of the Borough's government should identify a reasonable and efficient funding mechanism for implementation of stormwater management. The Borough should also take steps to improve the public education aspects of the Municipal Stormwater Management Plan. Public awareness of the impacts of major development on waterways, drainage systems and land values are an important part of improving the quality of life in the Borough. The Borough should take advantage of the municipally sponsored events that take place throughout the year to improve public awareness. Information regarding the Municipal Stormwater Management Plan could easily be incorporated on to the Borough's website (http://www.metuchennj.org).

Land Use/Build-Out Analysis

Since the Borough of Metuchen has a combined total of less than one square mile of vacant lands (there are no agricultural lands), the Borough is not required to do a build-out analysis.

Mitigation Plans

Applicants for development will be expected to mitigate the impacts of development on stormwater at their own site or other sites within the subject watershed that it controls. No variances and exemptions from the standards shall be granted.

It should also be noted that there is little or no land area within the Borough at strategic downstream locations and owned by the municipality or other governmental agencies that would even allow for a flood control or water quality enhancement project if mitigation were to be allowed in the plan by the municipality. The lack of available lands for such purposes can be seen from the Aerial photo Map provided in Figure 8. It is more practical for any new development to provide on-site stormwater facilities rather than implementing a municipal system that would disrupt the existing built environment.

Recommended Implementing Stormwater Control Ordinances

The Borough will implement 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 will be implemented in accordance with NJAC 7:8-4.