

in G.8.a.(1) above. In no case shall a stream corridor protection plan allow the reduction of the Special Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.

e. Paragraph G.8 does not apply to the construction of one individual single family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before February 2, 2004 , provided that the construction begins on or before February 2, 2009.

## Section 5: Calculation of Stormwater Runoff and Groundwater Recharge

A. Stormwater runoff shall be calculated in accordance with the following:

1. The design engineer shall calculate runoff using one of the following methods:

a. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the NRCS National Engineering Handbook Section 4 - Hydrology and Technical Release 55 - Urban Hydrology for Small Watersheds; or

b. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

2. For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at Section 5.A.1.a and the Rational and Modified Rational Methods at Section 5.A.1.b. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

3. In computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes.
4. In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 - Urban Hydrology for Small Watersheds and other methods may be employed.
5. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

B. Groundwater recharge may be calculated in accordance with the following:

1. The New Jersey Geological Survey Report GSR-32 A Method for Evaluating Ground-Water Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at <http://www.state.nj.us/dep/njgs/>; or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427 Trenton, New Jersey 08625-0427; (609) 984-6587.

## Section 6: Standards for Structural Stormwater Management Measures

- A. standards for structural stormwater management measures are as follows:
  1. Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, environmentally critical areas, wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).
  2. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure

proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of Section 8.D.

3. Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement.

4. At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of two and one-half inches in diameter.

5. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at Section 8.

B. Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by Section 4 of this ordinance.

C. Manufactured treatment devices may be used to meet the requirements of Section 4 of this ordinance, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

## Section 7: Sources for Technical Guidance

A. Technical guidance for stormwater management measures can be found in the documents listed at 1 and 2 below, which are available from Maps and Publications, New Jersey Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.

1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as:

bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

2. The New Jersey Department of Environmental Protection Stormwater Management Facilities Maintenance Manual, as amended.

B. Additional technical guidance for stormwater management measures can be obtained from the following:

1. The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625; (609) 292-5540;

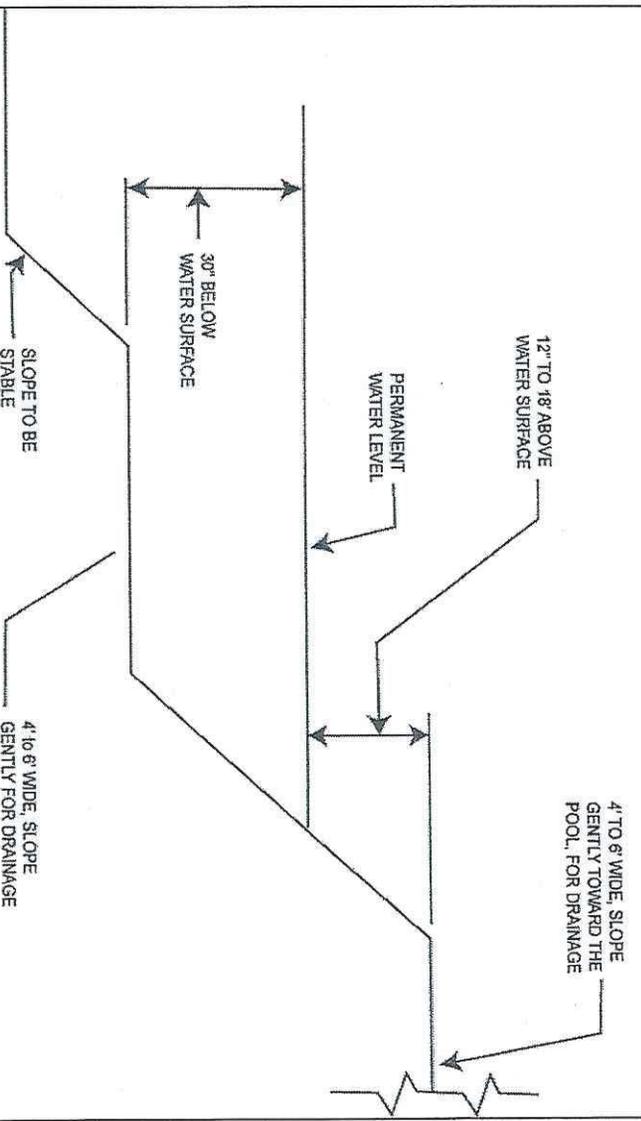
2. The Rutgers Cooperative Extension Service, 732-932-9306; and

3. The Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey, 08625, (609) 292-5540.

## Section 8: Safety Standards for Stormwater Management Basins

- A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This section applies to any new stormwater management basin.
- B. Requirements for Trash Racks, Overflow Grates and Escape Provisions
  1. A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:
    - a. The trash rack shall have parallel bars, with no greater than six inch spacing between the bars.
    - b. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.
    - c. The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack.
    - d. The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.
  2. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:
    - a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.
    - b. The overflow grate spacing shall be no less than two inches across the smallest dimension.
    - c. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./ft sq.
  3. For purposes of this paragraph 3, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

Depicted is an elevational view.



NOTE: NOT DRAWN TO SCALE

NOTE: FOR BASINS WITH PERMANENT POOL OF WATER ONLY

b. When the proposed stormwater management control measures (e.g., infiltration basins) depends on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

7. Maintenance and Repair Plan

The design and planning of the stormwater management facility shall meet the maintenance requirements of Section 10.

8. Waiver from Submission Requirements

The municipal official or board reviewing an application under this ordinance may, in consultation with the municipal engineer, waive submission of any of the requirements in Sections 9.C.1 through 9.C.6 of this ordinance when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

## Section 10: Maintenance and Repair

### A. Applicability

1. Projects subject to review as in Section 1.C of this ordinance shall comply with the requirements of Sections 10.B and 10.C.

### B. General Maintenance

1. The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

2. The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

3. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project.

4. If the person responsible for maintenance identified under Section 10.B.2 above is not a public agency, the maintenance plan and any future revisions based on Section 10.B.7 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

5. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

6. The person responsible for maintenance identified under Section 10.B.2 above shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a

record of all inspections and copies of all maintenance-related work orders.

7. The person responsible for maintenance identified under Section 10.B.2 above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

8. The person responsible for maintenance identified under Section 10.B.2 above shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by Sections 10.B.6 and 10.B.7 above.

9. The requirements of Sections 10.B.3 and 10.B.4 do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency.

10. In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or County may immediately proceed to do so and shall bill the cost thereof to the responsible person.

B. Nothing in this section shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

### Section 11: Penalties

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this ordinance shall be subject to the following penalties: [Municipality to specify].

### Section 12: Effective Date

This ordinance shall take effect immediately upon the approval by the county review agency, or sixty (60) days from the receipt of the

ordinance by the county review agency if the county review agency should fail to act.

### Section 13: Severability

If the provisions of any section, subsection, paragraph, subdivision, or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision, or clause of this ordinance.

## Appendix C – Non-Structural Measures Ordinance Review Checklist

# Municipal Regulations Review

## Township of Lower

As part of the requirements for municipal stormwater management plans in the Stormwater Management Rules at N.J.A.C. 7:8-4, municipalities are required to evaluate the municipal master plan, and land use and zoning ordinances to determine what adjustments need to be made to allow the implementation of nonstructural stormwater management techniques, also called low impact development techniques.

This checklist, included in the New Jersey Best Management Practices (BMP) Manual, was prepared to assist municipalities in identifying the specific ordinances that should be evaluated, and the types of changes to be incorporated to address the requirements of the Stormwater Management Rules. It was used to review the Township of Lower's compatibility with the nonstructural stormwater management techniques, including the Township Master Plan and Ordinances:

### Part 1: Vegetation and Landscaping

Effective management of both existing and proposed site vegetation can reduce a development's adverse impacts on groundwater recharge and stormwater runoff quality and quantity.

#### A. Preservation of Natural Areas

Municipal regulations should include requirements to preserve existing vegetated areas, minimize turf grass lawn areas, and use native vegetation.

**Yes**  **No** Are applicants required to provide a layout of the existing vegetated areas, and a description of the conditions in those areas?

**YES – Site plans, §400-77(G), Subdivisions, §(400-76), and Dune Area Site Plan §400-79.**

**Yes**  **No** Does the municipality have maximum as well as minimum yard sizing ordinances?

**Minimum yard sizes only, per Code Sections §400-14 through §400-27 of Township regulations.**

**Yes**  **No** Are residents restricted from enlarging existing turf lawn areas?

**In vicinities of dunes (Section §400-79) and wetlands (§400-25.W).**

**Yes**  **No** Do the ordinances provide incentives for the use of vegetation as filters for stormwater runoff?

**Yes**  **No** Do the ordinances require a specific percentage of permanently preserved open space as part of the evaluation of cluster development?

**Per Section 400-58, and §400-59, 25% minimum open space designation is required for cluster developments.**

### **B. Tree Protection Ordinances**

Municipalities often have a tree ordinance to minimize the removal of trees and to replace trees that are removed. However, while tree ordinances protect the number of trees, they do not typically address the associated leaf litter or smaller vegetation that provides additional water quality and quantity benefits. Municipalities should consider enhancing tree ordinances to a forest ordinance that would also maintain the benefits of a forested area.

**Yes**  **No** Does the municipality have a tree protection ordinance?

**However, trees are to be preserved where possible per Section 400-48, "Natural Features" and Site Plan Requirements, §400-77.**

**Yes**  **No** Can the municipality include a forest protection ordinance?

**Yes**  **No** If forested areas are present at development sites, is there a required percentage of the stand to be preserved?

### C. Landscaping Island and Screening Ordinances

Municipalities often have ordinances that require landscaping islands for parking areas. The landscaping islands can provide ideal opportunities for the filtration and disconnection of runoff, or the placement of small LID-BMPs. Screening ordinances limit the view of adjoining properties, parking areas, or loading areas. Low maintenance vegetation can be required in islands and areas used for screening to provide stormwater quality, groundwater recharge, or stormwater quantity benefits.

Yes  No Do the ordinances require landscaping islands in parking lots, or between the roadway and the sidewalk? Can the ordinance be adjusted to require vegetation that is more beneficial for stormwater quality, groundwater recharge, or stormwater quantity, but that does not interfere with driver vision at the intersections?

**Landscaping is required for parking, loading areas and roadways (Section 400-77, Site Plan, Section 400-34, Off Street Parking, Loading Areas and Driveways), but not for stormwater quality.**

Yes  No Is the use of bioretention islands and other stormwater practices within landscaped areas or setbacks allowed?

**Not excluded per "Drainage", Section 400-47.**

Yes  No Do the ordinances require screening from adjoining properties? Can the screening criteria require the use of vegetation to the maximum extent practicable before the use of walls or berms?

**Per Site Plans, Section 400-77.**

### D. Riparian Buffers

Municipalities may have existing buffer and/or floodplain ordinances that require the protection of vegetation adjacent to streams. Municipalities should consult existing regulations adopted by the Department to ensure that riparian buffer or floodplain ordinances reflect the requirements of the Department within these areas. The municipality should consider conservation restrictions and allowable maintenance to ensure the preservation of these areas.

Yes  No Is there a stream buffer or floodplain ordinance in the community?

**Section 400-24.FP, Floodplains within Township Code.**

Yes  No Is the ordinance consistent with existing state regulatory requirements?

**Ordinances are consistent with Federal Insurance Agency, NJDEP requirements.**

Yes  No Does the ordinance require a conservation easement, or other permanent restrictions on buffer areas?

Yes  No Does the ordinance identify or limit when stormwater outfall structures can cross the buffer?

Yes  No Does the ordinance give detailed information on the type of maintenance and/or activities that is allowed in the buffer?

**Section 400-24.FP identifies permitted and prohibited activities in floodplains.**

## **Part 2: Minimizing Land Disturbance**

The minimization of disturbance can be used at different phases of a development project. The goal is to limit clearing, grading, and other disturbance associated with development to protect existing features that provide stormwater benefits. Zoning ordinances typically limit the amount of impervious surfaces on building lots, but do not limit the amount of area that can be disturbed during construction. This strategy helps preserve the site's existing hydrologic character, as well as limiting the occurrence of soil compaction.

### **A. Limits of Disturbance**

Designing with the terrain, or site fingerprinting, requires an assessment of the characteristics of the site and the selection of areas for development that would minimize the impact. This can be incorporated into the requirements for existing site conditions and the environmental impact statement. Limits of disturbance should be incorporated into construction plans reviewed and approved by the municipality. Setbacks should be evaluated to determine whether they can be reduced. The following maximum setbacks are recommended for low impact development designs:

- front yard – 20 feet;
- rear yard – 25 feet; and
- side yard – 8 feet.

**Yes**  **No** As part of the depiction of existing conditions, are environmentally critical and environmentally constrained areas identified? (Environmentally critical areas are areas or features with significant environmental value, such as steep slopes, stream corridors, natural heritage priority sites, and habitats of threatened and endangered species. Environmentally constrained areas are those with development restrictions, such as wetlands, floodplains, and sites of endangered species.)

**Identification of critical areas are required in several places within the Township's Land Code, including but not limited to Sections 400-24.FP (Floodplains), §400-25.W (Wetlands), §400-76 (Major Subdivisions), §400-77 (Site Plans), and §400-79 (Dunes).**

**Yes**  **No** Can any of the existing setbacks be reduced?

**Yes**  **No** Are there maximum turf grass or impervious cover limits in any of the setbacks?

**Yes**  **No** Do the ordinances inhibit or prohibit the clearcutting of the project site as part of the construction?

**Per Sections 400-48 (Natural Features) and §400-77 (Site Plans).**

**Yes**  **No** Is the traffic of heavy construction vehicles limited to specific areas, such as areas of proposed roadway? Are these areas required to be identified on the plans and marked in the field?

**Yes**  **No** Do the ordinances require the identification of specific areas that provide significant hydrologic functions, such as existing surface storage areas, forested areas, riparian corridors, and areas with high groundwater recharge capabilities?

**Yes, per Section 400-24.FP (Floodplains), Section 400-25.W (Wetlands) and Section 400-77 (Site Plan).**

**Yes**  **No** Does the municipality require an as-built inspection before issuing a certificate of occupancy? If so, does the inspection include identification of compacted areas, if they exist within the site?

**However, plot plans and survey stakeouts are required prior to construction.**

**Yes**  **No** Does the municipality require the restoration to compacted areas in accordance with the Soil Erosion and Sediment Control Standards?

**All construction work is subject to Cape-Atlantic SCD standards.**

## **B. Open Space and Cluster Development**

Open space areas are restricted land that may be set aside for conservation, recreation, or agricultural use, and are often associated with cluster development requirements. Since open space can have a variety of uses, the municipality should evaluate its open space ordinances to determine whether amendments are necessary to provide improved stormwater benefits.

**Yes**  **No** Are open space or cluster development designs allowed in the municipality?

**Per Section 400-58, "Residential Clusters", clusters are conditionally permitted in R-1, R-2 and R-3 zones.**

**Yes**  **No** Are flexible site design incentives available for developers that utilize open space or cluster design options?

**Clustering is permitted in the above referenced zones, allowing for reduced lot sizes, thereby preserving natural amenities.**

**Yes**  **No** Are there limitations on the allowable disturbance of existing vegetated areas in open space?

**Yes**  **No** Are the requirements to re-establish vegetation in disturbed areas dedicated for open space?

**Yes**  **No** Is there a maximum allowable impervious cover in open space areas?

### Part 3: Impervious Area Management

The amount of impervious area, and its relationship to adjacent vegetated areas, can significantly change the amount of runoff that needs to be addressed by BMPs. Most of a site's impervious surfaces are typically located in the streets, sidewalks, driveway, and parking areas. These areas are further hampered by requirements for continuous curbing that prevent discharge from impervious surfaces into adjacent vegetated areas.

#### A. Streets and Driveways

Street widths of 18 to 22 feet are recommended for low impact development designs in low density residential developments. Minimum driveway widths of 9 and 18 feet for one lane and two lanes, respectively, are also recommended. The minimum widths of all streets and driveways should be evaluated to demonstrate that the proposed width is the narrowest possible consistent with safety and traffic concerns and requirements. Municipalities should evaluate which traffic calming features, such as circles, rotaries, medians, and islands, can be vegetated or landscaped. Cul-de-sacs can also be evaluated to reduce the radius area, or to provide a landscape island in the center.

Yes  No Are the street widths the minimum necessary for traffic density, emergency vehicle movement, and roadside parking?

**As per Section 400-52, "Streets, curbs and sidewalks" of the Township Code, planning board can specify minimum road widths for development.**

Yes  No Are street features, such as circles, rotaries, or landscaped islands allowed to or required to receive runoff?

**Section 400-46(E) of the Code only allows ponding of water within detention or retention basins.**

Yes  No Are curb cuts or flush curbs with curb stops an allowable alternative to raised curbs?

**Section 400-49, Off-street parking, loading areas and driveways required curbing, but does not preclude flush curbing (vs. raised).**

Yes  No Can the minimum cul-de-sac radius be reduced or is a landscaped island required in the center of the cul-de-sac?

**As per Section 400-52, "Streets, curbs and sidewalks" of the Township Code, planning board can specify minimum road widths for development.**

Yes  No Are alternative turn-arounds such as "hammerheads" allowed on short streets in low density residential developments?

Yes  No Can the minimum driveway width be reduced?

**Minimum driveway widths not specified. Again, Planning Board has discretion over road/access widths, presumably including driveways.**

Yes  No Are shared driveways permitted in residential developments?

**Shared driveways are not prohibited by Code.**

### **B. Parking Areas and Sidewalks**

A mix of uses at a development site can allow for shared parking areas, reducing the total parking area. Municipalities require minimum parking areas, but seldom limit the total number of parking spaces. Table 1 shows recommendations for minimum parking space ratios for low impact design:

#### **Table 1: Low Impact Development Parking Space Ratios**

**Use Parking Ratio per 1000 sq. ft. of Gross Floor Area**  
Professional office building Less than 3.0  
Shopping centers Less than 4.5

Yes  No Can the parking ratios be reduced?

**Only if the Planning Board or Engineer deems existing parking ratios to be excessive. Parking ratios are identified in Section 400-17.GB, General Business, 400-18.RB, Residential Business, and other business zones**

Yes  No Are the parking requirements set as maximum or median rather than minimum requirements?

Yes  No Is the use of shared parking arrangements allowed to reduce the parking area?

Yes  No Are model shared parking agreements provided?

Yes  No Does the presence of mass transit allow for reduced parking ratios?

Yes  No Is a minimum stall width of 9 feet allowed?

**As specified by zone within Article IV, District Regulations.**

Yes  No Is a minimum stall length of 18 feet allowed?

**As specified by zone within Article IV, District Regulations.**

Yes  No Can the stall lengths be reduced to allow vehicle overhang into a vegetated area?

Yes  No Do ordinances allow for permeable material to be used in overflow parking areas?

**Per Article IV, residential parking spaces can be clam shells, gravel or other at discretion of planning board.**

Yes  No Do ordinances allow for multi-level parking?

**Garages and multi level parking are allowed within specified area and Yard requirements.**

Yes  No Are there incentives to provide parking that reduces impervious cover, rather than providing only surface parking lots?

**As stated previously, Article IV allows crushed shell, gravel and other pervious surfaces are allowed for certain uses.**

*Sidewalks can be made of pervious material or disconnected from the drainage system to allow runoff to re-infiltrate into the adjacent pervious areas.*

Yes  No Do ordinances allow for sidewalks constructed with pervious material?

**Per Section 400-52(C), sidewalks must be constructed of concrete or equivalent materials per NJDOT standards**

Yes  No Can alternate pedestrian networks be substituted for sidewalks (e.g., trails through common areas)?

**However, the Planning Board abs the right to reduce or waive sidewalks within no-residential areas not along collector roads (Per Section 400-52.C).**

**Appendix D – Buildout Calculations**

HUC 14 and Zoning	Developable Area (acres)
<b>02040302940050</b>	
R-1 (low density)	18.7
Conservation (barren)	8.8
<b>Totals</b>	<b>27.5</b>
<b>02040206230070</b>	
R-1 (low density)	272.1
Conservation (barren)	98.7
I (Industrial)	24.3
R-3 (high density)	4.7
GB-1 (commercial)	8.9
GB (commercial)	1.7
R-2 (low density)	128.8
<b>Totals</b>	<b>539.3</b>
<b>02040302080090</b>	
R-3 (high density)	11.2
R-2 (low density)	31
GB (commercial)	0.6
Conservation (barren)	2
R-1 (low density)	66.9
<b>Totals</b>	<b>111.7</b>
<b>02040302080080</b>	
MH (high density)	3.7
R-2 (low density)	422.9
RB (commercial)	10.9
R-3 (high density)	23.6
I (Industrial)	60.6
<b>Totals</b>	<b>521.7</b>
<b>02040206230050</b>	
I (Industrial)	101.8
GB-2 (commercial)	1.3
R-3 (high density)	4.0
GB (commercial)	3.1
R-2 (low density)	4.4
<b>Totals</b>	<b>114.6</b>
<b>02040206230060</b>	
R-3 (high density)	23.2
R-1 (low density)	7.1
GB-1 (commercial)	5.1
GB (commercial)	10.2
R-2 (low density)	105
<b>Totals</b>	<b>150.6</b>