Applicable Regulations

- Flood Damage Prevention Ordinance - Chapter 5, Article IV Town Code of Ordinances. Any modifications to the floodway or floodplain will require modeling.
- Soil Erosion and Sediment Control – Chapter 5, Article V Town Code of Ordinances. Requires erosion and sediment control permit for land disturbance of 20,000 sq. ft. or more. Permit is obtained from Orange County Erosion Control. The Town requires a bond.
- Resource Conservation District - §3.6.3 Land Use Management Ordinance. Town's stream buffer regulation.
- Watershed Protection District - § 36.4 Land Use Management Ordinance. Limits impervious area to 70% of net land area.
- Steep Slopes - §5.3.2 Land Use Management Ordinance. Steep slope restrictions and requirements.
- Stormwater Management - §5.4 Land Use Management Ordinance. Requires projects to address water quality, volume and rate.
- Jordan Riparian Buffers - §5.18 Land Use Management Ordinance. Regulates activities in and adjacent to the Jordan riparian buffer, which is the first 50 feet measured landward from the top of bank, each side.
- Jordan Stormwater Management - §5.19 Land Use Management Ordinance. Adds nutrient (nitrogen and phosphorus) reductions in addition to the Town's stormwater management requirements.

Stormwater Design Basics

Hydrology: A branch of science that determines the amount of water (or discharge) that will run off as a result of precipitation. The hydrology will be affected by the amount, frequency, and duration of the precipitation, the land cover, soils, the watershed shape and slope, and amount of storage available in the watershed.

Hydraulics: A branch of science that studies the practical applications of water in motion. Combines the watershed hydrology with cross section data to estimate the depth and area of flooding.

Stormwater Design Criteria

Water Quality:

- 85% TSS removal
- Nitrogen and phosphorus reduction (Jordan)

Volume:

- Retention for 2-5 days of the increased volume of stormwater runoff from the 2-year, 24-hour storm

Rate:

- Post-development peak rate cannot exceed pre-development peak rate for the 1-year, 2-year, and 25-year storms.

Stormwater submittal requirements

a) Written narrative describing:

1. Existing & proposed conditions,
2. Pertinent onsite and offsite drainage conditions,
3. Anticipated stormwater impacts,
4. Design criteria,
5. Discussion of structural and non-structural BMPs and strategies chosen to mitigate development impacts that will be part of the stormwater management plan
6. Soils information (classification, infiltration rates, depth to groundwater and bedrock)

b) Summary table of the peak discharge flow rates (1, 2, and 25-year storms) for pre-development; post-development without stormwater management; and post development with stormwater management, for all sub-basins and the project site as a whole.

c) Hydrology calculations, to include:

1. Pre-development and post-development drainage maps clearly labeled and showing delineated drainage sub-basins; connectivity of conveyance system and stormwater structures; and points of analysis. Flow paths in each sub-basin must be indicated (may be included in plan set).
2. Summary table of land uses and areas (in square feet) within each drainage basin, curve numbers/runoff coefficients for each land use, Basin ID, and source of values used.
3. Time of concentration calculations
4. Peak discharge calculations documenting results shown in summary table (See b above)

d) Hydraulic calculations, to include:

1. Water quality volume calculations for providing 85% TSS removal for post-development stormwater runoff
2. BMP sizing calculations, including stage-storage-discharge information
3. Routings and hydrographs
4. Pipe sizing calculations and schedule (including HGL & EGL calculations and profiles)
5. Channel sizing calculations
6. Outlet dissipator sizing calculations
7. Jordan Lake Stormwater Load Accounting Tool, if required, printed on 11x17 paper

e) Draft Operations and Maintenance Plan for each stormwater management structure