

5.0 WATER RESOURCES

Surface Water

The subject property contains no wetlands, watercourses or waterbodies. The site slopes up from US Route 202 toward the northeast, such that the rezoning area generally drains overland and through storm drains toward US Route 202, and ultimately into the Hunter Brook. This rezoning will permit redevelopment of the areas where residential dwellings are now located.

Based upon preliminary engineering review of the rezoning area, it is anticipated the proposed stormwater maintenance facilities will include two surface detention ponds and subsurface infrastructure located generally under the southwest portion of the site. According to a review of the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) of Putnam and Westchester Counties, the soils located on this site were found to be medium to coarse sandy soils consistent with Charlton loam which are classified as well drained and suitable for construction. The site generally slopes down from the eastern portion with rocky slopes on the eastern portion of the property. All indications are that onsite soils are pervious and do not exhibit shallow groundwater.

Installation of infrastructure for sanitary sewer will connect directly to the sewer main to be located along Old Crompond Road. The connection be a new direct connection thereby eliminating concerns over additional infiltration and inflow.

Stormwater Pollution Prevention Plan

A SWPPP is a plan to reduce off site impacts associated with stormwater from a project site by controlling changes in runoff, and pollutants associated with runoff. The NYSDEC State Pollution Discharge Elimination System Stormwater General Permit for Construction Activities (GP-0-15-002), requires SWPPPs for certain projects, such as the Bear Mountain Triangle development, that disturb or expose one or more acres of soil during construction. To comply with GP-0-15-002, a SWPPP must include erosion and sediment controls for implementation during construction and measures to control changes in stormwater quantity and quality once the project is complete. The SWPPP will be developed such that runoff

from the entire site meets the permitting requirements of GP-0-15-002, including the approximately 8.9 acres of impervious development for the residential, office and retail buildings.

The proposed stormwater treatment measures to be included in the SWPPP will satisfy NYSDEC standards by including provisions for stormwater treatment to avoid potential impacts on receiving waters and downstream properties. Per the NYSDEC requirements the project will not result in **any** increase in water volume or rate discharged from the site compared to existing conditions. State standards for water quality treatment, as set forth in NYSDEC GP-0-15-002, specifically require the water quality volume (WQv) to be calculated, and treated, in accordance with the NYSDEC Stormwater Management Design Manual (the "Manual"). In addition, the calculated Runoff Reduction Volume (RRv) will be designed to infiltrate into the underlying soils, as required. The stormwater practices proposed for the Bear Mountain Triangle rezoning area will be designed in accordance with the Manual and are intended to satisfy New York State mandates.

The rezoning area will need to comply with standards applicable to new development as outlined in the 2015 NYS DEC Stormwater Design Manual. For these areas, Runoff Reduction Volume (RRv) must equal Water Quality volume (WQv). RRv will be met using a combination of surface water quality detention features and underground infiltration measures which have RRv capacity of 90 percent, such as cultec rechargers, perforated pipes in gravel, or infiltration basins. RRv will be infiltrated into the ground. Based on preliminary soils tests the site contains mostly Charlton Loam soils which have excellent permeability. As such it is anticipated the infiltration rate (fc) of the underlying soils will enable the use of Best Management Practices to address the sites stormwater management needs.

Sanitary sewage will not be mixed with stormwater, but rather will be conveyed to the sewer lines to be installed in Old Crompond Road and then to the Peekskill Wastewater Treatment Plant.

In preparing the final site plan to be submitted for approval, the applicant will consider green stormwater options including green roofs, shared parking, pervious pavement and rain gardens.

Stormwater Discharge Rate

The peak flow discharge for the post development conditions under various storm events will be analyzed at the design point to the existing storm drain system located along Old Crompond Road.

The soil across most of the rezoning area is mapped as Charlton Soils, Leichester Soils and Charlton-Chatfield Complex. Permeability is considered moderate to moderately rapid for each of these soils groups. For the entire site, the post-construction 1-year 24-hour discharge rate (CPv), 10-year 24-hour discharge rate (Qp), and 100-year 24-hour discharge rate (Qf) will be controlled to less than the pre-development discharge rate.

As the developed condition peak discharges will be less than in the existing condition, there will be no anticipated impacts to off-site storm drain systems or surface waters. A detailed analysis of pre- and post-development drainage conditions will be provided in the appropriate SWPPP to be submitted with future site plan development applications.

The proposed stormwater management measures will be designed to minimize the potential impact to downstream, water resources through the implementation of collection and treatment practices that will treat pollutants associated with developed sites and maintain the quantity of runoff resulting from the project to a level that does not exceed pre-development peak flow rates. The proposed plan is designed to address both water quality and quantity in accordance with NYSDEC standards.

Erosion and Sediment Control

As will be specified in the future SWPPP, soil erosion and sedimentation measures, such as silt fencing, will be installed prior to any construction activities. Erosion control methods to be employed are based upon the guidelines within the New York State Standards and Specifications for Erosion and Sediment Controls for New Developments. Construction will be phased, so that no more than 5 acres of the site is disturbed at one time.

Implementation of soil erosion and sediment controls in accordance with the New York standards and specifications for erosion and sediment control will avoid or minimize any adverse effect on surface waters down gradient from the site including the Hunter Brook. The applicant will engage a Certified Professional in Stormwater Quality/Erosion and Sediment Control to oversee implementation of the SWPPP, including its site specific Erosion and Sediment Control Plan.

The site-specific SWPPP to be prepared at the time of site plan application will describe additional pollution prevention measures to be implemented during the construction and operation of the site facilities, addressing activities such as pesticide use, material storage, waste disposal and spill response for further protection of surface water resources. Implementation of the SWPPP will include certifications by the project owner and contractors at the site, and approval by the Town of Yorktown (as the MS4) and notification of NYS DEC prior to the commencement of construction.

Ground Water

Groundwater is the subsurface water found in the saturated zones within the soil and rock mantle of the earth. Groundwater is presumed to flow to the west, generally following the topography of the site.

Depth to water table (surficial groundwater elevations) varies on the site and during seasonally wet periods. Based on data published in the USDA's *Soil Survey for Westchester and Putnam County*, the majority of the soils have a groundwater table greater than five feet below the surface throughout the year.

The project site and surrounding areas receive potable water from the Town of Yorktown Consolidated Water District, which is proposed as the source of drinking water for this project. As public water serves the site and nearby properties, potential impacts to groundwater use is not considered a significant issue.

There are no plans to use groundwater at this site. There will be no water taking from the local aquifer. Recharge will be slightly affected by the installation of road, driveways and other impervious surfaces on the site. However, stormwater runoff collected from these surfaces will be directed into proposed stormwater management infrastructure designed for infiltration. Therefore, the project is not anticipated to adversely impact groundwater conditions in the area.

The type of heating system for the proposed project has not yet been determined. Options for heating include geo-thermal, heating oil, propane gas, heat pumps and electrical service. Natural gas service is not currently available in this area of the Town, but is pending installation as part of the Costco project. In the event that heating oil is selected, any proposed underground storage tanks will be fully vaulted to minimize any risk to groundwater. In addition, the proposed homes will be sewered. Therefore, the development is not projected to result in adverse groundwater-related impacts.