

*The Residences at Stow Acres*  
*Comprehensive Permit Application*

**8. Drainage Summary Narrative**

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### **DRAINAGE SUMMARY NARRATIVE**

The project site is located on Randall Road, on a portion of the existing "North Course" of Stow Acres Country Club. The development parcel contains approximately 69 acres. The surface coverage of the site is that of a typical gold course, including grass, paved cart paths, gravel cart paths, sand bunkers, and wooded area. There is Bordering Vegetated Wetland (BVW) around the perimeter of much of the site. The Natural Resource Conservation Service (N.R.C.S.) soil survey report for Middlesex Country indicates the presence of Merrimac fine sandy loam, Hinckley loamy sand, and Deerfield loamy sand, all of Hydrologic Soil Group (HSG) A; Scarboro mucky fine sandy loam, of HDG D; and Paxton fine sandy loam and Woodbridge fine sandy loam, both of HSG C.

The proposed project is for the construction of a residential development, consisting of 124 for-sale single-family dwellings, 40 rental cottages, and one 25-unit apartment building. A series of dead-end alleys are looped roadways are proposed to access the proposed dwellings and, in some instances, their detached garages. A clubhouse area is also proposed to serve the proposed residential community.

#### Pre-Development

The 69± ac. site currently contains the "North Course" at Stow Acres Country Club. There is Bordering Vegetated Wetland across the site that projects 100' Buffer Zone onto portions of the property. There is an unnamed stream offsite that projects 200' Riverfront Area onto the southwest corner of the property. The site coverage is primarily grass and wooded area, with gravel and paved cart paths located throughout. Runoff generally flows from east to west across the property, with offsite area to the east draining onto the project site. The majority of runoff drains towards the southwest corner of the project site and ultimately to an unnamed stream, through which it eventually drains to the Assabet River.

#### Post Development

The proposed project is for the construction of 124 single family dwellings for-sale, 40 cottage rental units, a 25-unit apartment building, and associated roadways and parking. A clubhouse area, community gardens, and a perimeter walking trail are also proposed to serve the proposed residential community.

Catch basins and area drains are proposed throughout the site to collect pavement runoff and direct it towards infiltration structures. The site has been designed so much of the pavement runoff drains towards the approximate center of the site towards a series of 5 infiltration basins that are connected and proposed to ultimately overflow towards the southwest corner of the site. Three other infiltration basins are proposed around the perimeter of the site to receive, treat, and infiltrate runoff from pavement and building roofs.

Many of the proposed buildings are proposed to be served by individual roof drywells, with some of the rental cottage units sharing roof drywells. Runoff from dwelling roofs served by roof drywells will be directed to their corresponding roof drywells via gutters and downspouts.

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A total of six areas of subsurface chambers are proposed to treat and infiltrate runoff in the front and rear portions of the site.

The proposed stormwater management system has been designed to result in a decrease in peak runoff rate for the 2, 10, 25, and 100-year design storms, in accordance with the Massachusetts Stormwater Standards and Local Bylaws.

The complete drainage analysis and calculations are available at the Town Hall.