



**SCOTT STRODE SUBDIVISION**  
**DUGWAY ROAD, RICHMOND, VT.**  
**PRELIMINARY STORMWATER MANAGEMENT NARRATIVE**  
**PREPARED BY: BRAD WASHBURN, PE**  
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## **STORMWATER MANAGEMENT NARRATIVE**

Tailwater Engineering has performed a desktop analysis and developed a preliminary conceptual plan and narrative for the stormwater management for the above-mentioned project. Please note that this preliminary design and narrative is subject to revisions as the project moves into the final design phase.

### **GENERAL INFORMATION**

The existing soils consists mainly of hydrologic C soils surrounded with some D and A's. There are approximately 4 separate discharge locations from the project site. Three of them discharge to an unnamed perennial stream discharging to the Huntington River and the remaining to unnamed ephemeral stream discharging to the Huntington River.

Standard Treatment Practice worksheets have been created for each of the discharge locations and conclude that Tier 2 practices to achieve the required water quality standards per the State 3-9050 operational permit are applicable except for areas where simple disconnects can be utilized. This is based on the NRCS web soil survey and exploratory soil test pits performed by Barnard and Gervais which confirm that water table is within 24" of the ground surface, therefore eliminating infiltration best management practices and kicking the project into the Tier 2 requirements.

The project is broken up into 4 separate areas and the general stormwater management of each area is described as follows:

### **SHARED ACCESS DRIVE (AREAS 3&4)**

The access drive includes approximately 17,000 sq. ft of redeveloped impervious area and approximately 7,500 sq. ft of new impervious area. Water will be collected in stone-lined channels and conveyed via culvert(s) under the access drive, to bio-retention treatment systems with pre-treatment forebays located on the adjacent parcel. These facilities are designed to not-infiltrate. Water will exit the bioretention facilities and enter shallow dry ponds where attenuation of the flow to comply with Channel Protection and the Q10 stormwater requirements will take place. Water will then exit the ponds and eventually discharge through an existing 18" culvert located under Dugway road which discharges to the Huntington River.

## **LOT 21 – HOUSE & ACCESS DRIVE (AREA 2)**

The access drive and house site include approximately 7,700 sq.ft. of new impervious area. The layout of the site will require grading and shallow grass channels to direct the stormwater runoff to the north easterly portion of the site where a bio-retention facility (not designed to infiltrate) with a pre-treatment forebay will be constructed. Water will exit the facility and enter a shallow dry pond where water will be attenuated as necessary to meet the channel protection and Q10 requirements. Water will exit the pond via a grass-lined channel that eventually discharges to an unnamed tributary of the Huntington River.

## **LOT 22 – ACCESSORY DWELLING & DRIVE (AREA 1)**

The access drive and accessory dwelling includes approximately 11,000 sq.ft. of new impervious area. Simple disconnections of the road and house will provide the water quality treatment. A shallow dry pond located at the driveway entrance will provide the necessary attenuation to meet the channel protection and Q10 requirements.

## **LOT 22 – SINGLE FAMILY HOUSE & DRIVE**

The access drive and house include approximately 32,000 sq.ft. of new impervious area. The drive and house will be disconnected by simple disconnections. The natural drainage patterns split east and west approximately along the drive. Treated water will runoff westerly into the existing wetland. Treated water will runoff easterly and eventually enter the shared access drive drainage system (see above). The design concept is to allow free discharge of the westerly runoff to the wetland and provide the necessary attenuation of runoff (channel protection & Q10) on the remaining lot 22 parcel and lot 21 parcel to avoid disturbance within the wetland and 50-foot wetland buffer. If this is not possible, a shallow grass lined channel will be constructed along the wetland buffer boundary to capture water and convey it to a shallow dry pond constructed on the westerly side of the access drive to provide the necessary attenuation to meet channel protection and Q10 requirements. The increase in runoff to the west will be accounted for and attenuated in the shared access drive stormwater drainage system.