

# Stormwater Narrative

## Randall Farm 5 Lot Subdivision

### Peggy M. Farr Revocable Trust

#### 1. Introduction

Krebs and Lansing Consulting Engineers Inc. (K&L) are writing on behalf of the Peggy M. Farr Revocable Trust to prepare a Stormwater Management Plan for a proposed five lot subdivision located between East Hill Road and Kenyon Road in Richmond, Vermont.

#### 2. Project Description

The applicant proposes to subdivide an existing 220.9 acre lot into five lots. Lots 1-4 will be new building lots. Lot 5 will be remaining lands with no development proposed at this time. The new building lots will be served by a private gravel road from East Hill Road. The proposed stormwater treatment practices include two dry detention ponds. A total of 0.95 acres of new impervious surface is proposed.

#### 3. Existing Condition

The existing site is undeveloped. The undeveloped land includes a meadow area to the south, but is primarily wooded. There are wetlands to the east of the proposed lots. The site is bounded by East Hill Road to the south, Kenyon Road to the east, and mostly wooded, rural areas to the north and west.

Soils on the site in the area of development are classified as Peru fine sandy loam, Lyman-Marlow complex, and Marlow fine sandy loam, very stony. All of these soils are classified as hydrologic soils group "D". "D" soils have a low permeability and a high degree of existing runoff.

#### 4. Existing Stormwater System

There is no existing stormwater infrastructure on the site.

#### 5. Proposed Stormwater System:

The project has been modeled as two watersheds draining to existing wetlands that eventually drain via culverts and existing channels that eventually discharge under East Road via to Johnnie Brook. The southerly watershed includes approximately 400 feet of new road and the developed portion of Lot 4. This watershed is treated by Dry Detention Pond #1. The northerly watershed is divided into two sub-catchments. Approximately 250 feet of new road and the developed portion of Lot 3 drains to Dry Detention Pond #2. The remaining sub-catchment includes the developed portion of Lots 1 and 2. Stormwater from these roofs and driveways is treated by sheet flow over vegetated terrain.

- a) Description of Impervious Area: There is no permitted impervious area on the site. New impervious areas include a 24' wide shared private road, individual driveways to the

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house sites, and rooftops from the new residential buildings. There is a total of 0.95 acres of impervious area proposed, all classified as “new”.

b) Receiving Body: Wetlands in the Johnnie Brook watershed

c) Fish Habitat Designation for Receiving Water: Warm

d) Description of compliance with Town of Richmond Regulations:

i) 25 Year Storm Standard:

The use of Dry Detention Ponds #1 and #2 limit the post development peak flow rates to below pre development levels. For the 25 year, 24 hour storm event, the pre development peak runoff from the site is 36.2 cfs. The post development peak runoff from the site is 27.8 cfs.