



# DiPrete Engineering

November 14, 2025

James D. Rabbitt, AICP  
Planning Director  
Town of South Kingstown  
180 High Street  
Wakefield, RI 02879

RE: Combined Master/Preliminary Submission - Stormwater Memo  
Rockland Drive 3 Lot Subdivision  
Assessor's Plat 56-2 Lot 7  
South Kingstown, Rhode Island

Dear Mr. Rabbitt:

On behalf of the applicant, we respectfully submit this letter and attached materials for the proposed major subdivision located at Rockland Drive in South Kingstown, Rhode Island. This site is located on Assessor's Plat 56-2 Lot 7 and is currently a single residential lot. The total existing lot area is approximately 1.3± acres. The intent of the applicant is to subdivide the existing lot into 3 lots with single family-homes. We are submitting a combined Master/Preliminary Plan.

The applicant proposes to construct 2 new single family dwellings (along with associated infrastructure improvements including driveways and utilities). Each proposed dwelling will have a footprint of 1584 ft<sup>2</sup> and impervious driveway. Stormwater runoff from the roof of each of the proposed homes will be managed by a stone drywell and stormwater from each of the driveways is proposed to be directed to a stone infiltration trench. Both stone drywell systems and the stone driveway infiltration trenches have been designed using the Rhode Island Stormwater Management Guidance for Individual Single-Family Residential Lot Development.

Soil evaluations were completed on September 25<sup>th</sup>, 2025 by Allison Drake (D-4105), a RI registered Soil Evaluator. The soils are characterized as sandy loam, soils very suitable for infiltration. Seasonal high groundwater table was observed at depths ranging from 20" to 120" and greater.

Section D of the Rhode Island Stormwater Management Guidance for Individual Single-Family Residential Lot Development documents was used for sizing the stone drywells and the stone infiltration trenches associated with the proposed driveways. Using the soil evaluation data, soils were determined to be sandy loam soils. Section D of the Rhode Island Stormwater Management Guidance for Individual Single-Family Residential Lot Development document has been attached with this letter for reference.

Stormwater from each of the proposed homes will be collected from the rooftops using rain gutters and then routed to the stone drywell using underground roof leader systems. The drainage area for each proposed home (1,584 ft<sup>2</sup>) was used for sizing. For Lots 2 & 3, consulting Table 10 and using a 12" depth yielded a 270 ft<sup>2</sup> drywell for each home.

The drainage area for each proposed driveway ranges from 1,400 ft<sup>2</sup> – 3,085 ft<sup>2</sup> For Lots 1 & 2, consulting Table 10 and using a 30" depth stone infiltration trench, an area of 141 ft<sup>2</sup> and 246 ft<sup>2</sup> is required for driveway 1 and 2 respectively. For Lot 3, consulting table 10 and using a 24" depth stone infiltration trench, an area of 134 ft<sup>2</sup> is required for the driveway.

A summary of the design requirements for both the stone infiltration trenches and the drywell systems are shown by lot in the table below.

|       | Roof (ft <sup>2</sup> ) | Drywell Required (ft <sup>2</sup> ) | Drywell Provided (ft <sup>2</sup> ) | Driveway (ft <sup>2</sup> ) | Stone Trench Required (ft <sup>2</sup> ) | Stone Trench Provided (ft <sup>2</sup> ) |
|-------|-------------------------|-------------------------------------|-------------------------------------|-----------------------------|--|--|
| Lot 1 | 0                       | 0                                   | 0                                   | 1760                        | 141 (30" depth)                          | 160                                      |
| Lot 2 | 1584                    | 253 (12" depth)                     | 270                                 | 3085                        | 246 (30" depth)                          | 250                                      |
| Lot 3 | 1584                    | 253 (12" depth)                     | 270                                 | 1400                        | 134 (24" depth)                          | 136                                      |

Designed to meet Rule 7.12 of the DEM Rules and Regulations Governing the Administration of the RI Freshwater Wetlands Act. Negative impacts of stormwater have been mitigated to the maximum extent practicable. The stormwater management design meets the Rhode Island Stormwater Management Guidance for Individual Single-Family Residential Lot Development document; therefore, it is designed to capture and provide water quality treatment to the runoff from all new contributing impervious surfaces.

If you have any further questions on this matter, please feel free to contact me at your earliest convenience.

Sincerely,  
DiPrete Engineering Associates, Inc.



Brenna Guay, PE  
Project Engineer  
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Appendix A: Rhode Island Stormwater Management Guidance for Individual Single-Family Residential  
Lot Development  
Section D: Infiltration Trench and Dry Well

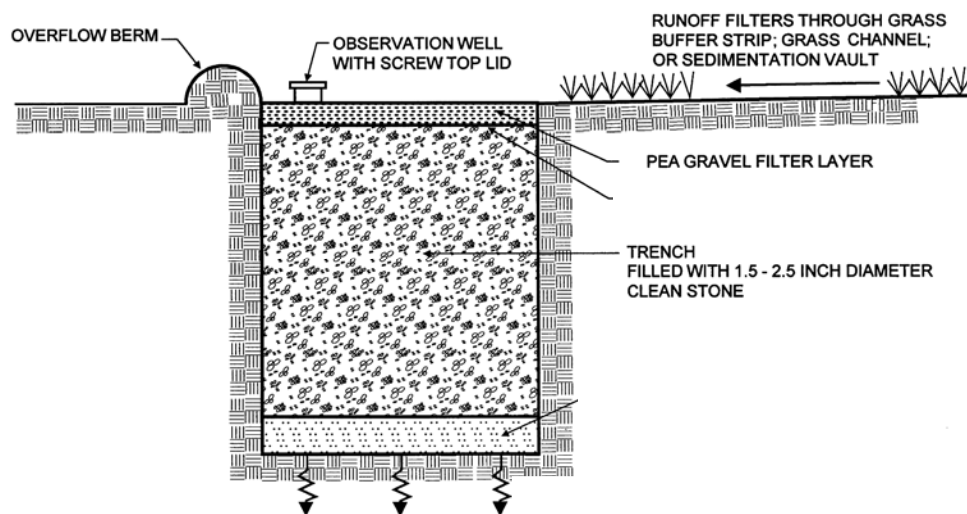
Appendix B: Soil Evaluations

## D. Infiltration Trench and Dry Well

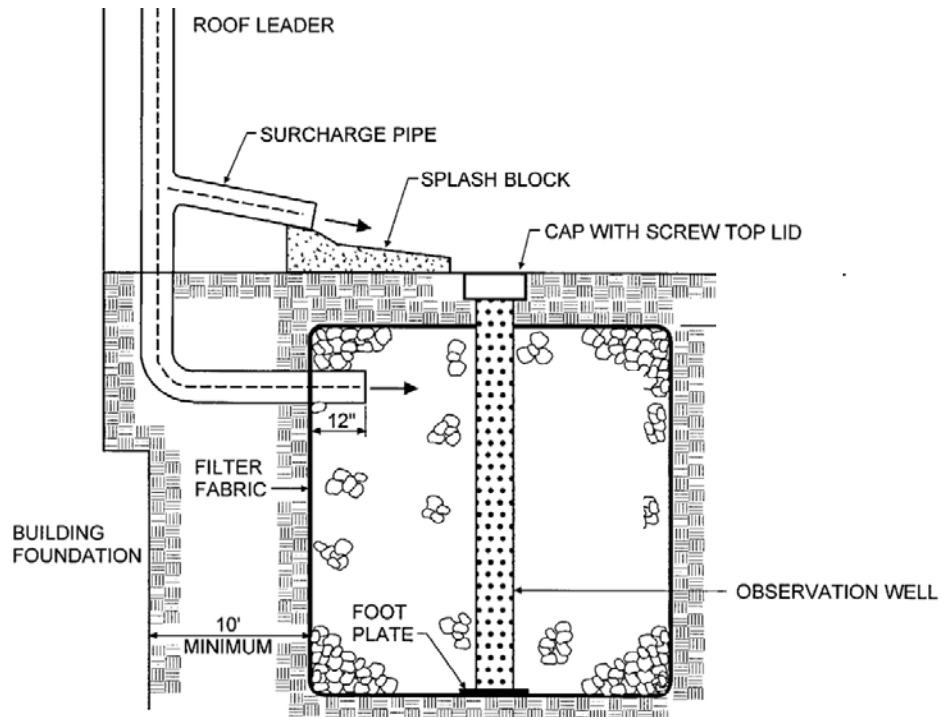
Infiltration trenches and dry wells are dug chambers backfilled with crushed stone that capture and temporarily store stormwater before allowing it to infiltrate into the soil over a maximum period of 48 hours.

| Table 9. Required Elements for Infiltration Practices (Trenches and Dry Wells) on Single-Family Residential Lots |   |
|--|---|
| <b>Location</b>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Trenches and dry wells must meet the setback requirements in Table 5 above.</li> <li><input type="checkbox"/> Trenches and dry wells cannot be placed in locations that cause water problems (such as seepage which may cause slope failure) to downgrade properties.</li> </ul>  |
| <b>Treatment</b>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> The bottom of the stone reservoir should be completely flat or nearly so in order that infiltrated runoff will be able to infiltrate through the entire bottom surface area.</li> <li><input type="checkbox"/> The bottom of infiltration practices must be separated by at least two feet vertically from the seasonal high groundwater table (SHGWT). <b>Depth to the SHGWT should be determined by a licensed soil evaluator, registered professional engineer or certified soil scientist.</b></li> <li><input type="checkbox"/> The bottom of infiltration practices must be located in the soil profile.</li> </ul> |
| <b>Construction</b>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Great care must be taken to prevent the infiltration area from compaction by marking off the location before the start of construction at the site and constructing the infiltration practice last.</li> <li><input type="checkbox"/> An observation well shall be installed in every infiltration trench or dry well, consisting of an anchored 4- to 6-inch diameter perforated PVC pipe with a screw-top cap installed flush with the ground surface.</li> </ul>   |
| <b>Maintenance</b>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Infiltration practices shall be inspected annually and repaired if necessary to ensure proper drainage.</li> <li><input type="checkbox"/> Accumulated sediment and debris shall be removed from the surface of the infiltration practice annually.</li> </ul>   |

Figure 6. Infiltration Trench, Typical Cross-Section



**Figure 7. Dry Well, Typical Cross-Section**



**Sizing Infiltration Trenches and Dry Wells:**

Determine the size (in square feet) of the impervious surface that will drain to your infiltration trench or dry well. This is the drainage area. Use Tables 10 and 11 below to determine the size of your infiltration trench or dry well. The sizing recommendations in the tables below are based on the sizing equations provided in the Rhode Island Stormwater Design and Installation Standards Manual, Section 5.3. For additional sizing information see Chapter 5 of the Manual at [www.dem.ri.gov/pubs/regs/regs/water/swmanual.pdf](http://www.dem.ri.gov/pubs/regs/regs/water/swmanual.pdf). Be sure to detail which sizing method was used in your submitted application.

**Tables 10. and 11.** Sizing Guidance for Infiltration Trenches and Dry Wells

**Infiltration Trench / Dry Well Surface Area (square feet)  
in Sandy Soils (Sands, Loamy Sands and Sandy Loams)**

| <b>Drainage Area (sq. ft.)</b> | <b>6 in. deep</b> | <b>12 in. deep</b> | <b>18 in. deep</b> | <b>24 in. deep</b> | <b>30 in. deep</b> | <b>36 in. deep</b> | <b>48 in. deep</b> |
|--------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 100                            | 24                | 16                 | 12                 | 10                 | 8                  | 7                  | 5                  |
| 200                            | 48                | 32                 | 24                 | 19                 | 16                 | 14                 | 11                 |
| 300                            | 72                | 48                 | 36                 | 29                 | 24                 | 21                 | 16                 |
| 400                            | 96                | 64                 | 48                 | 39                 | 32                 | 28                 | 21                 |
| 500                            | 119               | 80                 | 60                 | 48                 | 40                 | 34                 | 27                 |
| 600                            | 143               | 96                 | 72                 | 58                 | 48                 | 41                 | 32                 |
| 700                            | 167               | 112                | 84                 | 67                 | 56                 | 48                 | 38                 |
| 800                            | 191               | 128                | 96                 | 77                 | 64                 | 55                 | 43                 |
| 900                            | 215               | 144                | 108                | 87                 | 72                 | 62                 | 48                 |
| 1000                           | 239               | 160                | 120                | 96                 | 80                 | 69                 | 54                 |



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment Systems Program



Site Evaluation Form
Part A - Soil Profile Description

Application Number

Property Owner: Salisbury, Kathleen A ET ALS

Property Location: 23 Rockland Drive(AP 56-2, Lot 7), South Kingstown

Date of Test Hole: September 23, 2025

Soil Evaluator: Allison Drake

License Number: D-4105

Weather: Cloudy, 70's

Shaded: Yes No Time: 8:30AM

Table with 11 columns: TH Horizon, Depth, Horizon Boundaries (Dist, Topo), Soil Colors (Matrix, Re-Dox Features), Re-Dox (Ab., S., Contr.), Texture, Structure, Consistence, Soil Category. Contains two soil profile sections.

TH DTH 25-1 Soil Class Ablation Till Total Depth 120" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 120" (og)

TH DTH 25-2 Soil Class Ablation Till Total Depth 120" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 48" (og)

Comments:



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TH DTH 25-3 Soil Class Ablation Till Total Depth 108" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 40" (og)

TH DTH 25-4 Soil Class Ablation Till Total Depth 108" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 108" (og)

Comments:



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TH DTH 25-5 Soil Class Ablation Till Total Depth 108" Impervious/Limiting Layer Depth N/A (og) GW Seepage Depth N/A SHWT 60" (og)

TH DTH 25-6 Soil Class Ablation Till Total Depth 22" Impervious/Limiting Layer Depth 22" (og) GW Seepage Depth N/A SHWT 20" (og)

Comments: