Project Narrative

For a Proposed

Union Fire District of S. Kingstown
Station 7: Matunuck
5,500± Sq. Ft. Fire Station &
1,890± Sq. Ft. Ambulance Building

Located at

49 Matunuck School House Road
South Kingstown, Rhode Island
AP 86-2, Lot 32

Prepared for:
Union Fire District of South Kingstown
131 Asa Pond Road
Wakefield, RI 02879

Submission Date:
July 2021

Submitted by:
TABLE OF CONTENTS

1 INTRODUCTION .............................................................................................................. 1

2 SITE LOCATION AND PHYSICAL DESCRIPTION ...................................................... 1
   2.1 Soil Classification ................................................................................................. 2
   2.2 Flood Zone Classification ................................................................................ 3
   2.3 Wetland Resources ............................................................................................ 3
   2.4 Zoning .................................................................................................................. 3
   2.5 Easements .......................................................................................................... 4
   2.6 Utilities ............................................................................................................... 4

3 PROPOSED DEVELOPMENT OF LAND .................................................................. 4
   3.1 General ............................................................................................................... 4
   3.2 Utilities .............................................................................................................. 5
   3.3 Drainage ............................................................................................................. 5

4 PERMIT REQUIREMENTS ........................................................................................... 6
   4.1 Town of South Kingstown Permit Requirements .............................................. 6
       4.1.1 Planning Board of Review ........................................................................ 6
       4.1.2 Zoning Board ............................................................................................ 6
       4.1.3 Building Permit ......................................................................................... 6
   4.2 State of Rhode Island Permit Requirements ................................................... 6
       4.2.1 Rhode Island Department of Environmental Management (RIDEM) ....... 6

APPENDICES

Appendix A: Soil Evaluations, prepared by Natural Resource Services, Inc., September 2013
Appendix B: Freshwater Wetland Determination Letter, prepared by Natural Resource Services, Inc., October 2013
Appendix C: Site Layout with Vehicle Turning Templates
Appendix D: Architectural Plans, prepared by Aharonian and Associates, Inc.
1 INTRODUCTION
On behalf of the Union Fire District of South Kingstown, Joe Casali Engineering, Inc. (JCE) has prepared the following Project Narrative to identify existing and proposed site conditions related to the design and construction of a new 5,500± square foot Fire Station and an auxiliary 1,890± square foot Ambulatory Building to replace the existing Matunuck Fire Station (Station 7), located at 49 Matunuck School House Road in South Kingstown, Rhode Island.

2 SITE LOCATION AND PHYSICAL DESCRIPTION
According to a March 2014 Class I Property Line Survey and Class III Topographic Survey performed by Pinch Land Surveying of Wakefield, RI, the total area of AP 86-2, Lot 32 is approximately 31,718.75 square feet (0.73 acres). Lot 32 is comprised of the existing fire station and associated parking lot. The remainder of the parcel is undeveloped. The subject parcel is bound by Matunuck School House Road to the south, AP 80-3, Lot 11 to the east (vacant farmland), Lot 29 to the north (multiple residential dwellings), and Lot 28 to the west (single-family dwelling), as shown below in Figure 1 – Locus Map.

Figure 1 - Locus Map
NOT TO SCALE
2.1 Soil Classification

According to Web Soil Survey (WSS) operated by the US Department of Agriculture Natural Resources Conservation Service (NRCS), produced by the National Cooperative Soil Survey, the soils on-site consist of Narragansett very stony silt loam, 0 to 8 percent slopes (NbB) and Ninigret fine sandy loam, 0 to 3 percent slopes (Nt). NbB soils generally consist of coarse-loamy eolian deposits over sandy and gravelly melt-out till derived from gneiss and/or schist and/or granite. These soils are generally well drained and have a hydrologic soil group B. Nt soils consist of coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite. These soils are also classified as prime farmland and belong to hydrologic soil group C.

![Soils Map](image)

**Figure 2 - Soils Map**

Soil evaluations, witnessed by RIDEM, were performed by Natural Resource Services, Inc. in September 2013. Test pits were advanced with an excavator and were observed and logged by a Class IV Soil Evaluator in addition to being witnessed by RIDEM. Three (3) test holes were completed at the approximate locations shown on the plan in Appendix A.
Soil evaluations revealed a water table depth at ten feet for two of the test holes. One test hole consisted of human transported material and therefore the seasonal high groundwater table could not be determined.

2.2 Flood Zone Classification

The site is located on the Flood Insurance Rate Map for the Washington County, Rhode Island, Map Number 44009C0193J, effective date October 16, 2013. Based on this FEMA Flood Insurance Rate Map, the subject property and all adjacent properties, are identified as lying within FEMA Flood Zone X - areas determined to be outside the 0.2% annual-chance flood elevation.

![Flood Map](image)

2.3 Wetland Resources

According to a Freshwater Wetland Site Inspection completed by Natural Resource Services, Inc. (NRS) on September 23, 2013 (Appendix B), there are no regulated wetland features present on the subject property or adjacent to the site that would incur any setbacks onto the lot.

2.4 Zoning

According to the Town of South Kingstown Zoning Maps, the site is currently zoned as GI (Government and Institutional) District. The purpose of this district is to recognize the extent of public and semipublic land holdings and to provide guidance to utilization of
these lands should they be sold or otherwise transferred to private ownership. In general, the GI Zoning District does not have any dimensional requirements.

### 2.5 Easements
Based on a March 2014 Class I Property Survey performed by Pinch Land Surveying, there are no known easements located on the subject parcel.

### 2.6 Utilities

**Water:** There is an existing 8” water main located within Matunuck Schoolhouse Road, owned and maintained by South Kingstown Water Division.

**Sewer:** Public sewers are not available in this area.

**Electric/Communications:** Telephone and electric services run overhead along the north side of Matunuck School House Road.

### 3 PROPOSED DEVELOPMENT OF LAND

#### 3.1 General
The proposed project includes the construction of a new 5,500± square foot fire station and an auxiliary 1,890± square foot ambulance building to replace the existing fire station with associated improvements to the property for parking, site drainage, and wastewater treatment. The fire station is proposed to include a 3,750 sq. ft. main floor, consisting of the fire truck bays, offices and sleeping quarters, and a 1,750 sq. ft. basement storage area. The existing on-site cesspool will be abandoned, and a new innovative/alternative septic system will be installed. Three (3) underground infiltration chamber systems are proposed to treat stormwater runoff to provide water quality treatment to impervious areas associated with the new parking lot areas and rooftop areas. In addition, a new domestic water service (and if necessary, fire protection service) will be provided to each building.

Per the Town Zoning Ordinance, public service buildings require one parking spaces per 350 square feet of floor area. The proposed buildings consist of a total of 5,640 sq. ft. of floor area (excluding closet/storage and utility spaces). Accordingly, per Zoning, a total of 16 parking spaces are required to service the site. However, based on the programmatic needs of Union Fire, the proposed rescue facility will house two (2) employees max.; the proposed fire station will house six (6) employees max.; with two (2) visitor spaces for a total programmatic need of ten (10) parking spaces. As currently designed, twelve (12) total parking spaces are proposed, slightly exceeding the programmatic needs of UFD, but slightly less than required per the Town’s Zoning Ordinance. In addition, three (3) of the
proposed twelve (12) parking spaces have been designed with slightly less than the required parking space dimensional requirements (350 sq. ft. required; 342 sq. ft. proposed). Given the tight geometry of the site and building code requirements, the building width has been minimized to the maximum extent practicable, to provide as much area for parking and travel aisles as possible.

Given the awkward and tight geometry of the site, we have prepared several figures showing various vehicle turning templates navigating through the site. While we understand these are only models and may not necessarily represent real world conditions, it is important to note that this proposed facility is a public safety facility and most of the traffic navigating through the site is employees and staff of Union Fire District. There is generally little to no visitor traffic daily. Figures with the proposed site layout and various turning templates are included in Appendix C.

The site design has taken into consideration the neighboring property to the west by minimizing earthwork adjacent to the existing stand of mature arborvitae trees, maintaining the existing screening to the maximum extent practicable. In addition, the proposed fire station has been sited further back on the site when compared to the existing condition to reduce view of the station from the neighboring property. Landscaping has been provided through the site; however, given this is a public safety facility, the design generally does not meet the requirements of the South Kingstown Land Development Regulations. A detailed breakdown of landscaping waiver requests is provided on the Site Plans.

3.2 Utilities

Water: A new domestic water service and if necessary, fire protection service, will be provided to the new building from the existing main within Matunuck Schoolhouse Road.

Sewer: A new on-site wastewater treatment system will be designed to replace the existing cesspool servicing the existing fire station. Based on the soil evaluation test holes, the grading of the site, and the anticipated wastewater loads, a bottomless sand filter with Advantex pre-treatment pod(s) appears most suitable for this site.

Electric/Communications: Electric and telecommunications exist along Matunuck School House Road. Existing connections are proposed to be utilized to service the new buildings.

3.3 Drainage

Stormwater runoff from the new rooftops and pavement are proposed to be routed to one of two (2) underground infiltration systems that will ultimately discharge to an existing drainage system within Matunuck Schoolhouse Road or offsite to the north, mimicking existing conditions. A small above-ground basin is proposed at the rear to treat and
infiltrate runoff from the northern-most parking/paved area. Soil erosion and sedimentation controls are proposed throughout the duration of construction to protect the adjacent roadway and properties.

4 PERMIT REQUIREMENTS

4.1 Town of South Kingstown Permit Requirements

4.1.1 Planning Board of Review
The project will need to be reviewed and approved by the Planning Board of Review as a Major Land Development Project. The project will require four (4) stages of review: Pre-Application Concept Review, Master Plan, Preliminary Plan, and Final Plan. Anticipated waiver requests at the Master Plan stage include landscape relief, as detailed on the Conceptual Landscape Plan. In addition, the Applicant is respectfully requesting the Master Plan and Preliminary Plan stages of review be combined.

4.1.2 Zoning Board
The project will require review and approval by the Zoning Board for several instances of dimensional relief from the requirements of the South Kingstown Zoning Ordinance, including the following:

- Article 7, Section 711: Minimum Off-Street Parking Requirements: Parking space, including aisles, shall be no less than 350 sq. ft. per vehicle.
  - Required = 350 sq. ft.; Proposed = 342 sq. ft.; Relief Requested = 8 ft.
- Article 7, Section 711: Minimum Off-Street Parking Requirements:
  - Required: 16 spaces; Proposed = 12 spaces; Relief Requested = 4 spaces.

4.1.3 Building Permit
A Building Permit will be required from the Town of South Kingstown Building Official for construction of the proposed addition.

4.2 State of Rhode Island Permit Requirements

4.2.1 Rhode Island Department of Environmental Management (RIDEM)
The proposed OWTS system will need to be approved by the Rhode Island Department of Environmental Management’s (RIDEM) Office of Water Resources, OWTS Division. In addition, the stormwater management design is likely to include underground infiltration systems; therefore a Construction Stormwater Application (also known as a Groundwater Discharge Permit) will be required from RIDEM’s Office of Water Resources.
Appendix A

Soil Evaluations
prepared by Natural Resource Services, Inc., September 2013
# Site Evaluation Form

**Part A - Soil Profile Description**

**Property Owner:** The Union Fire District  
**Property Location:** 49 Matunuck Schoolhouse Rd., South Kingstown, RI  
**Date of Test Hole:** 2-23-13  
**Soil Evaluator:** Edward J. Avizinis  
**License Number:** 34083

**Weather:** Sunny - 60°

**TH 1**

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Horizon Boundaries</th>
<th>Soil Colors</th>
<th>Re-Dox Description</th>
<th>Ab. S. Con.</th>
<th>Texture</th>
<th>Structure</th>
<th>Consistence</th>
<th>Soil Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTM</td>
<td>0-3</td>
<td>G S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ap</td>
<td>1-7</td>
<td>C S</td>
<td>10YR 33</td>
<td></td>
<td></td>
<td>SL 1</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ap</td>
<td>7-9</td>
<td>C S</td>
<td>10YR 32</td>
<td></td>
<td></td>
<td>SL 1</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bv1</td>
<td>9-20</td>
<td>G S</td>
<td>10YR 54</td>
<td></td>
<td></td>
<td>@SL 1</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bv2</td>
<td>20-33</td>
<td>G S</td>
<td>10YR 63</td>
<td></td>
<td></td>
<td>SL 2</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>33-112</td>
<td>-</td>
<td>10YR 61</td>
<td></td>
<td></td>
<td>LS 0</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**TH 2**

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Horizon Boundaries</th>
<th>Soil Colors</th>
<th>Re-Dox Description</th>
<th>Ab. S. Con.</th>
<th>Texture</th>
<th>Structure</th>
<th>Consistence</th>
<th>Soil Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0-8</td>
<td>C S</td>
<td>10YR 34</td>
<td></td>
<td></td>
<td>SL 1</td>
<td>vrri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bv1</td>
<td>8-20</td>
<td>G S</td>
<td>10YR 54</td>
<td></td>
<td></td>
<td>SL 1</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bv2</td>
<td>20-33</td>
<td>G S</td>
<td>10YR 62</td>
<td></td>
<td></td>
<td>SL 2</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>33-112</td>
<td>-</td>
<td>10YR 63</td>
<td></td>
<td></td>
<td>SC 0</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cg</td>
<td>42-112</td>
<td>-</td>
<td>10YR 61</td>
<td></td>
<td></td>
<td>SL 0</td>
<td>fri</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Soil Class:** Ee Contact - D  
**Total Depth of each Test Hole:** 112"  
**Depth to Groundwater Seepage:** >10'  
**Estimated Seasonal High Water Table:** 1'-10', 2'-10'  
**Depth to Impervious or Limiting Layer:** >112"  
**Comments:**
### Site Evaluation Form

**Part A - Soil Profile Description**

<table>
<thead>
<tr>
<th>Property Owner:</th>
<th>The Union Fire District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Location:</td>
<td>49 Matunuck Schoolhouse Rd., South Kingstown, RI</td>
</tr>
<tr>
<td>Date of Test Hole:</td>
<td>9-23-13</td>
</tr>
<tr>
<td>Soil Evaluator:</td>
<td>Edward J. Arzutis</td>
</tr>
<tr>
<td>License Number:</td>
<td>D4083</td>
</tr>
<tr>
<td>Weather:</td>
<td>Sunny, 60's</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Horizon Boundaries</th>
<th>Soil Colors</th>
<th>Re-Dox Description</th>
<th>Texture</th>
<th>Structure</th>
<th>Consistency</th>
<th>Soil Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTM</td>
<td>0-90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Soil Class:** HTM

**Depth to Groundwater Seepage:**

**Estimated Seasonal High Water Table:**

**Total Depth of each Test Hole:** 90

**Depth to Impervious or Limiting Layer:** > 90

**Comments:** It appears the station was constructed on a fill pile.
Part B

Site Evaluation - to be completed by Class II or III Designer or Soil Evaluator

Please use the area below to locate:
1. Test holes
2. Approximate direction of due north
3. Offsets from test holes to fixed points such as street, utility pole, or other permanent, marked object

Key:
- Approximate location of test holes
- % Estimated gradient and direction of slope
- N Approximate direction of due north

1. Relief and Slope: __ 0 - 3% __
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes: YES □  NO □ If yes, locate on above sketch.
3. Presence of existing or proposed private drinking water wells within 200 feet of test holes: YES □  NO □ If yes, locate on above sketch.
4. Public drinking water wells within 500 feet of test holes: YES □  NO □ If yes, locate on above sketch.
5. Is site within the watershed of a public drinking water reservoir or other critical area defined in SD 19.00? YES □  NO □
6. Has soil been excavated from or fill deposited on site? YES □  NO □ If yes, locate on above sketch.
7. Site’s potential for flooding or ponding: NONE □  SLIGHT □  MODERATE □  SEVERE □
8. Landscape position: __ Toe slope __
9. Vegetation: __ Lawn __
10. Indicate approximate location of property lines and roadways.
11. Additional comments, site constraints or additional information regarding site:

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: ____________ License #: ____________
Part B prepared by: ____________ License #: ____________

FOR OFFICE USE ONLY

Decision: Approved (SD 26.00(f)(1)) □  Not in compliance, or more information required (SD 26.00(f)(2)) *  Disclaimed (SD 27.00(f)(3)) □

Comments:

________________________________________
Signature Authorized Agent

________________________________________
Date

revised 5/8/01
Rhode Island Department of Environmental Management
Onsite Wastewater Treatment System Program

APPLICATION NUMBER: 1332-1133
O'Rourke

STREET: 49 Matunuck Schoolhouse Road

CITY/TOWN: South Kingstown

PLAT/LOT: 86-2 32

09/23/2013

INSPECTOR:

INSPECTION DATE:

INSPECTION NUMBER:

TYPE OF INSPECTION:
Dry Season Inspection for Soil

scheduled @ 2:00 PM

FINDINGS/COMMENTS

TH1 = 10

TH2 = 10

TH3 = 0

Fill

RESULTS OF INSPECTION/ACTION REQUIRED

CONSTRUCTION - DESIGNER MUST INSPECT/APPROVE PRIOR TO DEM INSPECTION

- Bottom inspected
- Cover inspected
- Correct items listed
- (RFA) Address items listed and call for re-inspection.
- (ASB) Designer must submit As-Builts
- (RPREQ) Redesign required. Submit new application.
- (RFAD) Stop Construction. Contact OWTS office. DO NOT CONTINUE.
- (COC) Designer submit COC
- (O&M) O&M agreement and permit must be recorded in Land Evidence Records.
- (Fee) A $100.00 fee is required before re-inspection.

SITE TESTING

- Soil Evaluation - Concur
- Soil Evaluation - Do not concur
- Soil Evaluation - Inconclusive
- Alteration Test Hole - Verified
- Alteration Test Hole - Unacceptable
- Ledge Test
- Fill Tests
- Repair Test Hole

Signature of Inspector:

DESIGNER COPY
Appendix B

*Freshwater Wetland Determination Letter, prepared by Natural Resource Services, Inc., October 2013*
9 October 2013

Joe Casali Engineering, Inc.
300 Post Road
Warwick, RI 02888

RE: Wetland consulting services
A.P. 86-2, Lot 32
South Kingstown, RI

Dear Mr. Casali,

Natural Resource Services, Inc. (NRS) has completed its site inspection of the above referenced property. The purpose of this visit was to determine whether or not state regulated freshwater wetlands were present on or immediately adjacent to the subject property. The opinions expressed in this letter are based upon my site visit on September 23, 2013 and my professional understanding of the Rhode Island Coastal Resources Management Program. All opinions expressed by NRS are subject to review and confirmation from the CRMC before being considered final.

The property is currently the site of the local fire department which is located on the south side of the lot adjacent to Matunuck Schoolhouse Road. The remainder of the lot is maintained lawn. In my opinion, there are no regulated wetland features present on the lot or near the lot that would incur any setbacks onto the lot as determined by my site visit on September 23, 2013.

It is important to note however, that the lot is within the Salt Ponds Special Area Management Plan and classified as “Lands of Critical Concern”. This may have implications in regards to the design of the potential OWTS. Please do not hesitate to contact me if you have any questions.

Truly yours,

Edward J. Avizinis
Wetland Biologist/Soil Scientist

NRS file #13-177
Appendix C

Site Layout with Vehicle Turning Templates
Appendix D

Architectural Plans, prepared by Aharonian and Associates, Inc.