

# CRMC DECISION WORKSHEET

2021-09-015

Windward Associates LLC

Hearing Date:	
Approved as Recommended	
Approved w/additional Stipulations	
Approved but Modified	
Denied	Vote

APPLICATION INFORMATION						
File Number	Town	Project Location		Category	Special Exception	Variance
2021-09-015	Westerly	3 Setting Sun Drive		<b>A</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Plat	137			
		<b>Owner Name and Address</b>				
Date Accepted	09-09-2021	Windward Associates LLC		Work at or Below MHW	<input type="checkbox"/>	
Date Completed	01-13-2022	C/O Gary Guastamachio 25 Windward Drive Westerly, RI 02891		Lease Required	<input type="checkbox"/>	

## PROJECT DESCRIPTION

Construct a 3-bedroom single family dwelling with OWTS

## KEY PROGRAMMATIC ISSUES

**Coastal Feature:** Coastal wetland

**Water Type:** Type 2, Low Intensity Use

**CRMP:** 1.1.7, 1.1.9, 1.1.11, 1.2.2(c) 1.3.1(F)

**SAMP:** N/A


Variations and/or Special Exception Details: Setback and buffer zone variations requested.

Additional Comments and/or Council Requirements:

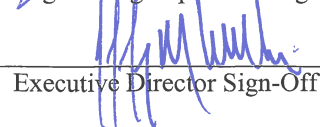
Specific Staff Stipulations (beyond Standard stipulations):

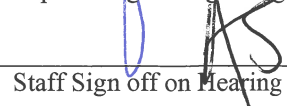
## STAFF RECOMMENDATION(S)

Engineer \_\_\_\_\_ Recommendation: \_\_\_\_\_  
 Biologist **PJO** Recommendation: **No Objection**  
 Other Staff \_\_\_\_\_ Recommendation: \_\_\_\_\_

 1/14/2022  
 Engineering Supervisor Sign-Off \_\_\_\_\_ date

 12/14/2022  
 Supervising Biologist Sign-off \_\_\_\_\_ date


 14 JAN 2022  
 Executive Director Sign-Off \_\_\_\_\_ date

 1/14/2022  
 Staff Sign off on Hearing Packet (Eng/Bio) \_\_\_\_\_ date

Name: Windward Associates LLC  
CRMC File No.: 2021-09-015  
Staff Report



STATE OF RHODE ISLAND  
**COASTAL RESOURCES MANAGEMENT COUNCIL**  
INTER-OFFICE MEMORANDUM

DATE: 09-28-2021  
TO: Jeffrey M. Willis, Executive Director  
FROM: Peter O' Rourke.   
SUBJECT: CRMC File No. 2021-09-015

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Applicant's Name: Windward Associates LLC  
Project: Construct a new 3 bedroom single family house and associated OWTS.  
Location: 3 Setting Sun Drive, Westerly, plat 137, lot 41  
Water Type/Name: Type 2, Low Intensity Use, Pawcatuck River  
Coastal Feature: Coastal wetland.  
Plans reviewed: "Plan to accompany CRMC application proposed new dwelling construction and site improvements for: Windward associates, LLC". By LeBlanc Engineering revised 10-04-2021 sheets 1-3.

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**STAFF REPORT**

Introduction:

This is a variance application request to 650RICR200-00-01.1.9 and 1.1.11 for buffer zone and setback variances. The house requires a 50% buffer relief to 75 ft. and provides a 13.5 ft. setback where 25ft is required. The proposed OWTS requires a 121ft relief from the 150 ft. standard due to regrading and will be located 51.7 ft. when built. The property is located on the corner of watch hill road and setting sun drive. The 103,038sf lot was combined from 4 original lots and measures approximately 560' by 150'.

Summary:

Applicant is proposing to construct a 3 bedroom single family house with a de-nitrifying OWTS. The applicant has been issued an RIDEM OWTS permit 0036-1132 for a 3 bedroom house. The applicant has also mistakenly received an Insignificant Alteration permit 19-0287 from RIDEM Fresh water wetlands program as it falls under RICRMC jurisdiction.

However it was noted in the wetlands permit that the wetland on site contained salt- marsh species near the culvert on watch hill road. The culvert is associated with an 18 inch corrugated pipe which crosses Watch

Name: Windward Associates LLC  
CRMC File No.: 2021-09-015  
Staff Report

Hill road to the Pawcatuck River. The presence of salt marsh species had been confirmed in a previous PD application by CRMC staff.

The applicant requested that we confirm these findings as their biologist did not agree. A recent site inspection confirmed the presence of saltmarsh vegetation at the culvert area. The coastal wetland species seems to be in this area only. The Stated elevation of the freshwater wetlands is elevation 3' and the 18" corrugated metal pipe is at elevation 1.07. The higher the tide the greater the coastal wetland and conversely the lower the tide the more the wetland may drain.

The CHA has a 30 year design life shows it will meet SLR but not the SDE as the proposed FFE is 14.5 and the SDE is 18.6ft. The CERI is described as severe.

Analysis:

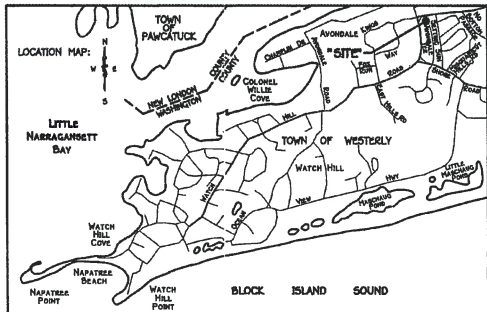
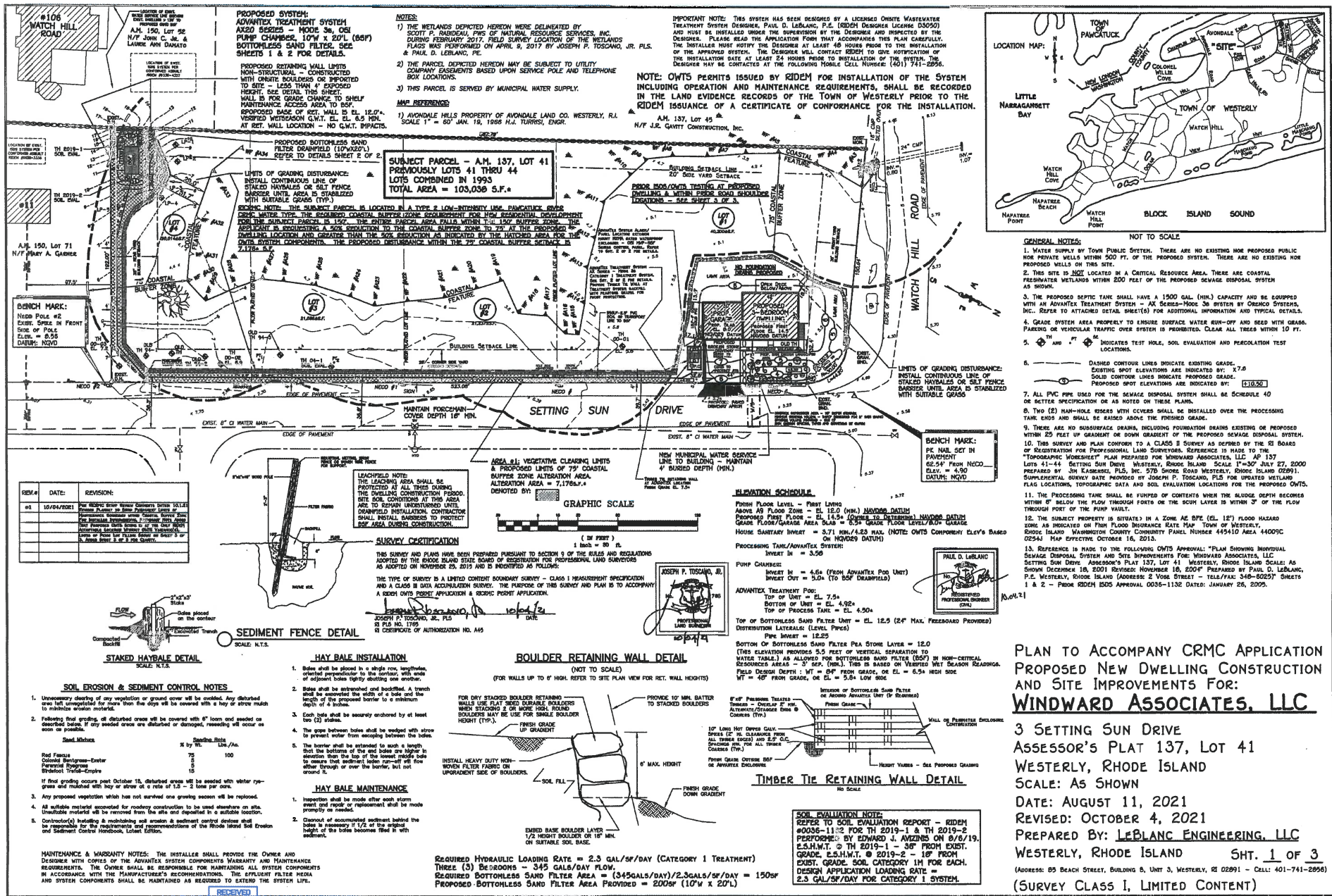
This application requires variances to 650RICR200-00-01 1.1.9 and 1.1.11 to meet setback and buffer zone requirements. The 150 foot buffer zone is not provided and 75 ft. is provided except for the proposed BSF which is 51.7 ft. from the feature and which will require regrading within 29 ft. of the coastal feature. The assent will require permanent vegetative maintenance around the BSF for access to same. As stated this property has received permits from RIDEM.

The lot is connected to the coastal wetland by the 18" corrugated pipe which due to tidal influence creates a coastal wetland on the other side of the road. This 103,038 sf. Lot requires a 150ft. buffer and the applicant has requested a variance to the allowed 75ft. The proposed dwelling will be 13.5 ft. from the buffer so the required 25ft. setback is not met. The proposed leach field will be over 500ft. from the culvert, however it is only 51.7 feet from the nearest coastal wetland edge. The OWTS is located at the highest point of the property and appears to maximize the distance to the wetland as much as possible.

It is the opinion of the reviewing staff that the applicant has minimized variances to the greatest extent possible.

Recommendation:

There are no objections to the council granting of the variances and approving this application. Should the council approve this application standard stipulations shall be applied.



- GENERAL NOTES:**
1. WATER SUPPLY BY TOWN PUBLIC SYSTEM. THERE ARE NO EXISTING OR PROPOSED PUBLIC OR PRIVATE WELLS WITHIN 500 FT. OF THE PROPOSED AREA. THERE ARE NO EXISTING OR PROPOSED WELLS ON THIS SITE.
  2. THIS SITE IS NOT LOCATED IN A CRITICAL RESOURCE AREA. THERE ARE COASTAL FRESHWATER WETLANDS WITHIN 200 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM AS SHOWN.
  3. THE PROPOSED SEPTIC TANK SHALL HAVE A 1500 GAL. (H.W.) CAPACITY AND BE EQUIPPED WITH AN ADVANTEX TREATMENT SYSTEM - A20 SERIES-MODE 36 SYSTEM BY ORCAO SYSTEMS, INC. REFER TO ATTACHED DETAIL SHEET(S) FOR ADDITIONAL INFORMATION AND TYPICAL DETAILS.
  4. GRADE SYSTEM AREA PROPERLY TO ENSURE SURFACE WATER RUN-OFF AND SEED WITH GRASS. PAVING OR VEHICULAR TRAFFIC OVER SYSTEM IS PROHIBITED. CLEAR ALL TREES WITHIN 10 FT.
  5.  $\odot$  AND  $\odot$  INDICATES TEST HOLE, SOIL EVALUATION AND PERCOLATION TEST LOCATIONS.
  6. DASHED CONTOUR LINES INDICATE EXISTING GRADE. EXISTING SPOT ELEVATIONS ARE INDICATED BY X.7.5. SOLID CONTOUR LINES INDICATE PROPOSED GRADE. PROPOSED SPOT ELEVATIONS ARE INDICATED BY 10.00.
  7. ALL PVC PIPE USED FOR THE SEWAGE DISPOSAL SYSTEM SHALL BE SCHEDULE 40 OR BETTER SPECIFICATION OR AS NOTED ON THESE PLANS.
  8. TWO (2) 18" HOLE EGRESS WITH COVERS SHALL BE INSTALLED OVER THE PROCESSING TANK ENDS AND SHALL BE RAISED ABOVE THE FINISHED GRADE.
  9. THERE ARE NO SUBSURFACE DRAINS, INCLUDING FOUNDATION DRAINS EXISTING OR PROPOSED WITHIN 25 FEET UP GRADIENT OR DOWN GRADIENT OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.
  10. THIS SURVEY AND PLAN CONFORM TO A CLASS B SURVEY AS DEFINED BY THE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. REFERENCE IS MADE TO THE "TOPOGRAPHIC WORKSHEET" PLAN PREPARED FOR WINDWARD ASSOCIATES, LLC AP 137 LOTS 41-44 SETTING SUN DRIVE WESTERLY RHODE ISLAND SCALE 1"=30' JULY 27, 2000 PREPARED BY JIM KASAKSKI, PLS, INC. 578 SHORE ROAD WESTERLY, RHODE ISLAND 02891. SUPPLEMENTAL SURVEY DATA PROVIDED BY JOSEPH P. TOSCANO, PLS FOR UPDATED WETLAND PLAS LOCATIONS, TOPOGRAPHIC DATA AND SOIL EVALUATION LOCATIONS FOR THE PROPOSED OWT5.
  11. THE PROCESSING TANK SHALL BE FURFED OF CONTENTS WHEN THE SLUDGE DEPTH BECOMES WITHIN 0' BELOW THE FLOW THROUGH POINT OR THE SCUM LAYER IS WITHIN 3" OF THE FLOW THROUGH POINT OF THE PUMP WAULT.
  12. THE SUBJECT PROPERTY IS SITUATED IN A ZONE A5 BPE (EL. 12') FLOOD HAZARD ZONE. AS INDICATED ON FIRM FLOOD INSURANCE RATE MAP TOWN OF WESTERLY, RHODE ISLAND WASHINGTON COUNTY COMMUNITY PANEL NUMBER 445410 AREA 44009C 02544 MAP EFFECTIVE OCTOBER 16, 2010.
  13. REFERENCE IS MADE TO THE FOLLOWING OWT5 APPROVAL: "PLAN SHOWING INDIVIDUAL SEWAGE DISPOSAL SYSTEM AND SITE IMPROVEMENTS FOR WINDWARD ASSOCIATES, LLC SETTING SUN DRIVE, ASSESSOR'S PLAT 137, LOT 41 WESTERLY, RHODE ISLAND SCALE: AS SHOWN DECEMBER 18, 2001" REVISED NOVEMBER 18, 2007" PREPARED BY PAUL D. LEBLANC, P.E. WESTERLY, RHODE ISLAND (ADDRESS: 2 VINE STREET - TEL/FAX: 348-3027) SHEETS 1 & 2 - PERM. RD02H 8055 APPROVAL 0036-1132 DATED: JANUARY 26, 2009.

**PLAN TO ACCOMPANY CRMC APPLICATION  
PROPOSED NEW DWELLING CONSTRUCTION  
AND SITE IMPROVEMENTS FOR:  
WINDWARD ASSOCIATES, LLC**

3 SETTING SUN DRIVE  
ASSESSOR'S PLAT 137, LOT 41  
WESTERLY, RHODE ISLAND  
SCALE: AS SHOWN  
DATE: AUGUST 11, 2021  
REVISED: OCTOBER 4, 2021  
PREPARED BY: **LEBLANC ENGINEERING, LLC**  
WESTERLY, RHODE ISLAND SHT. 1 OF 3  
(ADDRESS: 85 BEACH STREET, BUILDING B, UNIT 3, WESTERLY, RI 02891 - CALL: 401-741-2996)  
(SURVEY CLASS 1, LIMITED CONTACT)



**LeBlanc Engineering, LLC**  
85 Beach Street, Building B, Unit 3, Westerly RI 02891  
Mobile: (401) 741-2856  
Email: pleblancpe@aol.com

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October 5, 2021

Attn: Mr. Peter O'Rourke  
Coastal Resources Management Council  
Stedman Government Center, Suite 3  
4808 Tower Hill Road  
Wakefield, RI 02879-1900

Re: RICRMC Assent Application # 2021-09-015  
3 Setting Sun Drive, Westerly RI (A.P. 137, Lot 41)  
Supplemental Assent Documents Per CRMC Staff Review

Dear Mr. O'Rourke:

As requested from your office, I have prepared this correspondence as a formal response to CRMC staff review comments as discussed October 1, 2021 via telephone communication. LeBlanc Engineering, LLC has prepared a supplemental Sheet 3 of 3 to be included with the Council review documentation for the project. Prior plan sheets accompanying the prior assent submission package have been replaced within the attached replacement plan sets and have been renumbered Sheet 1 of 3 and Sheet 2 of 3 respectively; with relevant revision block revisions included, as well as reference to supplemental data prepared for Sheet 3 of 3.

Sheet 3 of 3 includes the approximate delineation of prior onsite filling of the subject parcel performed in conjunction with development of the "Avondale Hills Subdivision" plat and construction of Setting Sun Drive prior to 1970. The estimate of prior lot filling is approximately 49% (50,069sf) of the current lot area. Sheet 3 of 3 also shows the proposed limits of the permanent maintenance areas to be maintained by vegetative clearing/cutting for access to the proposed Bottomless Sand Filter (BSF) leachfield area and 3" forcemain sanitary transport line from the advanced treatment system to the BSF location. The total of the proposed permanent maintenance areas within the 75' coastal buffer zone setback limits is 6,368sf+/- . The total area to be permanently maintained within prior man filled areas within the 75' coastal buffer zone setback is estimated to be 3,435sf+/- . The total estimated area to be permanently maintained within prior non-fill impacted areas is 2,933sf+/- . The Applicant proposes to allow for natural revegetation of the net areas of impacted disturbance (total disturbance areas shown on Sheet 1 of 3) during the construction phase vs. the permanent maintenance limits shown on Sheet 3 of 3.

The Town of Westerly currently maintains the vegetative right-of-way strip from the westerly limits of Setting Sun Drive (pavement edge) to the easterly property limits (Town right-of-way limits) – see attached photos. The Applicant proposes a permanent maintenance edge strip adjacent to Setting Sun Drive for the maintenance of the sanitary forcemain transport line. This maintenance area is entirely within a prior filled plateau within the subject property – see attached photos. Likewise, the Applicant is



proposing a permanent maintenance strip of 10' in width parallel to the southerly property limits and an area within the grading limits of the BSF grading limits.

Sheet 3 of 3 depicts the limits of the prior ISDS/OWTS site investigations for testholes and soil evaluation locations within the prior site fill plateau adjacent to Setting Sun Drive and the proposed dwelling location. All of these locations were disclaimed by RIDEM as non-suitable areas for siting an ISDS/OWTS leachfield system. The Applicant has proposed the area to the southerly limits of the lot as the only suitable onsite location acceptable to RIDEM for the siting of an OWTS without any variance to the OWTS Regulations. This is the current OWTS permitted location.

Should you have any questions or clarifications relative to this correspondence, please don't hesitate to contact me via email [pleblancpe@aol.com](mailto:pleblancpe@aol.com) or at 401.741.2856.

Sincerely,

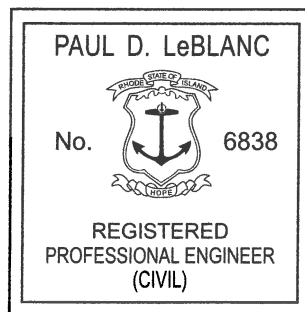


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Paul D. LeBlanc, P.E., President  
***LeBlanc Engineering, LLC***

cc: Windward Associates, LLC – C/O Gary Guastamachio  
Natural Resource Services (NRS) – C/O Scott Rabideau

Attachments: Site Photos, 4 Sets Revised Plans Sheets 1-3



**PHOTOS OF TOWN OF WESTERLY DPW VEGETATION MAINTENANCE:**



Photo 1 – Date: 10/4/2021

Looking Southeast Along Westerly Edge of Setting Sun Drive – Town of Westerly DPW is Currently Maintaining Vegetative Trimming to Frontage Property Line of Subject Parcel







Photo 2 – Date: 10/4/2021

Looking Northwest Along Westerly Edge of Setting Sun Drive – Town of Westerly DPW is Currently Maintaining Vegetative Trimming to Frontage Property Line of Subject Parcel







Photo 3 – Date: 10/4/2021

Photo Showing Large Boulders and Topsoil/Subsoil Fill Previously Placed Prior to 1970 for the Construction of the “Avondale Hills” Subdivision and Setting Sun Drive Roadbed. Photo Taken Looking Northwest Between Flagged Wetland Edge to the Left and Setting Sun Drive to the Right.

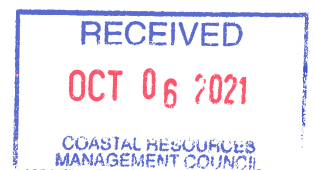
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OCT 06 2021  
COASTAL RESOURCES  
MANAGEMENT COUNCIL





Photo 4 – Date: 10/4/2021

Photo Showing Large Boulders and Topsoil/Subsoil Fill Previously Placed Prior to 1970 for the Construction of the “Avondale Hills” Subdivision and Setting Sun Drive Roadbed. Photo Taken Looking Northwest Between Flagged Wetland Edge to the Left and Setting Sun Drive to the Right, Just Prior to the Proposed new Dwelling Location.





STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
HISTORICAL PRESERVATION & HERITAGE COMMISSION

Old State House • 150 Benefit Street • Providence, R.I. 02903-1209

TEL (401) 222-2678 FAX (401) 222-2968

TTY / Relay 711 Website [www.preservation.ri.gov](http://www.preservation.ri.gov)

Mr. Raymond Coia, Chair  
Coastal Resources Management Council  
Stedman Government Center, 4808 Tower Hill Road  
Wakefield, RI 02879

CRMC File Number: 2021-09-015  
Applicant: Windward Associates LLC  
Town: Westerly  
Response Date: 10/5/21

Dear Ms. Cervenka,

The Rhode Island Historical Preservation & Heritage Commission has reviewed the above- referenced project. It is our conclusion that this project will have no effect on any significant cultural resources (those listed on or eligible for listing on the National Register of Historic Places).

These comments are provided in accordance with 650-RICR-20-00-1.2.3 Areas of Historic and Archaeological Significance of the Coastal Resources Management Council. If you have any questions, please contact Charlotte Taylor, Senior Archaeologist, or Elizabeth Totten, Project Review Coordinator, at this office.

Very truly yours,

Jeffrey Emidy  
Acting Director, RIHPHC



# RICRMC COASTAL HAZARD APPLICATION WORKSHEET

**APPLICANT NAME:** Windward Associates, LLC

**PROJECT SITE ADDRESS:** 3 Setting Sun Drive, Westerly RI (A.P. 137, Lot 41)

**STEP 1. PROJECT DESIGN LIFE**

- A. For properties in a FEMA-designated **A**, or **X** Zone, provide the first floor elevation (FFE) of the proposed structure referenced to NAVD88, **OR** For properties in a FEMA-designated **V** or **Coastal A** Zone, please provide the elevation of the lowest horizontal structural member (LHSM) referenced to NAVD88. FFE 14.5 ft  
OR  
LHSM elevation ft
- B. How long do you want your project to last? Identify the expected design life for the project (CRMC recommends a **minimum of 30 years**) Design Life: 30 yrs
- C. Add the number of years you identified in 1B to the current year. Design Life Year: 2051

D. **CHECK** beneath the sea level rise (SLR) projection that matches or comes closest to project design life year.

Year	2030	2040	2050	2060	2070	2080	2090	2100	
SLR	1.47	2.13	3.05	4.00	5.15	6.49	7.94	9.41	
	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Source: Sea Level Rise (SLR) Projections (Feb. 2017). NOAA High Curve, 83% Confidence Interval. Newport, RI Tide Gauge. All values are expressed in feet relative to NAVD88. <http://www.coprsclimate.us/ccaceslcurves.cfm>

**NOTE:** The STORMTOOLS sea level rise scenarios depict how high the water will be above the average height of the daily high tide over the 19-year period between 1983 and 2001. There have been between 4 and 5 inches of sea level rise in Rhode Island since then. The higher modeled water level accounts for the uncertainties in ice sheet and ocean dynamics.

**STEP 2. SITE ASSESSMENT**

- A. Open **RICRMC Coastal Hazard Mapping Tool**. Following the tutorial along the left side of the screen, enter the project site address and turn on the sea level layer closest to the number you circled in 1D.
- B. **ENTER** the STORMTOOLS SLR map layer closest to the SLR value you checked in Step 1D above. If the value falls between the available STORMTOOLS SLR map layers, round to the closest of these sea level rise (SLR) numbers: 1ft, 2ft, 3ft, 5ft, 7ft, 10ft, or 12ft 3 ft
- C. Does the STORMTOOLS SLR map layer you circled above expose your project site to future tidal inundation? **CHECK YES or NO**  YES  
 NO
- D. List any **roads or access routes** that are potentially inundated from SLR. To do this, **ZOOM OUT** from your project location, change BASEMAP on the viewer to "street view" – see Step 2A.

Portions of Setting Sun Dr & Watch Hill Rd Near Project Site - (If 3ft SLR Est. is Correct)

**\*\*Please be advised that CRMC staff may also review the implications of sea level rise in combination with nuisance storm flooding and discuss these potential project concerns with the applicant. Nuisance flooding impacts may be viewed in STORMTOOLS [here](#).**

**STEP 3. STORMTOOLS DESIGN ELEVATION (SDE)**

- A. Select your SLR Scenario using the tabs along the top of the online map (**NOTE: RECOMMENDED scenario is 100-year storm plus 3-feet of sea level rise**). Follow the tutorial included along the left panels of the viewer to enter the address of your project site. Select the tab across the top that corresponds to the sea level rise projection you identified in STEP 1. Enter your address on the map, and then click on the project site to identify **STORMTOOLS Design Elevation (SDE)** from the pop-up box. **Enter the SDE value:** 16.8 ft





# RICRMC COASTAL HAZARD APPLICATION WORKSHEET

## STEP 4. SHORELINE CHANGE

A. Using the [CRMC Shoreline Change maps](#), indicate the transect number closest to your site, and erosion rate listed for that transect. **NOTE: Transects are not available for every site. If this is the case, please enter N/A.**

**Transect Number:** \_\_\_\_\_  
**Erosion Rate:** \_\_\_\_\_ **ft/year**

B. **CHECK** below the Projected Erosion Rate that corresponds to the design life you identified above.

Year	2050	2060	2070	2080	2090	2100
Projected Future Erosion Multiplier	1.34	1.45	1.57	1.70	1.84	2.00
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Source: Projected Shoreline Change Rate multipliers. (Oakley et al., 2016)*

### C. COMPLETE EROSION SETBACK CALCULATION:

Historic shoreline change rate, STEP 4A	Design Life, STEP 1B	Projected Future Erosion Multiplier, STEP 4B	Erosion Setback (ft) 4A x 1B x 4B
X	X	=	

**NOTE:** Setbacks are required per the [CRMC Red Book, Section 1.1.9](#). A **minimum setback of 50-feet is required**, but a greater setback may be necessary and/or desirable based on this analysis.

## STEP 5. CERİ & OTHER SITE CONSIDERATIONS

A. If you live in a community where a Coastal Environmental Risk Index (CERİ) has been completed (Barrington, Bristol, Charlestown, Narragansett, South Kingstown, Warren, Warwick, Westerly), CHECK the level of projected damage to your location, as indicated on the map that corresponds to the design life identified in STEP 1.

**CERİ Level:**    Moderate    High    Severe    Extreme    Inundated by 2100    Not applicable

B. Consider and discuss with your design consultant other forces or factors that might impact the development, such as coastal habitats, shoreline features, public access, wastewater, storm water, depth to water table/groundwater dynamics, saltwater intrusion, or other issues not listed above. In addition, pressure from rising sea levels will result in rising subsurface groundwater levels ultimately effecting wells and septic systems.

## STEP 6. LARGE PROJECTS

This step is for Large Projects and Subdivisions only, six (6) or more units, as defined by the [CRMC Red Book Section 1.1.6.I\(1\)\(f\)](#). This step may be skipped for other projects.

A. Use the Sea Level Affecting Marshes Model (SLAMM) Maps to assess potential impacts to large projects and subdivisions from salt marsh migration resulting from projected sea level rise. CRMC SLAMM maps can be accessed [here](#). The CRMC recommends using the 5-foot SLR projection within SLAMM to assess future potential project impacts on migrating marshes. Does the SLAMM map that corresponds to the design life you identified in STEP 1 expose your project site to future salt marsh migration? **CHECK YES or NO**

YES     NO

## STEP 7: DESIGN EVALUATION

A. Using Chapter 7 of the RI Shoreline Change SAMP as a guide, investigate mitigation options for the exposure identified above and include that in the final application.

*This fully completed Coastal Hazard Application Guidance worksheet must accompany the application. If you are a design or engineering professional, please print and sign here that you have discussed the findings of this worksheet with the Owner.*

DESIGN/ENGINEER SIGNATURE: *Paul D. Bl...*    DATE: 9/24/2021  
 OWNER'S SIGNATURE: *[Signature]*    DATE: 9/24/2021  
 FOR WINDOWARD ASSOC., LLC.

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SEP 24 2021

COASTAL RESOURCES  
MANAGEMENT COUNCIL



State of Rhode Island and Providence Plantations  
**Coastal Resources Management Council**  
 Oliver H. Stedman Government Center  
 4808 Tower Hill Road, Suite 3  
 Wakefield, RI 02879-1900

(401) 783-3370  
 Fax (401) 783-2069

## APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Project Location <u>3</u> <u>Setting Sun Drive</u> <u>Westerly</u> <small>No. Street City/Town</small>	File No. (CRMC USE ONLY) <span style="color: red; font-size: 1.2em;">2021-09-015</span>
Owner's Name <u>Windward Associates, LLC c/o Gary Guastamachio</u>	Plat: 137 Lot(s): 41
Mailing Address <u>25 Windward Drive</u> City/Town <u>Westerly</u> State <u>RI</u> Zip Code <u>02891</u>	Contact No.: (860)798-0012 Email Address: <u>jsgdevelopment1@sbcglobal.net</u>
Contractor RI Reg. # _____ Address _____	Email address: Tel. No. _____
Designer <u>Paul LeBlanc, P.E.</u> Address <u>85 Beach St, Building B, Unit 3</u> <u>Westerly, RI 02891</u>	Tel. No. (401)741-2856
Name of Waterway _____	Estimated Project Cost (EPC): \$500,000.00 Application Fee: \$2,750.00
Describe accurately the work proposed. (Use additional sheets of paper if necessary and attach this form.) Proposed construction of a 3-bedroom single family dwelling and on-site wastewater treatment system.	

Have you or any previous owner filed an application for and/or received an assent for any activity on this property?  
 (If so please provide the file and/or assent numbers): A2017-06-048; 2020-02-002

Is this site within a designated historic district?  YES  NO

Is this application being submitted in response to a coastal violation?  YES  NO

If YES, you must indicate NOV or C&D Number: \_\_\_\_\_

Name/ mailing addresses of **adjacent property owners** whose property adjoins the project site. Accurate mailing addresses will insure proper notification. \_\_\_\_\_ Applicant **must** initial to certify accuracy of adjacent property owners and accuracy of mailing addresses.

A.P. 150, Lot 71 - Mary A Garner - 11 Setting Sun Drive Westerly, RI 02891

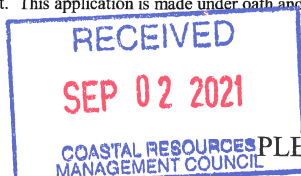
A.P. 150, Lot 52 - John C Jr & Laurie Ann Damato - 106 Watch Hill Road Westerly, RI 02891

A.P. 137, Lot 45 - JR Gavitt Construction Inc. - 100 Watch Hill Road Westerly, RI 02891

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

08/04



*[Handwritten Signature]*  
 Owner's Signature (sign and print) WINDWARD ASSOCI

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM

TO: **Coastal Resources Management Council**  
4808 Tower Hill Road Suite 3  
Wakefield, RI 02879  
Phone: (401) 783-3370



FROM: Building Official DATE: August 16, 2021

SUBJ: Application of: Windward Associates, LLC - New Building Construction

Location: 3 Setting Sun Drive Westerly, RI (A.P. 137, Lot 41)  
Parcel Located at the Intersection Watch Hill Road & Setting Sun Drive (South Side)

Address: 3 Setting Sun Drive, Westerly RI Plat No. 137 Lot No. 41

To Construct: New 3-Bedroom Dwelling w/Attached Garage, Installation of New 3-Bedroom Onsite Wastewater Treatment System (OWTS) and Site Improvements

I hereby certify that I have reviewed \_\_\_\_\_ foundation plan(s).  
\_\_\_\_\_ plan(s) for entire structure  
 site plans

Titled: Plan Showing Proposed Onsite Wastewater Treatment System (OWTS) and Site Improvements For: Windward Associates, LLC 3 Setting Sun Drive Westerly, Rhode Island Scale: As Shown Date: September 17, 2019 Revised: June 26, 2021 Prepared By: LeBlanc Engineering, LLC (Sheets 1-4) Approved by RIDEM 7-13-2021. Plan to Accompany CRMC Application Proposed New Dwelling Construction and Site Improvements For: Windward Associates, LLC 3 Setting Sun Drive Westerly, Rhode Island Scale: As Shown Date: August 11, 2021, Revised: Prepared By: LeBlanc Engineering, LLC (Sheets 1-2).

Date of Plan (last revision): August 11, 2021

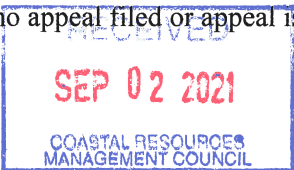
\_\_\_\_\_ and find that the issuance of a local building permit is not required as in accordance with Section \_\_\_\_\_ of the Rhode Island State Building Code.

and find that the issuance of a local building permit is required. I hereby certify that this permit shall be issued once the applicant demonstrates that the proposed construction/activity fully conforms to the applicable requirements of the RISBC.

\_\_\_\_\_ and find that a Septic System Suitability Determination (SSD) must be obtained from the RI Dept. of Environmental Management.

\_\_\_\_\_ and find that a Septic System Suitability Determination (SSD) need not be obtained from the RI Dept. of Environmental Management.

\_\_\_\_\_ and find that said plans conform with all elements of the zoning ordinance, and that if said plans require zoning board approval, that the applicant has secured such approval and that the requisite appeal period has passed with no appeal filed or appeal is final. The Zoning Board approval shall expire on \_\_\_\_\_.



[Signature]  
Building Official's Signature Date

and find that said plans conform with all elements of the zoning ordinance, and that if said plans require zoning board approval, that the applicant has secured such approval and that the requisite appeal period has passed with no appeal filed or appeal is final. *we'll get zoning cert*

Cindy DiMaggio 8/30/21  
Zoning Officer's Signature Date



# Town of Westerly, R. I.

---

Town Assessor's Office 45 Broad St Westerly RI 02891

Tel (401) 348-2541 Fax (401) 348-2616

TO WHOM IT MAY CONCERN:

RECORDS AT THE ASSESSOR'S OFFICE, TOWN OF WESTERLY, RI, INDICATE THAT THE FOLLOWING OWN PROPERTY IN SAID TOWN:

NAME: WINDWARD ASSOCIATES LLC  
25 WINDWARD DR  
WESTERLY, RI 02891

PROPERTY LOCATION: 3 SETTING SUN DR

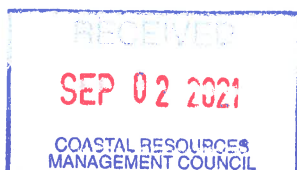
PLAT/LOT: 137/41

LAND EVIDENCE RECORDS: BOOK 0489 PAGE 0106

DATE OF ISSUE: July 15, 2021

SINCERELY,

DAVID B THOMPSON  
TOWN ASSESSOR





# TOWN OF WESTERLY, R.I. PROPERTY INDEX CARD

PLAT	LOT	ACCOUNT NUMBER	SQUARE FEET	SEWER DISTRICT	STATE CODE	ZONING	FIRE DISTRICT
137	41	<del>07-2468-0-0</del> <del>1151500</del>	103,711 -20,003	N	13	R-30	WPD

LOCATION: SETTING SUN DRIVE-AVONDALE HILLS-14

SUBDIVISION: Avondale Hills LOT: 1, 2, 3 & 4

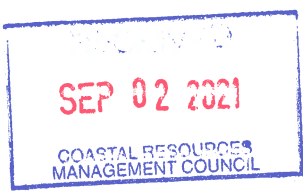
## NAME AND ADDRESS

AVONDALE LAND CO  
~~670 HAROLD SORREVEYER~~  
~~2-ELM-ST~~  
~~WESTERLY R.I. 02891~~

~~Guastamachio, Joseph S.~~  
 7/12/84 268 290

~~Woody Hill Home Inc., 8 Timothy Drive Town~~  
 1/19/93 448 290  
 Quit Claim Deed  
 Quit Claim Deed  
 9/28/93 482 279  
 10/8/93 484 187  
 11/8/93 489 106

OLD PLAT: 0020 OLD LOT: 0004





## Natural Resource Services, Inc.

August 10, 2021

Amy Silva, Senior Environmental Scientist  
Coastal Resources Management Council  
4808 Tower Hill Road  
Wakefield, RI 02879

RE: Application for Assent  
3 Setting Sun Drive, Westerly  
CRMC PD No. 2020-02-002

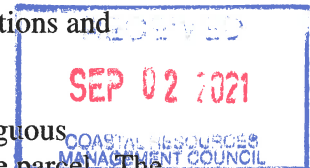
Dear Ms. Silva:

Natural Resource Services, Inc. (NRS) has been retained by Gary Guastamachio of Windward Associates, LLC to assist with the preparation and submission of this Application for Assent to construct a single family dwelling on the above referenced property. NRS did submit a Preliminary Determination (PD) to the Coastal Resources Management Council (CRMC) in February of 2020. The PD response and comments from now retired CRMC staff scientist Timothy Motte were received on March 2, 2020.

Mr. Motte made a determination that the freshwater wetland present on this lot is regulated by the CRMC as a coastal wetland. There is a 24-inch corrugated metal culvert beneath Watch Hill Road which drains water from this freshwater wetland to a coastal marsh on the north side of Watch Hill Road. Mr. Motte determined that at extreme high-tides tidal waters flow through the culvert and into the freshwater wetland. I do not agree with the determination made by Mr. Motte. My rationale for this contradictory opinion is presented in the variance request narrative.

Freshwater wetlands on the south side of Watch Hill Road are regulated by the Department of Environmental Management (DEM), Office of Water Resources (OWR). The applicant has received an Insignificant Alteration permit from the DEM, OWR to construct a 4-bedroom single family home and on-site wastewater treatment system (DEM Application No. 19-0287). The DEM permitted plan maintains an undisturbed 50-foot perimeter wetland around the proposed home. However, a sewer line force main and grading around the bottomless sand filter encroach into the perimeter wetland. These limited encroachments were deemed to be insignificant relative to the functions and values of this wetland.

In light of Mr. Motte's determination, this CRMC designated contiguous freshwater wetland necessitates a 150-foot buffer zone within this 2.37 acre parcel. The applicant has reduced the size of the house to allow for the establishment of a 75-foot



buffer zone. The application package therefore includes a request for a 50 percent reduction in the buffer zone for construction of the dwelling.

Similarly, in order to accommodate a reasonably sized residence, the application also requests a variance to the setback requirement. At its closest point, the dwelling falls within 13.5 feet of the 75-foot buffer zone.

As previously mentioned, the OWTS grading falls within 29 feet of the wetland edge. This is the closest point of any land altering activity from the project. Therefore, the applicant must seek buffer zone relief of 81 percent in order to construct the DEM permitted OWTS. It should be noted that the house and septic have each been scaled down to 3-bedrooms.

Finally, Mr. Motte's PD findings makes substantive changes to the wetland delineation. He asserts that a coastal bluff is applicable along much of the wetland delineation. This determination, in my opinion, is not supported by the natural topography and should be revisited by staff as part of the assent application. Mr. Motte also requires changes to the wetland delineation in the southern portion of the lot nearest the proposed OWTS. This wetland edge was used and accepted as part of the DEM freshwater wetland application. I respectfully request that staff also review the original NRS delineation as part of this assent application.

Please do not hesitate to contact me if you have questions or require additional information.

Very truly yours,



Scott P. Rabideau, PWS  
Principal

Enclosures

Cc: Gary Guastamachio  
Paul LeBlanc, PE





## Natural Resource Services, Inc.

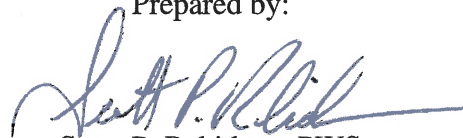
### Request for Buffer Zone and Setback Variances

Proposed Single Family Residence  
3 Setting Sun Drive; A.P. 137, Lot 41  
Westerly, Rhode Island



Prepared for:  
Gary Guastamachio  
Windward Associates, LLC  
25 Windward Drive  
Westerly, RI 02891

Prepared by:

  
Scott P. Rabideau, PWS

August 10, 2021





## Introduction

The applicant is seeking permission from the Coastal Resources Management Council (CRMC) to construct a 3-bedroom single family residence on property listed as A.P. 137, Lot 41 or 3 Setting Sun Drive in Westerly. The work includes the installation of an on-site wastewater treatment system (OWTS) recently approved by the Department of Environmental Management (DEM). As proposed, the project will require relief in the form of variances from the Coastal Resources Management Program's (CRMP) Buffer Zone (650-RICR-20-00-1; Section 1.1.11) and Setback (Section 1.1.9) standards.

Pursuant to Section 1.1.7 of the CRMP, applicants requiring a variance from any Program standard must make the request in writing and address each of the six (6) variance criteria listed in this section. Natural Resource Services, Inc. (NRS) has prepared this written narrative on behalf of Windward Associates, LLC, the applicant, in fulfillment of this requirement.

## Proposed Residential Development

The applicant is seeking permission to construct a 3-bedroom single family dwelling with an attached garage on a 2.37 acre parcel situated on the south side of the intersection of Setting Sun Drive and Watch Hill Road in Westerly. The property does have access to a municipal water service and as such no residential well is required. However, since municipal sewer service is not available, an OWTS is necessary.

## Existing Site Conditions

As previously noted, that parcel is 2.37 acres in size and maintains road frontage on both Setting Sun Drive and Watch Hill Road. The lot is primarily wooded and undeveloped. There is an area of open water within the interior of the property.

NRS field delineated the limit of a freshwater wetland within this parcel on February 27, 2017. The flag series labeled A1-A34, as represented on the enclosed site development plan, depicts the landward extent of a pond/marsh complex. A fringe of dense shrub and sapling growth surrounds this wetland. NRS identified this resource area as a freshwater wetland regulated by the DEM pursuant to the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act.

A Preliminary Determination (PD) was filed with the CRMC in February, 2020. A coastal wetland associated with the Pawcatuck River abuts the north side of Watch Hill Road directly opposite the property. The proposed dwelling falls within 200 feet of this identified coastal wetland. The intent of the PD filing was to determine the regulatory extent of the CRMP over the subject property.

In the PD issued on March 2, 2020, the CRMC staff biologist made a determination that the freshwater wetland within the lot is tidally influenced and therefore qualifies for regulation as a coastal wetland pursuant to Section 1.2.2(c) of the CRMP.



There is a 24-inch culvert extending beneath Watch Hill Road which allows the exchange of water between these two areas.

NRS is of the opinion that this culvert connection does not result in tidal waters inundating the subject wetland. The invert of the culvert adjacent to the coastal marsh was determined by the project surveyor, Joseph Toscano, PLS, to be at elevation 1.07 (NGVD88). Watch Hill Road is at elevation 5.0 and the freshwater wetland on the subject property is at elevation 3.0 with typical water surface elevation EL 3.4 to EL 3.6. A 2-foot cut was needed on the south side of the Watch Hill Road culvert invert to allow water from the freshwater wetland to discharge into the Pawcatuck River. Any potential backflow of tidal water through the culvert would be contained within the constructed depression at the culvert invert and not dispersed into the freshwater wetland. This flows from the freshwater wetland would back up into the contributing wetland area.

However, based on the CRMC PD determination, a 150-foot buffer zone is applied to the wetland delineation within the subject property. The PD comments also contend that a low coastal bluff extends the regulated coastal feature beyond the delineated wetland edge. NRS does not agree with this determination and requests a new assessment of the coastal feature limits as part of this Application for Assent. The plans submitted with this application do not reflect any of the wetland delineation changes listed in the March 2, 2020 PD findings.

#### Variances Requested

The applicant has received an OWTS approval from the DEM to install a bottomless sand filter (BSF) at the southern corner of this rectangular lot. This is the only location within the 2.37 acre parcel where a suitable water table with native soils (non-fill) was available to support this advanced treatment system. The BSF is situated 51.7 feet from the wetland edge, however, the perimeter grading around the leachfield encroaches to within 29 feet of the wetland. As such, the applicant is requesting 121 feet of relief from the 150-foot buffer requirement (an 81 percent variance from the standard). Since the BSF is located 51 feet from the wetland, it requires a variance from the 175-foot setback standard. The applicant is requesting 124 feet of relief from the 175-foot setback requirement (a 71 percent variance from the standard).

While the OWTS location represents the project's closest encroachment to the NRS delineated coastal feature, the proposed dwelling also requires relief from the buffer zone and setback standards. The plan depicts an undisturbed 75-foot buffer zone around the dwelling. This represents a 50 percent reduction to the standard. The structure is proposed, at its closest point, 13.5 feet from the buffer zone, a 49 percent reduction.

#### Response to Variance Criteria

- 1. The proposed alteration conforms with applicable goals and policies of the Coastal Resources Management Program.*



The applicant is proposing a relatively modest 3-bedroom home on a 2.37 acre parcel containing a contiguous freshwater wetland. This coastal wetland is adjacent to Type 2 waters along the Pawcatuck River. Type 2 waters are areas with high scenic value that support “low intensity recreational and residential uses”. A 3-bedroom single family home on this parcel would be consistent with the Program’s anticipated use surrounding Type 2 waters.

*2. The proposed alteration will not result in significant adverse environmental impacts or use conflicts, including but not limited to, taking into account cumulative impacts.*

The applicant has received an Insignificant Alteration permit from the DEM Freshwater Wetland Program. The plan which was reviewed and approved by the DEM included a larger 4-bedroom dwelling and OWTS. The permit allowed alterations for the dwelling to occur within 50 feet of the freshwater wetland. The OWTS grading and BSF location are consistent with the submitted CRMC plan. The CRMC plan increases the buffer zone around the dwelling to 75 feet.

The OWTS is an advanced treatment design. It requires a force main to carry the effluent from the treatment tank located adjacent to the house to the BSF. The proposed forcemain installation falls within the previous road/shoulder construction fill limits of the “Avondale Hills” platted subdivision (non-native soil fills are present – see testhole data presented within the approved OWTS plans).

Based on the reduction in size from the DEM approved plan, the utilization of an advanced treatment OWTS, and the careful placement of the force main, the project will not result in any significant adverse environmental impacts.

With regard to use conflicts, the applicant is proposing a single family home on property zoned for residential development. There is a commercial restaurant across Setting Sun Drive and a retail establishment on the north side of Watch Hill Road. However, a review of aerial photographs reveals the majority of the surrounding land use is for single family homes. As such, this project shall not result in any use conflicts.

*3. Due to conditions at the site in question, the applicable standard(s) cannot be met.*

It should be noted that the Town of Westerly previously merged the platted lots of record (Subdivision Lots 1 thru 4) for the subject parcel under consideration. The maximum extent of the coastal buffer zone and setbacks has been applied due to the prior merging of these lots. The Applicant – Windward Associates, LLC was not notified of the Town’s merging of these lots in 1993. The proposed dwelling is sited on the prior subdivision lot – Lot #1 consisting of 40,200 +/- s.f. this has resulted in an additional hardship for the development of this parcel.

The request for both the buffer zone and setback variances are a direct result of the conditions which exist at the site. The OWTS is proposed at the only location where conditions were deemed acceptable through a site evaluation approved by the DEM.





Sufficient upland is not available adjacent to the BSF placement, which necessitates the dwelling being sited at the opposite side of the parcel. The force main is therefore necessary to carry the effluent to the leachfield.

There is sufficient upland available in the northern corner of the lot to support the 3-bedroom home. Since the parcel is only 150 feet wide, there is no opportunity to place a house anywhere on the property without the need for a buffer zone variance.

4. *The modification requested by the applicant is the minimum variance to the applicable standard(s) necessary to allow a reasonable alteration or use of the site.*

As previously noted, the location for the OWTS is necessary to support the leachfield. The project engineer designed the leachfield as a BSF to minimize the footprint and reduce the variance request and to also eliminate a variance request from the OWTS regulations. The buffer zone and setback variances sought for the OWTS and sewer force main are necessary to allow for the use of the property for a single family dwelling.

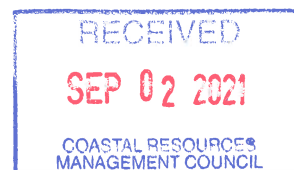
The applicant has reduced the size of the proposed residence to minimize both the buffer zone and setback relief sought. The home is modest while still keeping in relative conformance with the surrounding neighborhood. The relief to the two standards allows for this reasonable use.

5. *The requested variance to the applicable standard(s) is not due to any prior action of the applicant or the applicant's predecessors in title. With respect to subdivisions, the Council will consider the factors as set forth in § 1.1.7(B) of this Part below in determining the prior action of the applicant.*

The property is a lot of record in the Town of Westerly. There has been no action by the current owner or the predecessor in title which resulted in the need for seeking either the buffer zone or setback variance. The Town of Westerly through its prior merging of the platted subdivision lots 1 to 4 has created the current buffer zone and setback requirements.

6. *Due to the conditions of the site in question, the standard(s) will cause the applicant an undue hardship. In order to receive relief from an undue hardship an applicant must demonstrate inter alia the nature of the hardship and that the hardship is shown to be unique or particular to the site. Mere economic diminution, economic advantage, or inconvenience does not constitute a showing of undue hardship that will support the granting of a variance.*

The applicant is seeking an 81 percent reduction in the buffer zone standard and a 71 percent reduction in the setback standard in order to install an advanced treatment OWTS in the southern corner of the lot. This is the only location within the 2.37 acre parcel where soil conditions were determined to be suitable for the placement of the leachfield. If the CRMC were to deny the relief requested, the applicant would not be



able to construct any residence on the property and thereby suffer an undue hardship. The Town's merging of the prior platted subdivision lots has also resulted in a hardship when applying the minimum buffer and setback requirements.

A suitable location for the dwelling is located at the opposite side of the parcel. This places the home at the intersection of Watch Hill Road and Setting Sun Drive. The required stormwater management feature (rain garden) and the advanced treatment septic tank are each located within the town mandated 25-foot front yard setback. The residence is situated immediately behind each of these features. This represents the only location available which can support a modest 3-bedroom dwelling. If the buffer zone and setback variances for the home are not granted, the applicant would not be able to use the property for its locally zoned purpose and thereby suffer an undue hardship.





**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF WATER RESOURCES**  
235 Promenade Street  
Providence, Rhode Island 02908

December 16, 2019

Windward Associates, LLC  
c/o Gary Guastamachio  
25 Windward Drive  
Westerly, RI 02891



**Insignificant Alteration – Permit**

Re: Application No. 19-0287 in reference to the location below:

Approximately 100 feet west of Setting Sun Drive, Utility Pole (NECO) 1, approximately 120 feet southwest of its intersection with Watch Hill Road, Assessor's Plat 137, Lot 41, Westerly, RI

Dear Mr. Guastamachio:

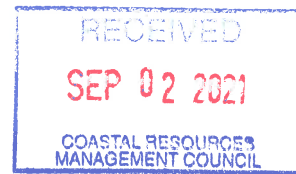
Kindly be advised that the Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Request for Preliminary Determination** application. This review included a site inspection of the above referenced property ("subject property") and an evaluation of the proposed four (4)-bedroom single-family residence, attached garage, crushed stone driveway, on-site wastewater treatment system (OWTS), and rain garden stormwater bioretention facility as illustrated and detailed on site plans submitted with your application. These site plans were received by the DEM on October 1, 2019.

Our observations of the subject property, review of the site plans and evaluation of the proposed project reveals that alterations of freshwater wetlands are proposed. However, pursuant to 250-RICR-150-15-1.9 of the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, 250-RICR-150-15-1, this project may be permitted as an **insignificant alteration** to freshwater wetlands under the following terms and conditions:

**Terms and Conditions for Wetlands Application No. 19-0287:**

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq.
2. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on October 1, 2019. A copy of the site plans stamped approved by the DEM is enclosed. Changes or revisions to the project that would alter freshwater wetlands are not authorized without a permit from the DEM.
3. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.





4. You must notify this Program in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Program in writing upon completion of the project. The Start of Construction Form can be found on the webpage: dem.ri.gov/stormwaterconstruction.
5. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or town representative upon request.
6. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the Town of Westerly and supply this Program with written documentation obtained from the Town showing this permit was recorded.
7. The effective date of this permit is the date this letter was issued. This permit expires four (4) years from the date of this letter unless renewed pursuant to the Rules.
8. Any material utilized in this project must be clean and free of matter that could pollute any freshwater wetland.
9. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete.
10. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be properly maintained, replaced, supplemented, or modified as necessary throughout the life of this project to minimize soil erosion and to prevent sediment from being deposited in any wetlands not subject to disturbance under this permit. Please note that haybales are no longer an approved measure. Please refer to the Rhode Island Soil Erosion and Sediment Control Handbook <http://www.dem.ri.gov/programs/bnatres/water/pdf/riesc-handbook16.pdf>.
11. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.
12. You are obligated to install, utilize and follow all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetlands and the functions and values provided by such wetlands.
13. This Program has made specific revisions to the approved site plans. These revisions are clearly marked in red on the approved plans. Specifically, disturbed soils associated with the force main installation should be seeded with an appropriate conservation seed mix as indicated on the site plan notes and planted with shrubs comprised of at least one of the following species: Rosebay Rhododendron (*Rhododendron maximum*), Inkberry (*Ilex glabra*) Highbush Blueberry (*Vaccinium corymbosum*), or S. Arrowwood (*Viburnum dentatum*) (depending on soil conditions), at least 3 feet tall after plantings and approximately 6 feet on center in the areas indicated on the site plans. This project must take place in compliance with these revisions.



14. All plantings of shrubs, trees or other forms of vegetation as shown or detailed on the approved plans, or detailed in this permit, must be installed as soon as possible after completion of final grading; weather and season permitting.
15. Any plantings which fail to survive one full growing season shall be replaced. Replacement plantings shall be similarly guaranteed for one full growing season.
16. For crushed stone driveway construction, the crushed stone must be ¾-inch to 1½ inch diameter, washed, angular crushed stone installed to a minimum depth of 3-inches with the grade of the finished driveway not higher than the adjacent ground elevation.
17. This permit supersedes a previous permit issued by the DEM for the subject property under Application No. 18-0338.

Pursuant to the provisions in 250-RICR-150-15-1.7(A)(9) and 250-RICR-150-15-1.11(D), as applicable, any properly recorded and valid permit is automatically transferred to the new owner upon sale of the property.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action by this Department.

In permitting the proposed alterations, the DEM assumes no responsibility for damages resulting from faulty design or construction.

Kindly be advised that this permit is not equivalent to a verification of the type or extent of freshwater wetlands on site. Should you wish to have the types and extent of freshwater wetlands verified, you may submit the appropriate application in accordance with 250-RICR-150-15-1.8(C).

This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage. **Please note that pursuant to communication with the Coastal Resources Management Council (CRMC), the wetland on-site contains salt-marsh species near the culvert on Watch Hill Road. Accordingly, please contact CRMC at (401)783-3370 to determine CRMC permitting requirements.**

Please contact Rene Legault of this office (telephone: 401-222-4700, ext. 7732) should you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink that reads "Nancy L. Freeman".

Nancy L. Freeman, Principal Environmental Scientist  
Office of Water Resources  
Freshwater Wetlands Program

NLF/RJL/tjl

Enclosure: Approved site plans

cc: Tim Motte, CRMC Permitting Program  
Martin D. Wencek, DEM Freshwater Wetlands Program Supervisor  
Mohamed Freij, DEM OWTS Program  
David Murphy, Westerly Building Official  
Paul D. LeBlanc, LeBlanc Engineering, LLC.  
Scott P. Rabideau, President, Natural Resource Services, Inc.







FOR ILLUSTRATIVE PURPOSES ONLY  
NOT A SURVEY PLAN

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2021 Aerial Photograph  
3 Setting Sun Dr  
A.P. 137, Lot 41

Westerly, RI

— Approximate Site Location



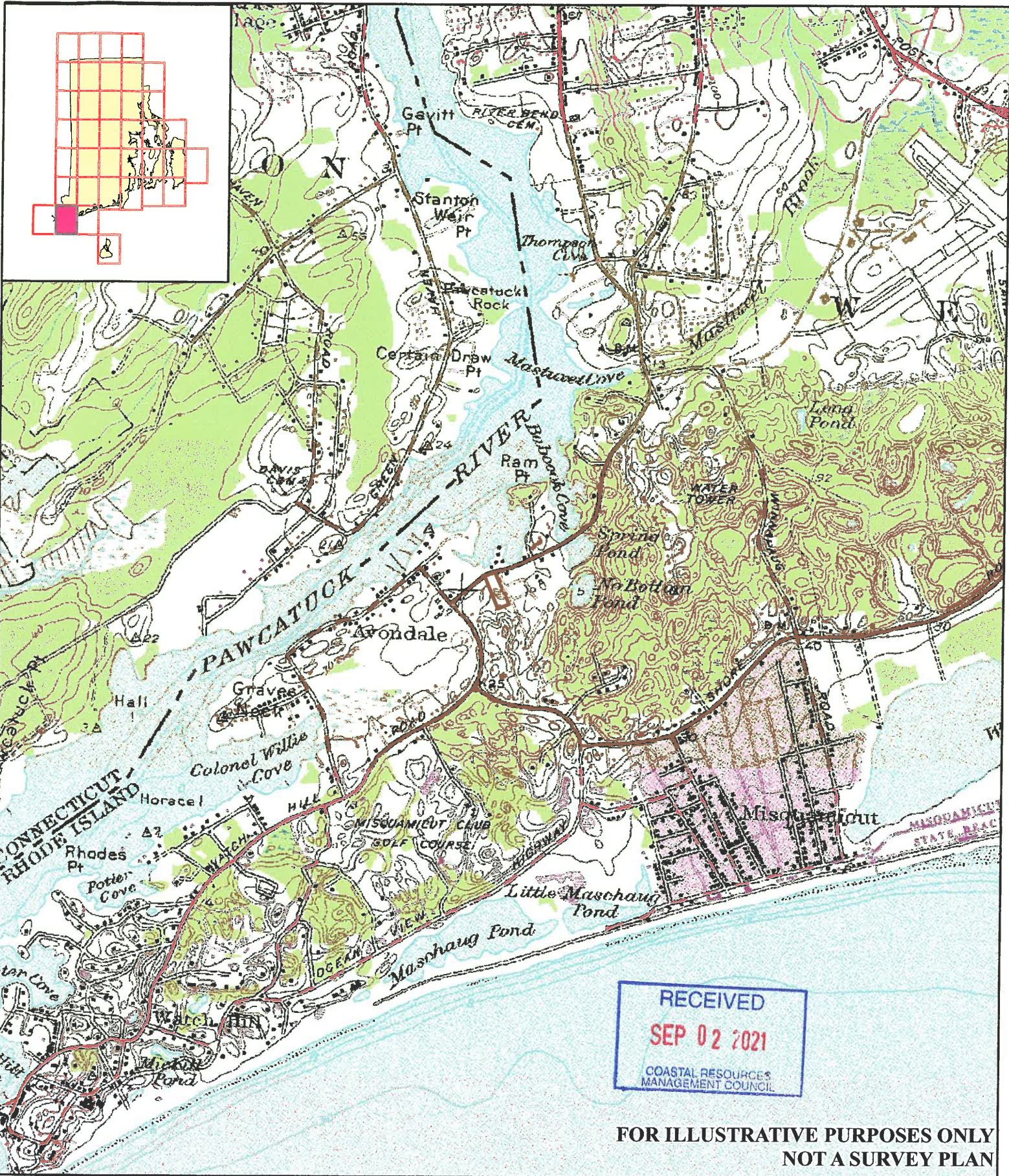
RECEIVED  
SEP 02 2021  
COASTAL RESOURCES  
MANAGEMENT COUNCIL




March 15, 2021 image  
(c) nearmap

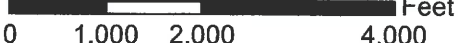
**RIGIS**  
Natural Resource Services, Inc.  
PO Box 311  
180 Tinkham Lane  
Harrisville, RI 02830  
p: (401) 568-7390  
f: (401) 568-7490  
(c) RIGIS





**USGS Topographic Map**  
**3 Setting Sun Dr**  
**A.P. 137, Lot 41**  
 Westerly, RI  
 Watch Hill Quad Map

 **Approximate Site Location**  
 USGS Topographic Series  
 Contour Interval 10 Feet  
 National Geodetic Vertical Datum of 1929

 **Feet**  
 0 1,000 2,000 4,000

  
  
**Natural Resource Services, Inc.**  
 PO Box 311  
 150 Tinkham Lane  
 Harrisville, RI 02830  
 p: (401) 966-7390  
 f: (401) 666-7490  
 (c) RIGIS

**RECEIVED**  
**SEP 02 2021**  
 COASTAL RESOURCES  
 MANAGEMENT COUNCIL

**FOR ILLUSTRATIVE PURPOSES ONLY**  
**NOT A SURVEY PLAN**





FOR ILLUSTRATIVE PURPOSES ONLY  
NOT A SURVEY PLAN

Copyright nearmap 2015

2021 Aerial Photograph  
3 Setting Sun Dr  
A.P. 137, Lot 41

Westerly, RI

— Approximate Site Location



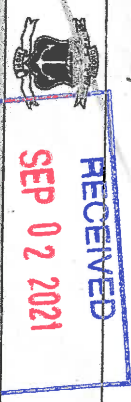
RECEIVED  
SEP 02 2021  
COASTAL RESOURCES  
MANAGEMENT COUNCIL



March 15, 2021 image  
(c) nearmap

**RIGIS**  
Natural Resource Services, Inc.  
PO Box 311  
180 Tinkham Lane  
Harrisville, RI 02830  
p: (401) 568-7390  
f: (401) 568-7490  
(c) RIGIS





RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
ONSITE WASTEWATER TREATMENT SYSTEM CONSTRUCTION PERMIT  
www.dem.ri.gov/septic



APPLICATION NO. 10001011 DATE RECEIVED 9/2/2021 FOR RIDEM USE ONLY AMOUNT RECEIVED \$ 0 CHECK # 0 NOTE 0

TYPE OF APPLICATION (CHECK ALL THAT APPLY)

- NEW BUILDING CONSTRUCTION
- ALTERATION
- REPAIR
- TRANSFER

SITE INFORMATION

NO. STREET 3 SETTING SUN DRIVE CITY/TOWN WESTERLY POLE # NEC00#1  
 PLAT NUMBER 137 LOT NUMBER 41 SUBDIVISION LOT NUMBER N/A  
 LOT SIZE 103,038 SF/ACRES 4-  
 SUBDIVISION NAME N/A  
 SUBDIVISION SITE SUITABILITY CERTIFICATION # N/A

OWNER INFORMATION

WINDWARD ASSOCIATES, LLC c/o GAGG  
 LAST NAME WINDWARD FIRST NAME DRIVE M.I. WESTERLY  
 NO. STREET 25 WINDWARD DRIVE CITY/TOWN WESTERLY ZIP CODE RI 02891

RIDEM APPLICATION HISTORY

PREVIOUS SITE TESTING  YES  NO APPLICATION # 0036-1132  
 DEPTH TO APPROVED WATER TABLE 30/11.9 HOW DETERMINED WET SCOPES  
 TEST HOLE # 2009-0175-209-08/6 DATE EXCAVATED 6/12/08 METLANDS WITHIN 200' OF OWTS  YES  NO  
 WETLAND DETERMINATION  YES  NO RIDEM FILE # 15-0338 DATE 2/14/2009  
 LARGE SYSTEM  YES  NO OCI FILE # IF APPLICABLE 0036-1132

DESIGN INFORMATION

BUILDING USE:  Residential  Commercial  Other \_\_\_\_\_  
 WATER SUPPLY:  public water  public well  private well

# OF DESIGN UNITS 3  
 UNIT DESIGN FLOW 115 gallons per (unit) TOTAL DAILY FLOW 345 gallons  
 TANK SIZE 1500 gallons DESIGN LOADING RATE 2.3 gpd/sf  
 MINIMUM REQUIRED LEACHFIELD AREA 150 square feet  
 LEACHFIELD TYPE ASF 10'x20' square feet  
 TOTAL AREA OF LEACHFIELD PROVIDED 200 square feet

CERTIFICATION

I, David R. Blaine, PE (print), the undersigned licensed OWTS designer, certify that I prepared this application and accompanying forms, submittals, plans and sketches in accordance with the RULES of the RIDEM pertaining to OWTS and that all the information provided on this application and accompanying forms, submittals, plans and sketches is true and accurate.

Designer's Signature [Signature] License # 2305010768939

Designer's Email plublanpe@aol.com Phone # 401.791.2856

Business/Company Name LeBlanc Engineering LLC

I certify that a) I am the owner of the property indicated under the site information on this application, b) I will hire a licensed OWTS installer to install the system proposed herein, c) the system will be installed in strict accordance with this application, d) I will hire and retain the licensed OWTS designer of record to witness and inspect the installation of the system, e) I assume all responsibility for the truth and accuracy of this application and all liability and responsibility for any improper installations of the system on this site and agree to hold the RIDEM harmless from any and all claims relating whatsoever to the system. In the case of a transfer application, I acknowledge that the permit application and plans previously approved and accompanying this application are the operative documents subject to certification.

Owner's Phone Number 860-798-0012

Owner's Email js@development101.com

Owner(s) Signature [Signature]

PERMIT APPROVAL SECTION: DO NOT WRITE BELOW THIS LINE

Based upon the representations of the owner and the owner's agents, including the representatives of the owner's OWTS designer, and the truth and accuracy of all information submitted, this application for an OWTS is hereby approved. The RIDEM assumes no responsibility or liability for the future state operation or maintenance of the aforesaid system, of the fitness or suitability of this system to this site, nor does it assume any responsibility for the accuracy and truth of the owner's, or the owner's agent's, representations. This approval is subject to future suspension or revocation in the event that subsequent examination reveals any data indicated on any application, form, submittal, plan or sketch to be incorrect, or not in compliance with the RULES or any conditions at the site are such that the approved design is not in accordance with the RULES, or in the event that the system discharges inadequately treated wastewater to waters of the State or fails to operate satisfactorily in any other manner.

IMPORTANT: Additional terms of approval as circled.

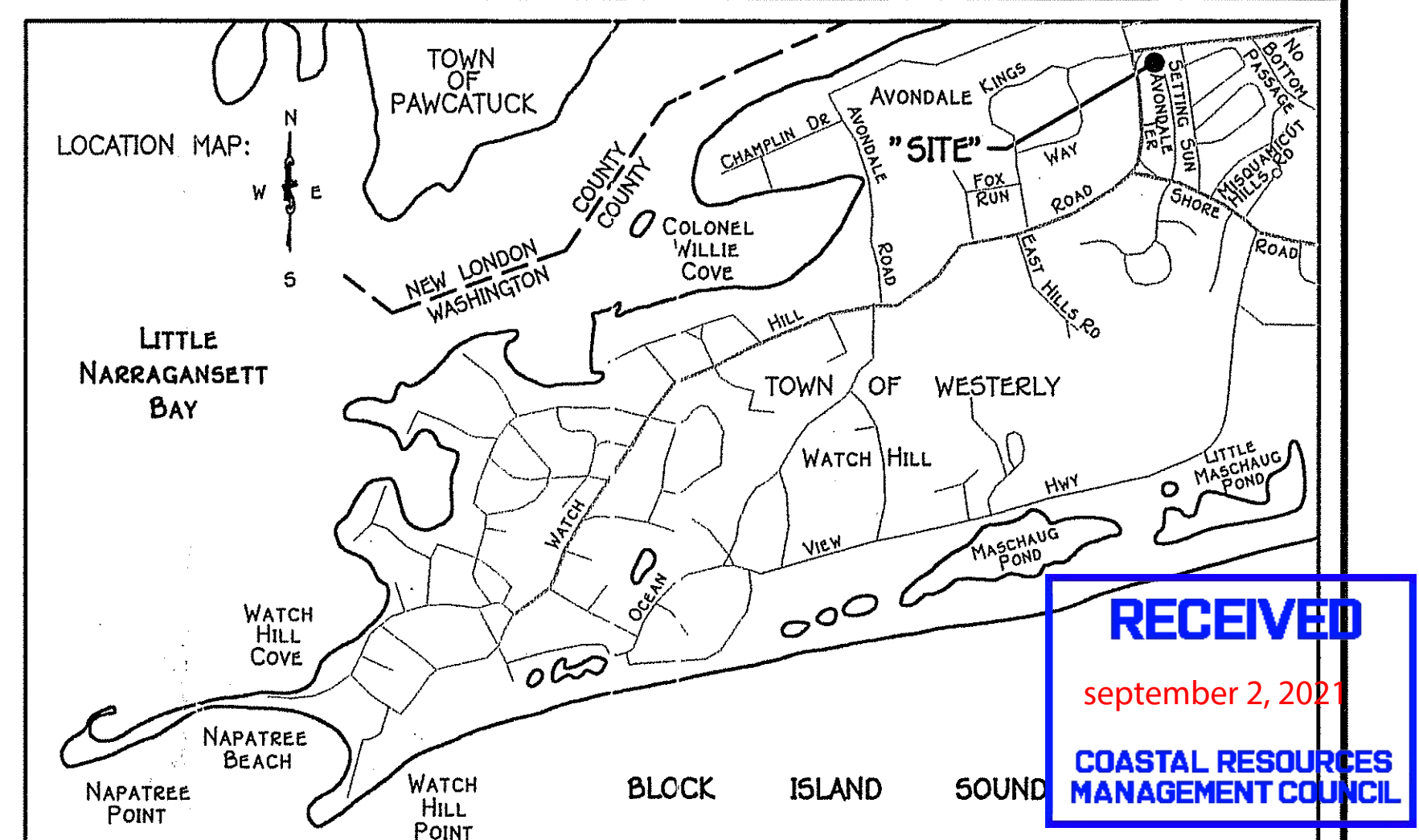
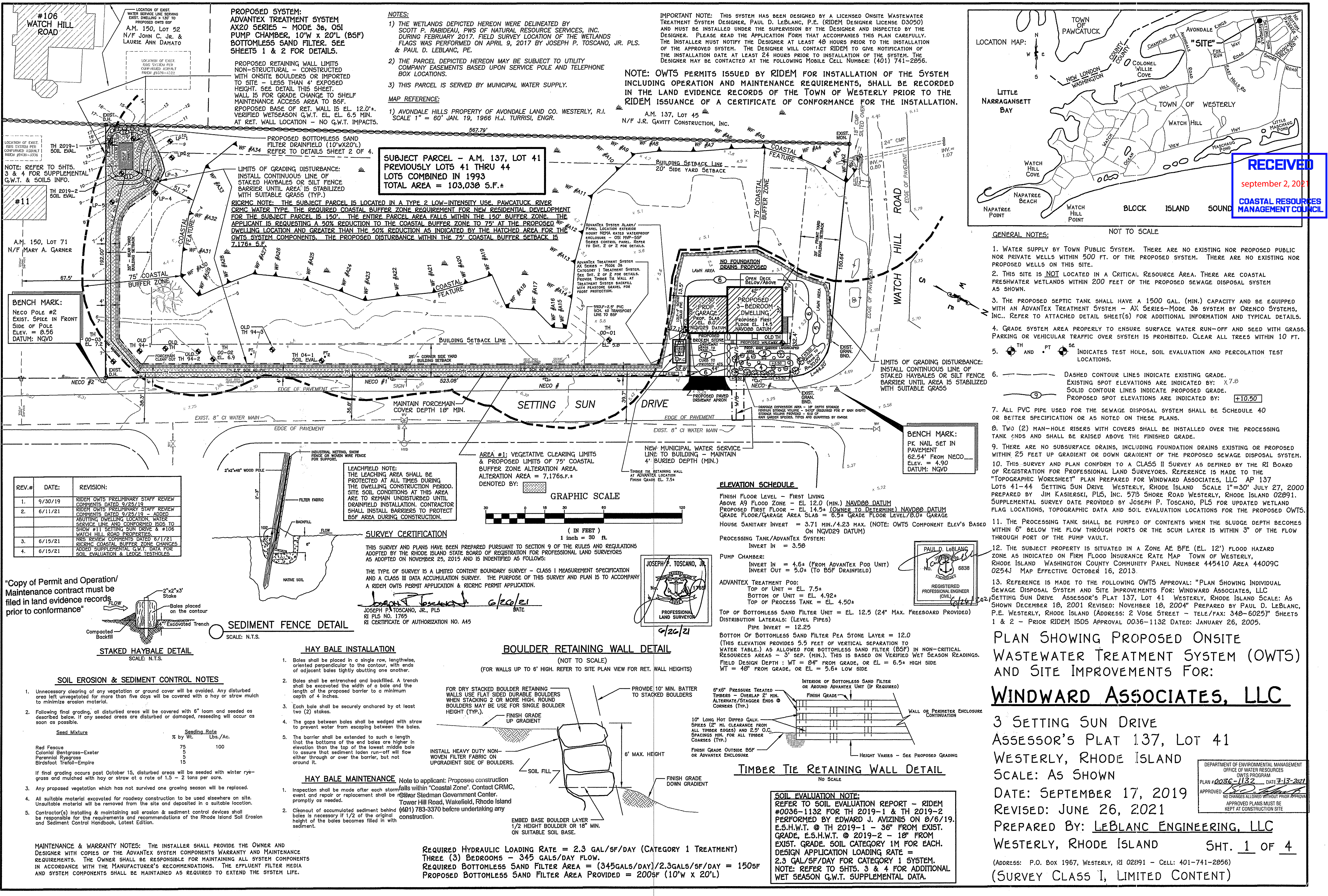
- A. Bottom of leaching area excavation must be inspected by the RIDEM prior to placement of any gravel or stone
- B. System installation must be inspected by RIDEM prior to covering any component of the system with backfill
- C. Applicant shall comply with all requirements, conditions and stipulations of variance(s) approved on \_\_\_\_\_
- D. Joint Permit: Designer of record must contact RIDEM prior to start of any site construction.
- E. A/E Technology: additional installation, operation or maintenance requirements may apply (see A/E Technology Certification.)
- F. Copy of this form and Operation/Maintenance contract must be filed in land evidence records prior to commencement.
- G. Proposed construction falls within "Coastal Zone" Contact Rhode Island Coastal Resources Management Council.
- H. Proper erosion and sedimentation controls must be installed prior to start of construction.
- I. Transfer: See original permit for all applicable conditions.
- J. Other no foundation drains proposed

CRMC Approval required  
Maintain 1-5% slope on building slabs

Signature of RIDEM Official <u>[Signature]</u>	Date of Approval <u>9-13-2021</u>	Date of Expiration <u>9-13-2025</u>
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DESIGNER





- GENERAL NOTES:**
1. WATER SUPPLY BY TOWN PUBLIC SYSTEM. THERE ARE NO EXISTING NOR PROPOSED PUBLIC NOR PRIVATE WELLS WITHIN 500 FT. OF THE PROPOSED SYSTEM. THERE ARE NO EXISTING NOR PROPOSED WELLS ON THIS SITE.
  2. THIS SITE IS NOT LOCATED IN A CRITICAL RESOURCE AREA. THERE ARE COASTAL FRESHWATER WETLANDS WITHIN 200 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM AS SHOWN.
  3. THE PROPOSED SEPTIC TANK SHALL HAVE A 1500 GAL. (MIN.) CAPACITY AND BE EQUIPPED WITH AN ADVANTEX TREATMENT SYSTEM - AX SERIES-MODE 3B SYSTEM BY ORENCO SYSTEMS, INC.. REFER TO ATTACHED DETAIL SHEET(S) FOR ADDITIONAL INFORMATION AND TYPICAL DETAILS.
  4. GRADE SYSTEM AREA PROPERLY TO ENSURE SURFACE WATER RUN-OFF AND SEED WITH GRASS. PARKING OR VEHICULAR TRAFFIC OVER SYSTEM IS PROHIBITED. CLEAR ALL TREES WITHIN 10 FT.
  5. TH AND PT INDICATES TEST HOLE, SOIL EVALUATION AND PERCOLATION TEST LOCATIONS.
  6. DASHED CONTOUR LINES INDICATE EXISTING GRADE. EXISTING SPOT ELEVATIONS ARE INDICATED BY: X 7.0 SOLID CONTOUR LINES INDICATE PROPOSED GRADE. PROPOSED SPOT ELEVATIONS ARE INDICATED BY: +10.50
  7. ALL PVC PIPE USED FOR THE SEWAGE DISPOSAL SYSTEM SHALL BE SCHEDULE 40 OR BETTER SPECIFICATION OR AS NOTED ON THESE PLANS.
  8. TWO (2) MAN-HOLE RISERS WITH COVERS SHALL BE INSTALLED OVER THE PROCESSING TANK ENDS AND SHALL BE RAISED ABOVE THE FINISHED GRADE.
  9. THERE ARE NO SUBSURFACE DRAINS, INCLUDING FOUNDATION DRAINS EXISTING OR PROPOSED WITHIN 25 FEET UP GRADIENT OR DOWN GRADIENT OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.
  10. THIS SURVEY AND PLAN CONFORM TO A CLASS II SURVEY AS DEFINED BY THE RI BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. REFERENCE IS MADE TO THE "TOPOGRAPHIC WORKSHEET" PLAN PREPARED FOR WINDWARD ASSOCIATES, LLC AP 137 LOTS 41-44 SETTING SUN DRIVE WESTERLY, RHODE ISLAND SCALE 1"=30' JULY 27, 2000 PREPARED BY JIM KASIERSKI, PLS, INC. 575 SHORE ROAD WESTERLY, RHODE ISLAND 02891. SUPPLEMENTAL SURVEY DATE PROVIDED BY JOSEPH P. TOSCANO, PLS FOR UPDATED WETLAND FLAG LOCATIONS, TOPOGRAPHIC DATA AND SOIL EVALUATION LOCATIONS FOR THE PROPOSED OWTS.
  11. THE PROCESSING TANK SHALL BE PUMPED OF CONTENTS WHEN THE SLUDGE DEPTH BECOMES WITHIN 6" BELOW THE FLOW THROUGH PORTS OR THE SCUM LAYER IS WITHIN 3" OF THE FLOW THROUGH PORT OF THE PUMP VAULT.
  12. THE SUBJECT PROPERTY IS SITUATED IN A ZONE AE BFE (EL. 12') FLOOD HAZARD ZONE AS INDICATED ON FIRM FLOOD INSURANCE RATE MAP TOWN OF WESTERLY, RHODE ISLAND WASHINGTON COUNTY COMMUNITY PANEL NUMBER 445410 AREA 44009C 0254J MAP EFFECTIVE OCTOBER 16, 2013.
  13. REFERENCE IS MADE TO THE FOLLOWING OWTS APPROVAL: "PLAN SHOWING INDIVIDUAL SEWAGE DISPOSAL SYSTEM AND SITE IMPROVEMENTS FOR: WINDWARD ASSOCIATES, LLC SETTING SUN DRIVE ASSESSOR'S PLAT 137, LOT 41 WESTERLY, RHODE ISLAND SCALE: AS SHOWN DECEMBER 18, 2001 REVISED: NOVEMBER 18, 2004" PREPARED BY PAUL D. LEBLANC, P.E. WESTERLY, RHODE ISLAND (ADDRESS: 2 VOSE STREET - TEL/FAX: 348-6025) SHEETS 1 & 2 - PRIOR RIDEM ISDS APPROVAL 0036-1132 DATED: JANUARY 26, 2005.

**#106 WATCH HILL ROAD**

LOCATION OF EXIST. WATER SERVICE LINE SERVING EXIST. DWELLING - 130' TO PROPOSED OWTS BSF

A.M. 150, LOT 52  
N/F JOHN C. JR. & LAURIE ANN DAHATO

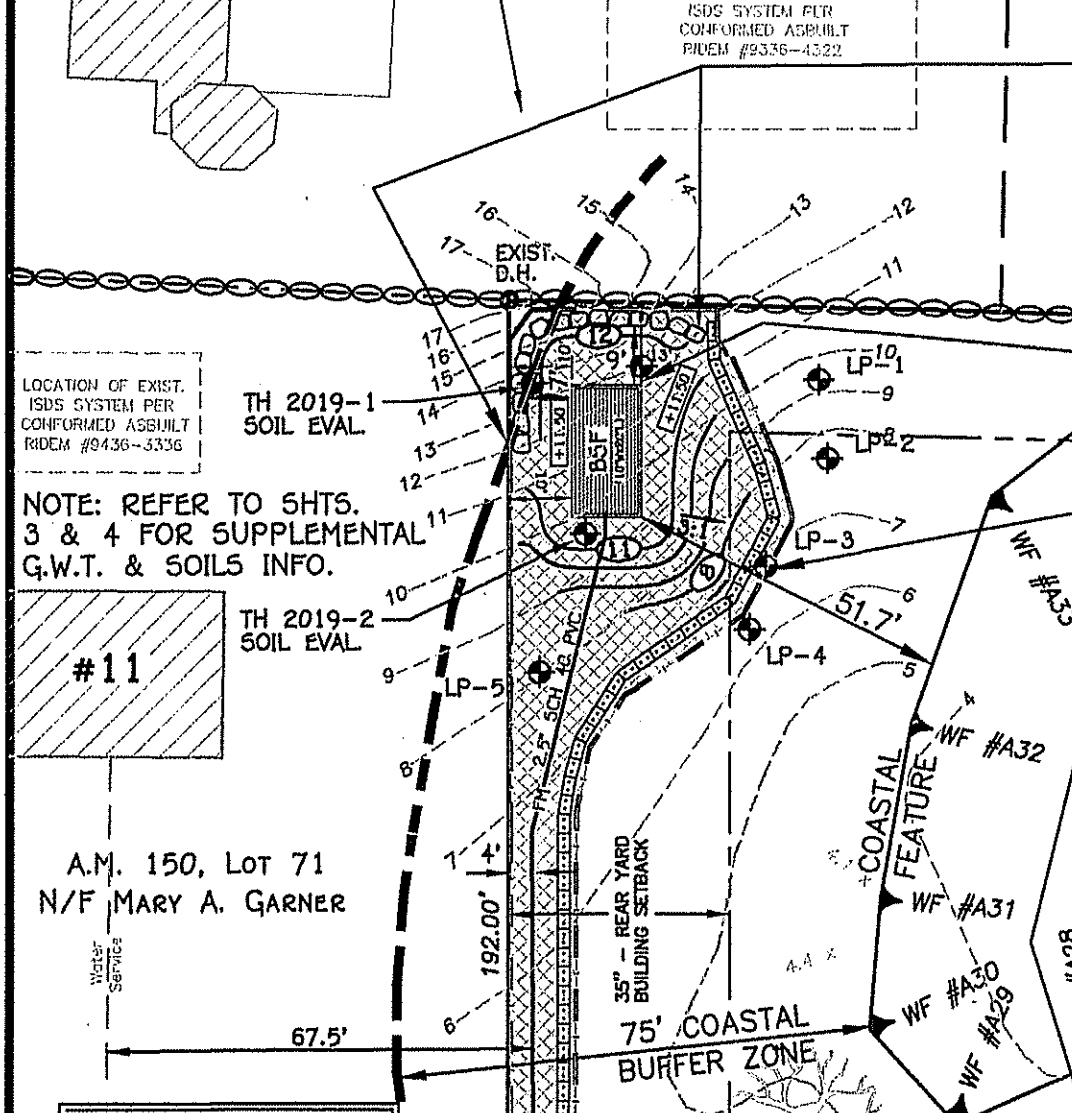
**PROPOSED SYSTEM:**  
ADVANTEX TREATMENT SYSTEM AX20 SERIES - MODE 3B, OS1 PUMP CHAMBER, 10'W x 20'L (BSF) BOTTOMLESS SAND FILTER. SEE SHEETS 1 & 2 FOR DETAILS.

**NOTES:**

- 1) THE WETLANDS DEPICTED HEREON WERE DELINEATED BY SCOTT P. RABIDEAU, PWS OF NATURAL RESOURCE SERVICES, INC. DURING FEBRUARY 2017. FIELD SURVEY LOCATION OF THE WETLANDS FLAGS WAS PERFORMED ON APRIL 9, 2017 BY JOSEPH P. TOSCANO, JR. PLS. & PAUL D. LEBLANC, PE.
- 2) THE PARCEL DEPICTED HEREON MAY BE SUBJECT TO UTILITY COMPANY EASEMENTS BASED UPON SERVICE POLE AND TELEPHONE BOX LOCATIONS.
- 3) THIS PARCEL IS SERVED BY MUNICIPAL WATER SUPPLY.

**IMPORTANT NOTE:** THIS SYSTEM HAS BEEN DESIGNED BY A LICENSED ONSITE WASTEWATER TREATMENT SYSTEM DESIGNER, PAUL D. LEBLANC, P.E. (RIDEM DESIGNER LICENSE D03050) AND MUST BE INSTALLED UNDER THE SUPERVISION BY THE DESIGNER AND INSPECTED BY THE DESIGNER. PLEASE READ THE APPLICATION FORM THAT ACCOMPANIES THIS PLAN CAREFULLY. THE INSTALLER MUST NOTIFY THE DESIGNER AT LEAST 48 HOURS PRIOR TO THE INSTALLATION OF THE APPROVED SYSTEM. THE DESIGNER WILL CONTACT RIDEM TO GIVE NOTIFICATION OF THE INSTALLATION DATE AT LEAST 24 HOURS PRIOR TO INSTALLATION OF THE SYSTEM. THE DESIGNER MAY BE CONTACTED AT THE FOLLOWING MOBILE CELL NUMBER: (401) 741-2856.

**NOTE:** OWTS PERMITS ISSUED BY RIDEM FOR INSTALLATION OF THE SYSTEM INCLUDING OPERATION AND MAINTENANCE REQUIREMENTS, SHALL BE RECORDED IN THE LAND EVIDENCE RECORDS OF THE TOWN OF WESTERLY PRIOR TO THE RIDEM ISSUANCE OF A CERTIFICATE OF CONFORMANCE FOR THE INSTALLATION.



**PROPOSED RETAINING WALL LIMITS**  
NON-STRUCTURAL - CONSTRUCTED WITH ONSITE BOULDERS OR IMPORTED TO SITE - LESS THAN 4' EXPOSED HEIGHT. SEE DETAIL THIS SHEET.  
WALL IS FOR GRADE CHANGE TO SHELF MAINTENANCE ACCESS AREA TO BSF. ROPOSED BASE OF RET. WALL IS EL. 12.0'. VERIFIED WETSEASON G.W.T. EL. 6.5 MIN. AT RET. WALL LOCATION - NO G.W.T. IMPACTS.

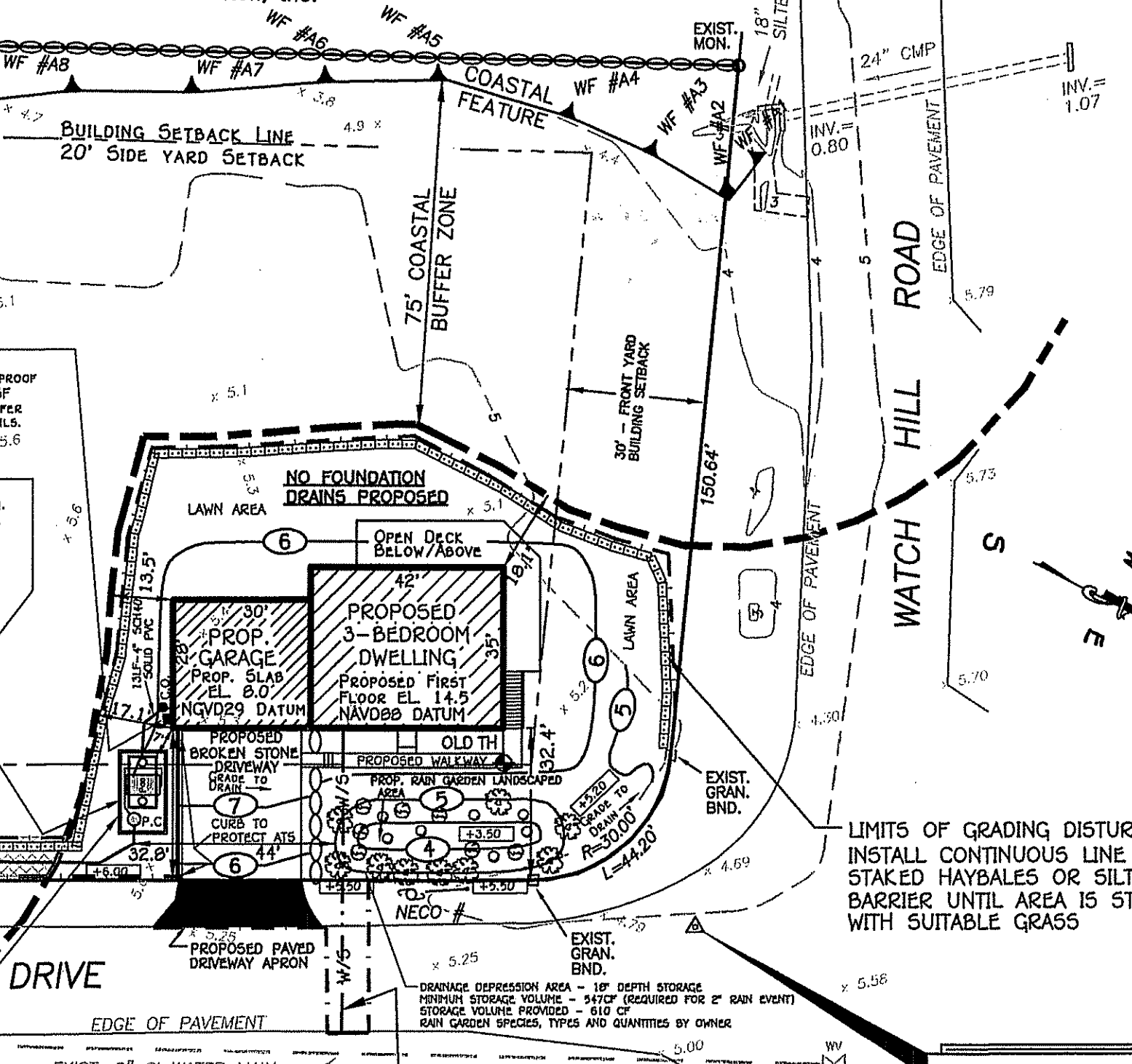
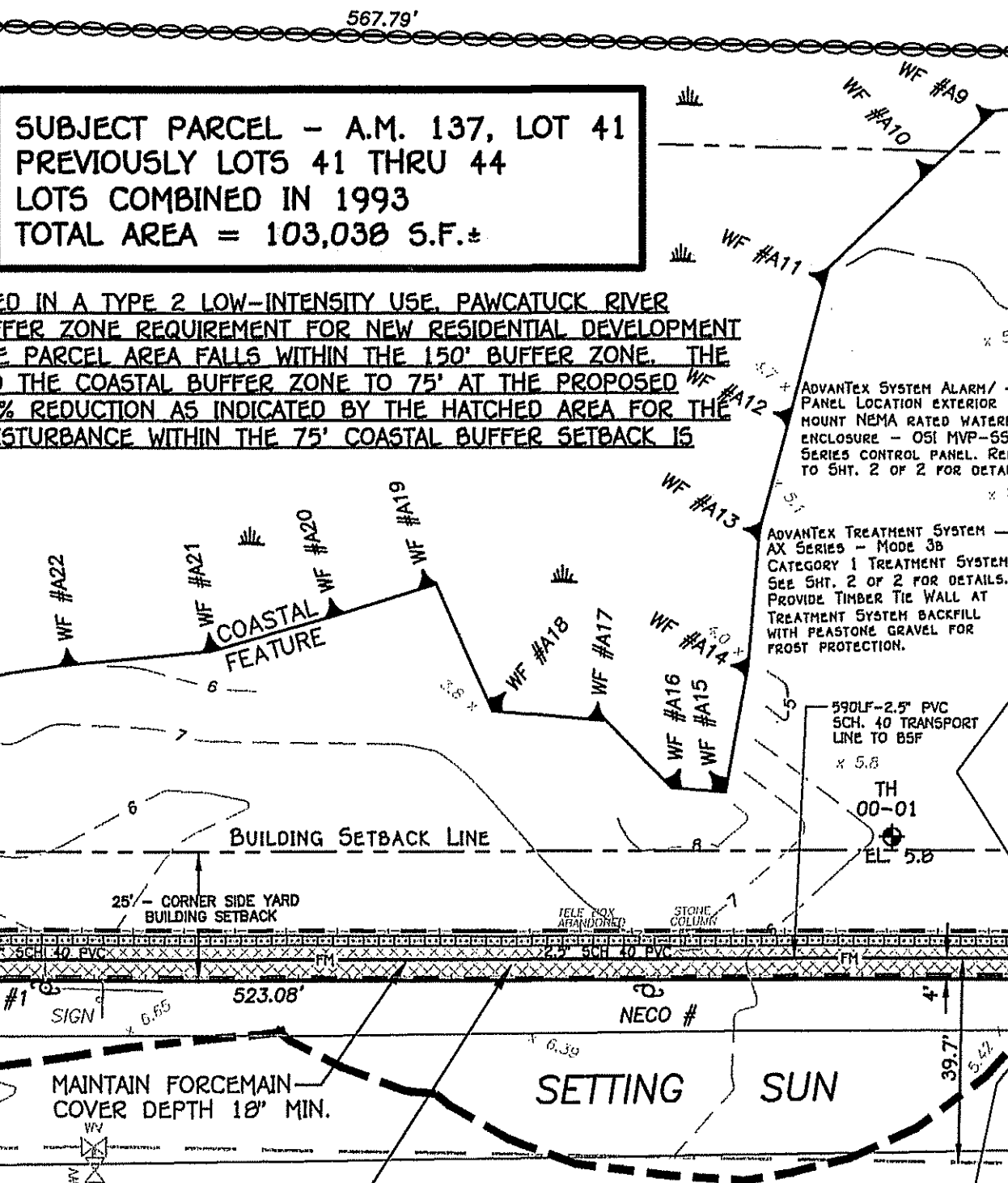
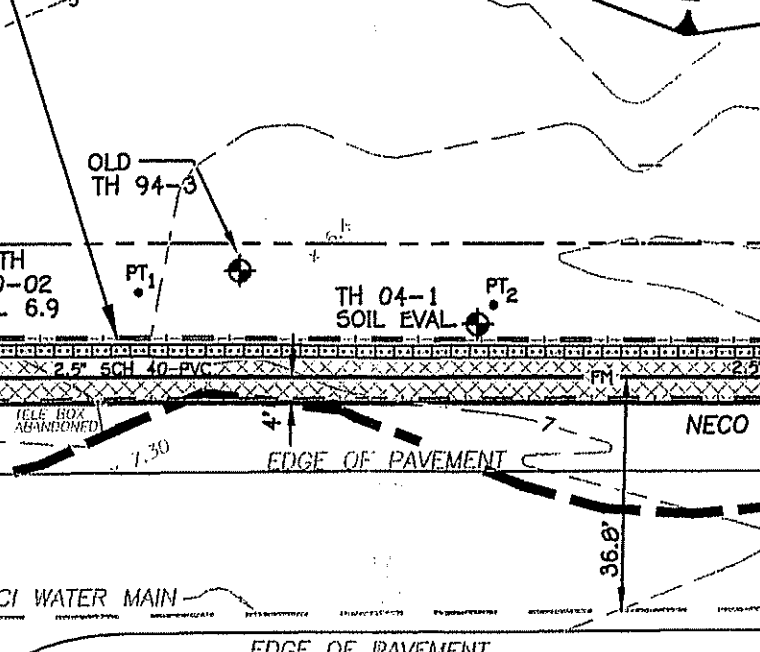
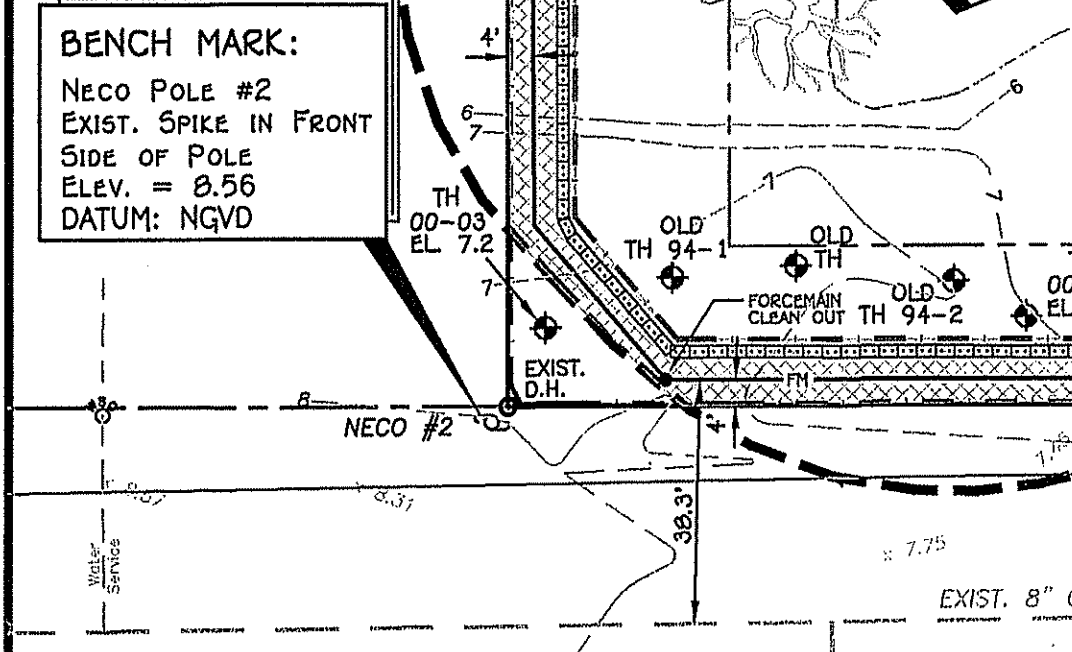
**PROPOSED BOTTOMLESS SAND FILTER DRAINFIELD (10'Wx20'L)**  
REFER TO DETAILS SHEET 2 OF 4.

**LIMITS OF GRADING DISTURBANCE:**  
INSTALL CONTINUOUS LINE OF STAKED HAYBALES OR SILT FENCE BARRIER UNTIL AREA IS STABILIZED WITH SUITABLE GRASS (TYP.).

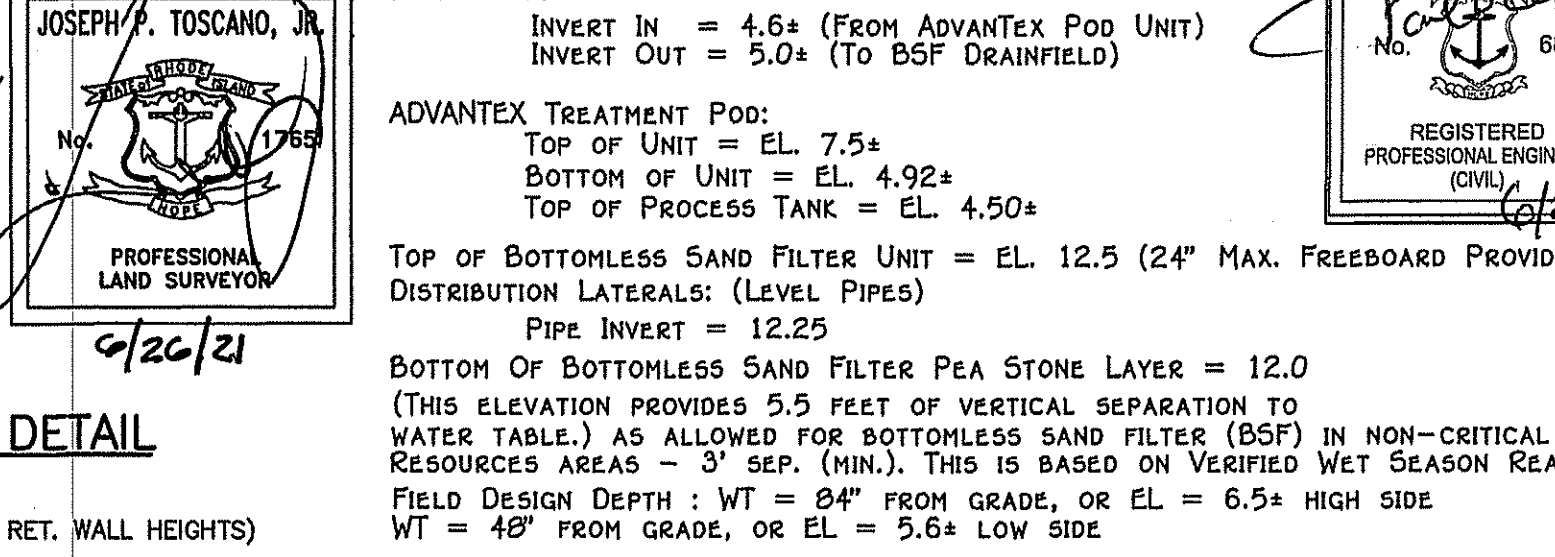
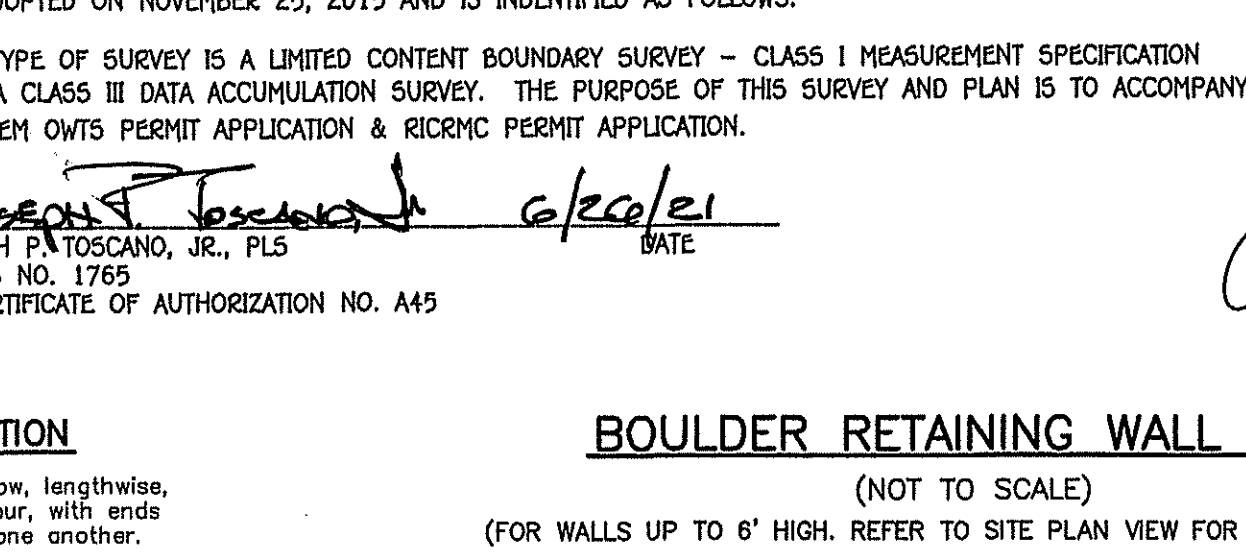
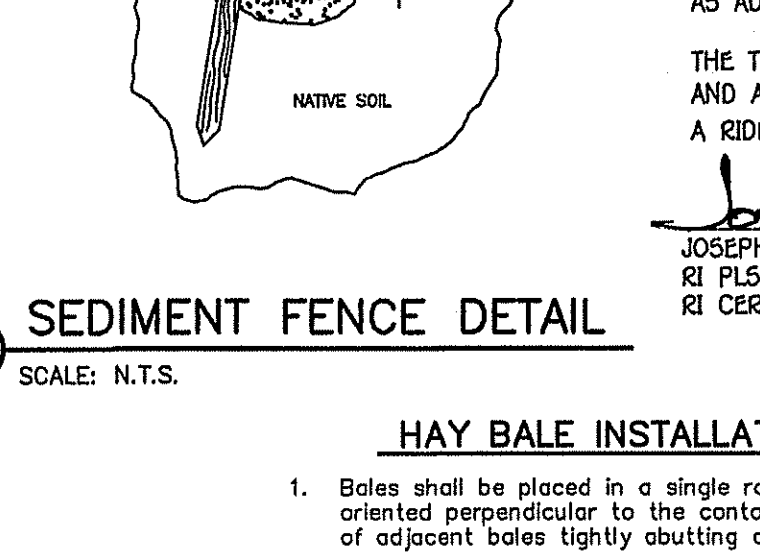
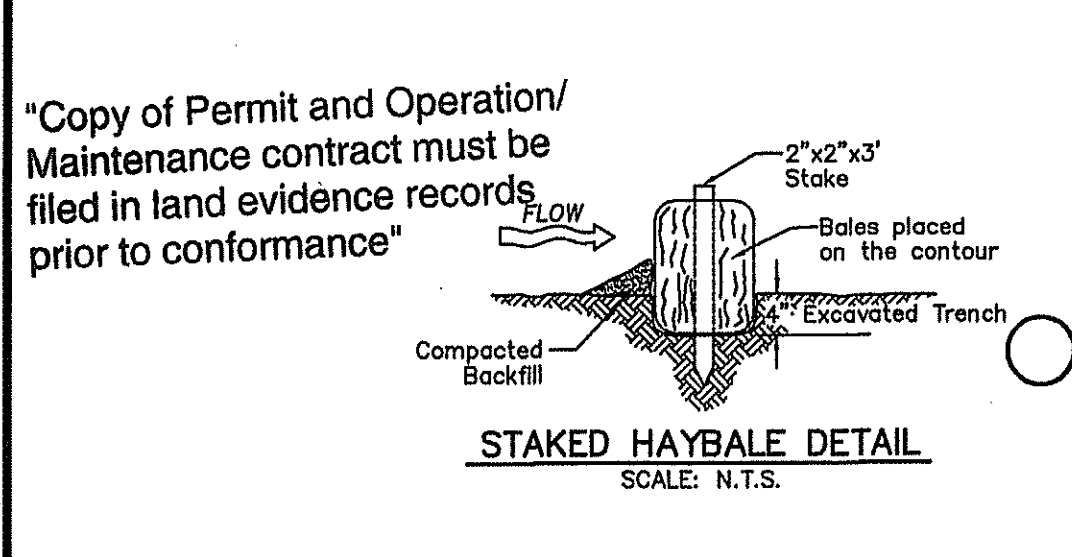
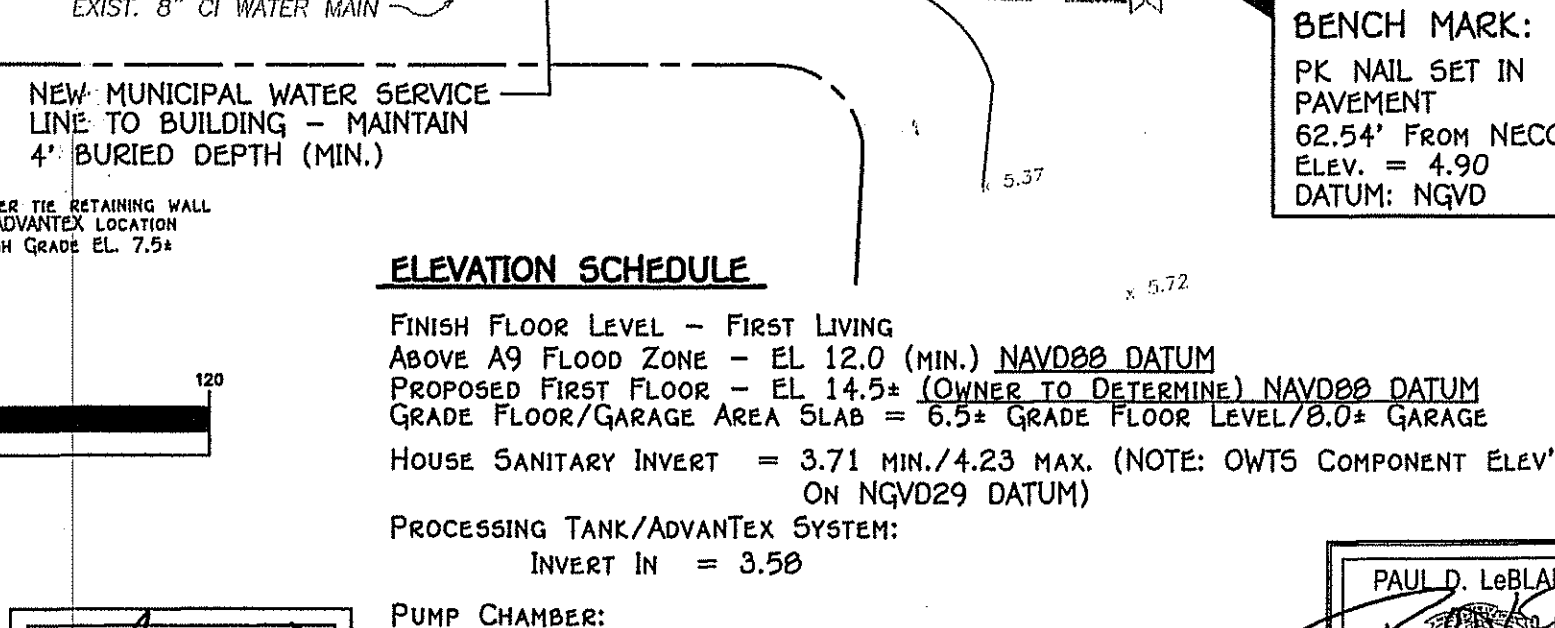
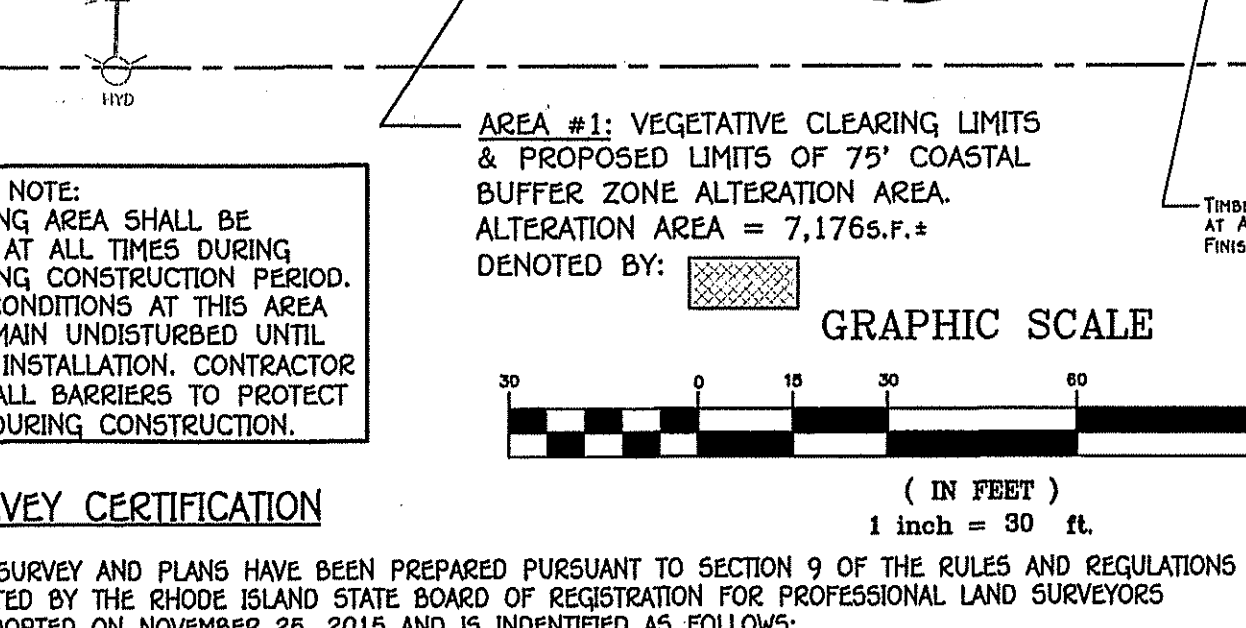
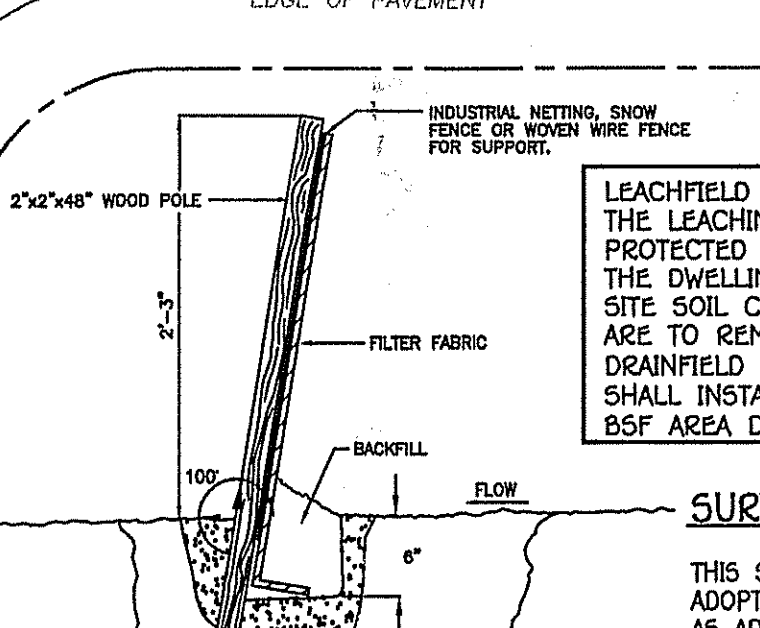
**RICRMC NOTE:** THE SUBJECT PARCEL IS LOCATED IN A TYPE 2 LOW-INTENSITY USE, PAWCATUCK RIVER CRMC WATER TYPE. THE REQUIRED COASTAL BUFFER ZONE REQUIREMENT FOR NEW RESIDENTIAL DEVELOPMENT FOR THE SUBJECT PARCEL IS 150'. THE ENTIRE PARCEL AREA FALLS WITHIN THE 150' BUFFER ZONE. THE APPLICANT IS REQUESTING A 50% REDUCTION TO THE COASTAL BUFFER ZONE TO 75' AT THE PROPOSED DWELLING LOCATION AND GREATER THAN THE 50% REDUCTION AS INDICATED BY THE HATCHED AREA FOR THE OWTS SYSTEM COMPONENTS. THE PROPOSED DISTURBANCE WITHIN THE 75' COASTAL BUFFER SETBACK IS 7,176± S.F.

**MAP REFERENCE:**

- 1) AVONDALE HILLS PROPERTY OF AVONDALE LAND CO. WESTERLY, R.I. SCALE 1" = 60' JAN. 19, 1966 H.J. TURRISI, ENGR.



REV.#	DATE	REVISION
1.	9/30/19	RIDEM OWTS PRELIMINARY STAFF REVIEW COMMENTS DATED 9/25/19
2.	6/11/21	RIDEM OWTS PRELIMINARY STAFF REVIEW COMMENTS DATED 5/22/21 - ADDED ADJUTING DWELLING LOCATION, WATER SERVICE LINE AND CONFORMED ISDS TO SHOW #11 SETTING SUN DRIVE & #106 WATCH HILL ROAD PROPERTIES.
3.	6/15/21	NRS REVIEW COMMENTS DATED 6/17/21. RICRMC COASTAL BUFFER ZONE CHANGES.
4.	6/15/21	ADDED SUPPLEMENTAL G.W.T. DATA FOR SOIL EVALUATION & LEACH TESTHOLES.



**SOIL EROSION & SEDIMENT CONTROL NOTES**

1. Unnecessary clearing of any vegetation or ground cover will be avoided. Any disturbed areas left unvegetated for more than five days will be covered with a hay or straw mat to minimize erosion material.
2. Following final grading, all disturbed areas will be covered with 6" loam and seeded as described below. If any seeded areas are disturbed or damaged, reseeded will occur as soon as possible.

Seed Mixture	Seeding Rate
% by Wt.	Lbs./Ac.
Red Fescue	75
Colonial Bantgrass-Exeter	5
Perennial Ryegrass	5
Birdfoot Trefoil-Timothy	15

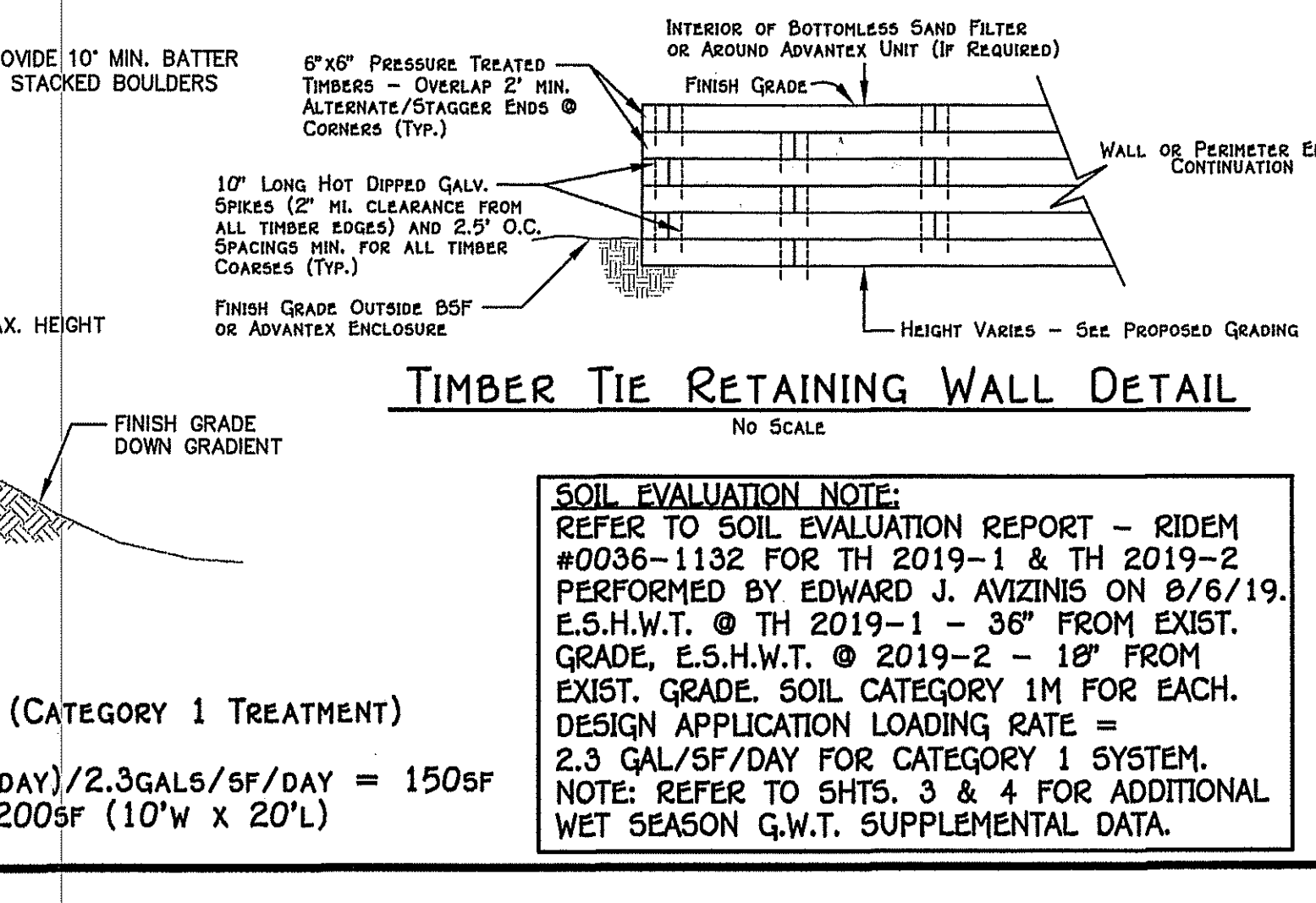
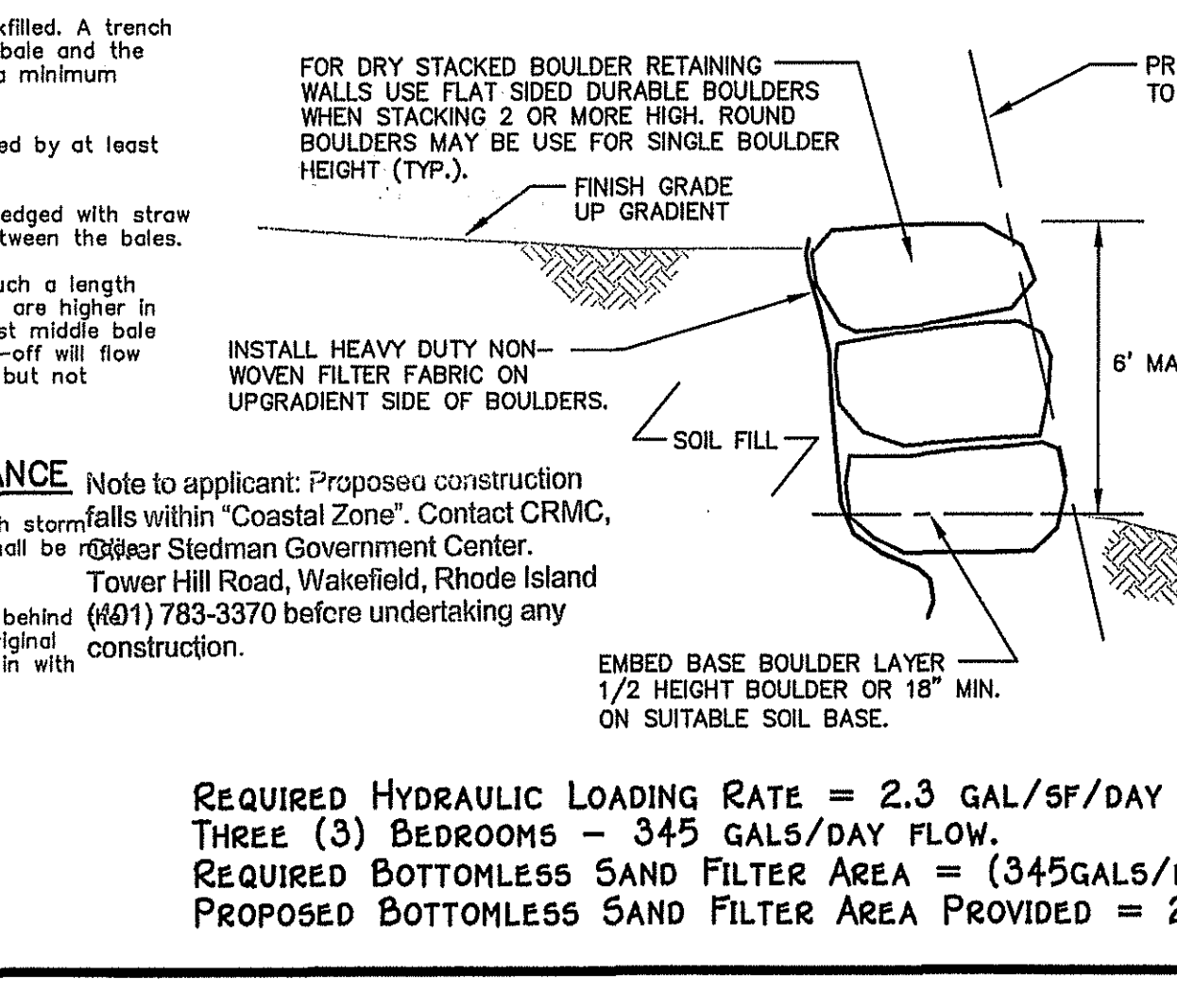
If final grading occurs post October 15, disturbed areas will be seeded with winter ryegrass and mulched with hay or straw at a rate of 1.5 - 2 tons per acre.

3. Any proposed vegetation which has not survived one growing season will be replaced.
4. All suitable material excavated for roadway construction to be used elsewhere on site. Unsuitable material will be removed from the site and deposited in a suitable location.
5. Contractor(s) installing & maintaining soil erosion & sediment control devices shall be responsible for the requirements and recommendations of the Rhode Island Soil Erosion and Sediment Control Handbook, Latest Edition.

**MAINTENANCE & WARRANTY NOTES:** THE INSTALLER SHALL PROVIDE THE OWNER AND DESIGNER WITH COPIES OF THE ADVANTEX SYSTEM COMPONENTS WARRANTY AND MAINTENANCE REQUIREMENTS. THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE EFFLUENT FILTER MEDIA AND SYSTEM COMPONENTS SHALL BE MAINTAINED AS REQUIRED TO EXTEND THE SYSTEM LIFE.

**HAY BALE MAINTENANCE** Note to applicant: Proposea construction inspection shall be made after each storm/falls within "Coastal Zone". Contact CRMC, event and repair or replacement shall be notified to the State Government Center, Tower Hill Road, Wakefield, Rhode Island

1. Inspection shall be made after each storm/falls within "Coastal Zone". Contact CRMC, event and repair or replacement shall be notified to the State Government Center, Tower Hill Road, Wakefield, Rhode Island
2. Cleanout of accumulated sediment behind (M01) 783-3370 before undertaking any height of the bales becomes filled with sediment.



**PLAN SHOWING PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) AND SITE IMPROVEMENTS FOR:**

**WINDWARD ASSOCIATES, LLC**

3 SETTING SUN DRIVE  
ASSESSOR'S PLAT 137, LOT 41  
WESTERLY, RHODE ISLAND  
SCALE: AS SHOWN

DATE: SEPTEMBER 17, 2019  
REVISED: JUNE 26, 2021

PREPARED BY: **LEBLANC ENGINEERING, LLC**  
WESTERLY, RHODE ISLAND

SHT. 1 OF 4

(ADDRESS: P.O. BOX 1967, WESTERLY, RI 02891 - CELL: 401-741-2856)  
(SURVEY CLASS I, LIMITED CONTENT)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
OWTS PROGRAM  
PLAN #0036-1132 DATE 7-13-2021  
APPROVED: [Signature]  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE KEPT AT CONSTRUCTION SITE.

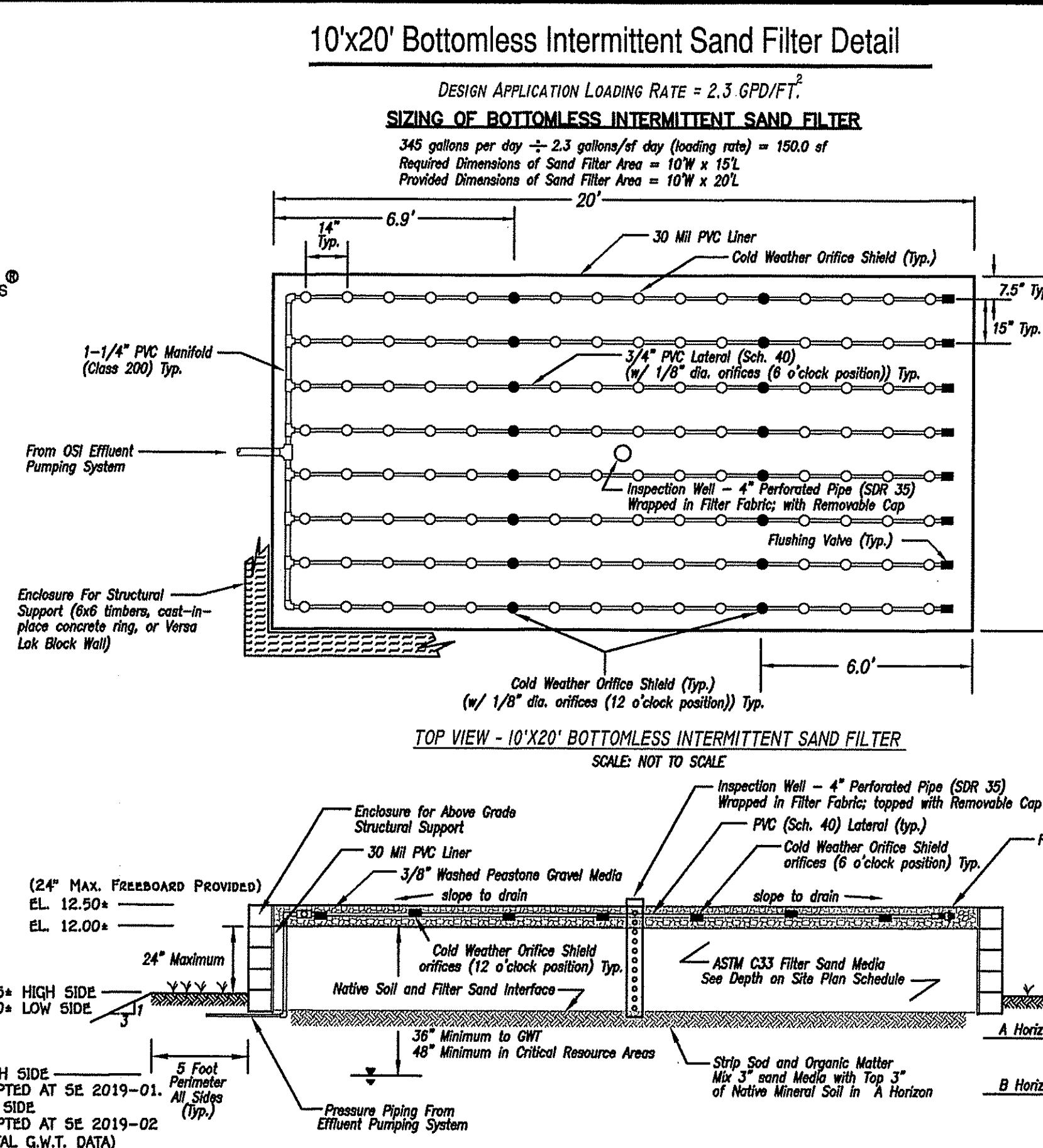
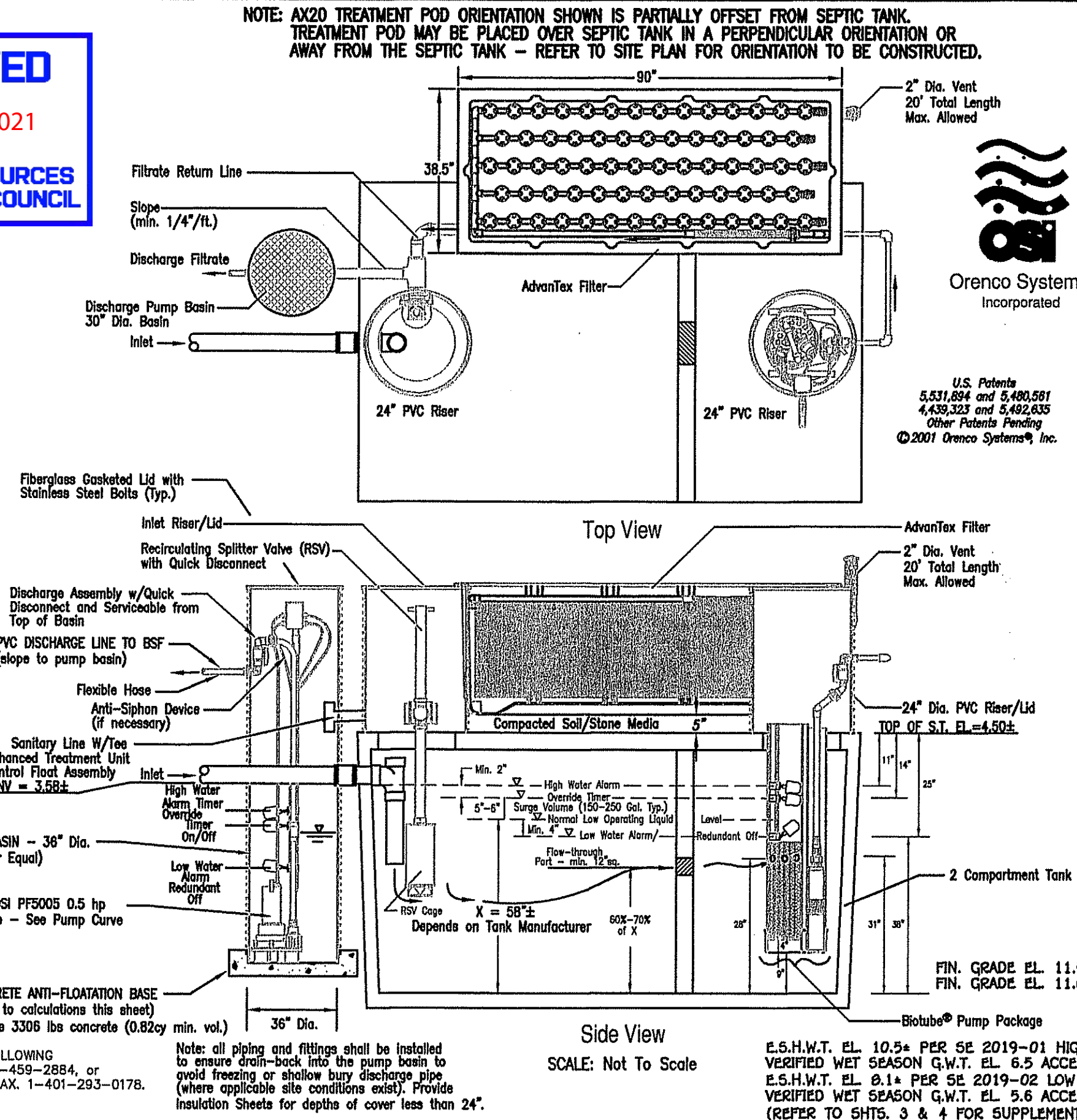
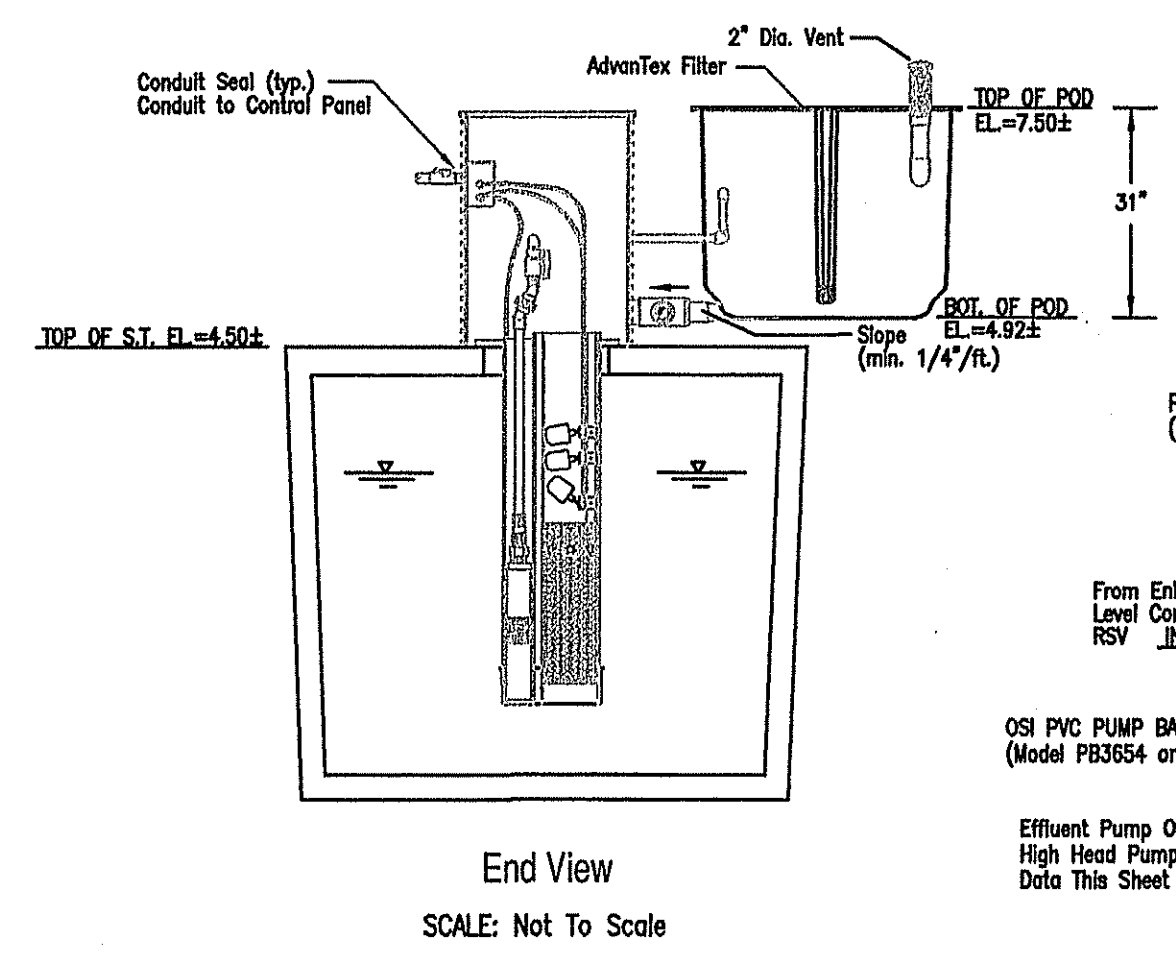


REV.#	DATE	REVISION
1.	9/30/19	RIDEM OWS PRELIMINARY STAFF REVIEW COMMENTS DATED 9/19/19
2.	6/11/21	RIDEM OWS PRELIMINARY STAFF REVIEW COMMENTS DATED 5/25/21 - ADDED PUMP CHAMBER AND SEPTIC TANK TO SERVICING LINE AND CONFORMED TO SDS #11 SETTING SUN DRIVE #106
3.	6/15/21	HSI SOIL REPORT DATED 6/17/21 RICHMOND COASTAL BUTTER ZONE CHANGES ADDED SUPPLEMENTAL G-1, G-2, G-3 SOIL EVALUATION & LARGE TESTHOLE
4.	6/15/21	



# AdvanTex™ Treatment System AX 20 Series - Mode 3B

NOTE: AX20 TREATMENT POD ORIENTATION SHOWN IS PARTIALLY OFFSET FROM SEPTIC TANK. TREATMENT POD MAY BE PLACED OVER SEPTIC TANK IN A PERPENDICULAR ORIENTATION OR AWAY FROM THE SEPTIC TANK - REFER TO SITE PLAN FOR ORIENTATION TO BE CONSTRUCTED.



- BOTTOMLESS SAND FILTER GENERAL NOTES**
- THE BOTTOMLESS SAND FILTER (BSF) SHALL BE INSTALLED BY A QUALIFIED LICENSED INSTALLER. THE INSTALLER SHALL BE FAMILIAR WITH THE REQUIREMENTS AND INFORMATION OF THE "GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF SAND FILTERS" DOCUMENT ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (DEM) ISSUED NOVEMBER, 2013.
  - THE DESIGNER SHALL BE GIVEN ADEQUATE NOTIFICATION FROM THE INSTALLER TO PROVIDE PROPER INSPECTION OF STRUCTURE, SUPPORT SYSTEM, 30 MIL PVC LINER MEMBRANE, ASTM C-33 SAND MEDIA MATERIALS, SYSTEM PIPING, AND COARSE PEASTONE GRAVEL MEDIA.
  - PRIOR TO DELIVERY OF SAND AND PEASTONE GRAVEL MEDIA MATERIALS, THE INSTALLER SHALL PROVIDE THE DESIGNER WITH INFORMATION OF THE MATERIAL SOURCE AND SIEVE ANALYSIS DATA TO ASSURE THAT THE MATERIALS WILL MEET THE REQUIREMENTS OF THE SAND FILTER MEDIA MATERIALS SPECIFICATIONS SHOWN ON THIS DETAIL SHEET WHICH CONFORMS TO FIGURE 14 OF THE BSF GUIDANCE DOCUMENT. ALL MEDIA WITHIN THE STRUCTURE ENCLOSURE ABOVE AND BELOW THE PEASTONE MUST MEET THE REQUIREMENTS OF ASTM C-33 SAND WITH AN EFFECTIVE SIZE (D<sub>10</sub>) OF 0.3MM AND UNIFORMITY COEFFICIENT (D<sub>60</sub>/D<sub>10</sub>) OF 3.0 TO 4.0. THE MAXIMUM ALLOWABLE FINES PASSING THROUGH A NO. 200 SIEVE SHALL BE 1%. THE DESIGNER AND/OR PROPERTY OWNER SHALL HAVE THE RIGHT TO REQUEST SIEVE ANALYSIS TESTS OF SAND FILTER MEDIA MATERIALS WHICH APPEAR NOT TO MEET THE ASTM C-33 SPECIFICATIONS. SIEVE ANALYSIS PERFORMED SHALL MEET THE REQUIREMENTS OF ASTM D-130 AND ASTM C-117. THE METHOD SPECIFIED IN SOIL SURVEY LABORATORY METHODS AND PROCEDURES FOR COLLECTING SOIL SAMPLES, SOIL SURVEY INVESTIGATION REPORT #1, U.S. DEPARTMENT OF AGRICULTURE, 1984.
  - THE BOTTOMLESS SAND FILTER (BSF) MUST BE USED IN CONJUNCTION WITH THE REQUIRED ADVANCED PRETREATMENT SYSTEM INDICATED ON THE APPLIED DESIGN DOCUMENT.
  - THE PREPARED BOTTOM OF BED EXCAVATION FOR THE BSF SHALL BE INSPECTED BY THE DESIGNER PRIOR TO CONSTRUCTION OF THE STRUCTURAL ENCLOSURE AND PLACEMENT OF SAND FILTER MEDIA MATERIALS.
  - THE LANDSCAPE AREA IMMEDIATELY ADJACENT TO THE BSF SYSTEM SHALL BE PROTECTED FROM HEAVY VEHICLE TRAFFIC AND EXCESSIVE WEIGHT LOADS BEFORE, DURING AND POST-CONSTRUCTION. THE CONTRACTOR WITH DIRECTION OF THE DESIGNER SHALL INSTALL A PROTECTIVE PERIMETER BARRIER TO KEEP VEHICLE TRAFFIC OFF OF THE LEACHFIELD AREA, WHERE REQUIRED ON THE SITE PLAN, THE INSTALLER SHALL INSTALL REQUIRED TIMBER THE BARRIERS, FENCING OR WALLS TO PROTECT THE BSF AFTER SYSTEM CONSTRUCTION IS COMPLETED.
  - THE FINISHED GRADE OF ANY BOTTOMLESS SAND FILTER SHALL BE A MINIMUM OF 6 INCHES ABOVE THE ELEVATION OF THE SURROUNDING FINISH GRADE TO PREVENT SURFACE WATER FROM FLOWING ONTO THE BSF FILTER AREA. LANDSCAPING TIMBERS SHALL BE PRESSURE TREATED AND SHALL BE SECURED IN PLACE WITH IRON PINS, STEEL REBAR, OR GALVANIZED SPIKES TO THE SUPPORT WALLS TO PREVENT MOVEMENT. LANDSCAPING BLOCKS SUCH AS VERGA-LOG RETAINING WALL BLOCKS MAY BE SUBSTITUTED FOR THE SUPPORT STRUCTURE. SEPARATE BLOCK UNITS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND CONSTRUCTION METHODS.
  - THE LAND SURFACE ELEVATION 2 FEET BELOW THE PEASTONE/SAND FILTER MEDIA INTERFACE SHALL BE MAINTAINED FOR A DISTANCE OF 8 FEET FROM THE EDGE OF THE BSF - SEE APPLICABLE DETAIL SHEET. LAND SURFACE REGRADING ADJOINING THIS 5-FOOT PERIMETER MUST MAINTAIN A MINIMUM OF 3% SLOPE DOWN GRADIENT.
  - THE DESIGNER WILL AID IN THE STAKEOUT OF THE PROTECTED BSF AREA PRIOR TO ANY SITE PREPARATION ACTIVITIES.
  - A MINIMUM BUFFER OF TEN (10) FEET SHOULD BE MAINTAINED BETWEEN BSFs AND NEIGHBORING TREES AND SHRUBS. AT LOCATIONS WHERE A 10-FEET BUFFER IS NOT MAINTAINED FROM EXISTING TREES OR NEW SHRUB PLANTINGS TO SCREEN THE BSF SYSTEM, THEN A ROOT BARRIER FABRIC SHALL BE PLACED BETWEEN THE TREES AND THE FILTER.
  - PUMPS SPECIFIED AFTER THE ADVANCED TREATMENT SYSTEM SHALL BE SIZED TO PROVIDE A MINIMUM OF TWO (2) FEET OF HEAD (4.714 psi) AT THE DISTAL END OF EACH DISTRIBUTION LATERAL IN THE BSF. A PUMP SIZING DIAGRAM HAS BEEN PROVIDED ON THIS SHEET. THE INSTALLER CAN ONLY SUBSTITUTE AN EQUAL PUMP AFTER RECEIVING DESIGNER APPROVAL FIRST. THE DESIGNER WILL BE PRESENT TO VERIFY DISTAL END PRESSURES WITH THE INSTALLER AFTER CONSTRUCTION OF THE BSF. PUMP CALCULATIONS PROVIDED INCLUDE DISTAL END PRESSURES OF 5 FEET OF HEAD.
  - EFFLUENT TRANSPORT LINES FROM THE PUMP TO THE BSF SHALL BE CLASS 200 MINIMUM PIPE OF SIZE SPECIFIED ON THE ATTACHED SITE PLAN. THE TRANSPORT LINE SHALL BE SLOPED BACK TOWARD THE PUMP CHAMBER/BASIN OR ONTO THE BSF TO CLEAR LINE AFTER EACH DOSE. EACH DOSE SHALL NOT BE INSTALLED AT THE PUMP CHAMBER/BASIN TO PREVENT FREEZING WITHIN THE TRANSPORT LINES. IF TRANSPORT LINES CANNOT BE DRAINED, THE INSTALLER WILL BE REQUIRED TO INSTALL THE TRANSPORT LINES WITH A 2-FOOT MINIMUM BURIAL WITH A 2" THICK POLYURETHANE INSULATION ABOVE THE TRANSPORT LINE.
  - WALLS OF THE BSF ENCLOSURE SHALL BE LINED WITH A 30 MIL PVC LINER WITH ALL JOINTS, PATCHES, REPAIRS, AND SEAMS HAVING THE SAME FINISHED PHYSICAL PROPERTIES OF THE LINER MATERIAL. ALL PENETRATIONS THROUGH THE PVC LINER WALLS SHALL BE DONE WITH A PVC BOOT ATTACHMENT GLOUED TO THE LINER WITH THE APPROPRIATE RESILIENT SEALER. THE INSTALLER SHALL INSPECT PVC LINER AND PENETRATIONS PRIOR TO BACKFILLING WITH SAND/PEASTONE FILTER MEDIA. BLOW GRADE LATERAL WALLS SHALL BE CONSTRUCTED OF MARINE GRADE STRUCTURAL STEEL I-BEAM WITH A 2" THICK POLYURETHANE INSULATION ABOVE THE LINER. A PERMANENT TOP FRAME STRUCTURE SHALL BE PROVIDED ON ANY PORTION OF THE BSF ABOVE FINISH GRADE.
  - THE DISTRIBUTION MANIFOLD PIPING AND DISTRIBUTION PIPING SHALL CONFORM TO THE SIZES, MATERIALS AND PRESSURE CLASSIFICATION SPECIFICATIONS AS INDICATED ON THE DETAILS OF THIS SHEET. INDIVIDUAL LATERALS SHALL BE LONGER THAN 50 FEET IN LENGTH. A SERIES OF 1/8 INCH DIAMETER HOLES (ORIFICES) SHALL BE DRILLED IN THE DISTRIBUTION LATERALS AT SPACE INTERVALS NOTED ON THE DETAIL OF THIS SHEET. THE LATERALS SHALL BE INSTALLED WITH ALL ORIFICE HOLES POINTING DOWN (6 o'clock position) COVERED BY ORIFICE SHIELDS (USUALLY CALLED ORIFICE SHIELDS). VACUUM BREAKERS SHALL BE INSTALLED AT QUARTER CENTER SPACINGS NOTED ON THE DETAILS OF THIS SHEET. EACH DISTRIBUTION LATERAL WITHIN THE BSF SHALL BE EQUIPPED WITH A BALL VALVE OR A THREADED END CAP AT ITS DISTAL END. AN INSPECTION WELL SHALL BE INSTALLED IN THE LINE AT THE DISTAL END OF THE BSF AND SHALL EXTEND DOWN TO THE BSF MEDIA INTERFACE. THE INSPECTION WELL SHALL BE MADE OF 4-INCH DIAMETER PERFORATED OR SLOTTED PVC (SDR 35 MINIMUM) WRAPPED IN FLEXIBLE FABRIC AND TOPPED WITH REMOVABLE TOP AT FINISH GRADE.
  - SOD, VEGETATION, OR DEAD OR DECAYING ORGANIC LITTER SHALL BE REMOVED FROM THE BSF AREA. THREE (3) INCHES OF THE NATIVE SOIL MATERIAL SHALL BE DUMPED AND MIXED WITH 3 INCHES OF SAND MEDIA. NOTE: PERMITS STRIPPING AND EXCAVATION OF SOIL BENEATH THE NATIVE SOIL/FILTER SAND INTERFACE IS PROHIBITED.
  - ALL EQUIPMENT USED BY THE INSTALLER TO PLACE SAND & PEASTONE MATERIALS INTO THE BSF SHALL BE FREE OF MUD OR SILT FINES PRIOR TO LOADING. THE SAND FILTER MEDIA SHALL BE PLACED IN LEVEL EIGHT (8) INCH LAYER THICKNESS. THE MEDIA SHALL BE COMPACTED AND SET SLOTTED SLIGHTLY DURING INSTALLATION TO PROMOTE EVEN SETTLING. OVER WETTING THE SAND SHALL BE AVOIDED TO ENSURE THAT PARTICLE STRATIFICATION DOES NOT OCCUR. THE INSTALLER SHALL "WALK DOWN" THE EDGES OF THE FILTER TO MAKE SURE THE SAND MEDIA IS TIGHT AGAINST THE FILTER PERIMETER. AND NO VOIDS EXIST. THE PVC LINER SHALL BE PROTECTED DURING THESE OPERATIONS TO AVOID TEARING OR STRETCHING OF THE LINER.
  - IMMEDIATELY AFTER INSTALLATION OF THE BSF, THE HEAD OR "SOILT HEIGHT" OF THE DISTRIBUTION LATERALS SHALL BE DETERMINED, RECORDED IN THE MAINTENANCE RECORD LOG, AND LEFT ON SITE. THE MINIMUM DISTAL END PRESSURES SHALL BE 2- FEET OF HEAD.
  - DURING OPERATIONAL AND MAINTENANCE VISITS, READINGS FROM RUN TIME METERS, EVENT COUNTERS, WATER METERS AND DISTAL END PRESSURES SHALL BE RECORDED ON THE DATA CARDS (USUALLY STORED IN THE ELECTRICAL CONTROL PANEL). ALSO, AT EACH SITE VISIT, A SAMPLE OF THE BSF EFFLUENT SHOULD BE COLLECTED AT THE PUMP CHAMBER OR LATERAL END OF THE BSF. THE SAMPLE SHOULD BE CLEAR OF FINES AND ORGANIC MATTER AND BE RELATIVELY FREE OF SEPTIC ODDORS. SAMPLES DEVIATING FROM THE LATTER CONDITIONS WILL INDICATE THAT THE SYSTEM NEEDS MAINTENANCE OR SYSTEM SETTINGS NEED TO BE MODIFIED.
  - IMPORTANT NOTE: IF FIBERGLASS OR POLYETHYLENE TANKS ARE USED, IT IS IMPORTANT TO MONITOR GROUNDWATER LEVELS BEFORE PUMPING SEPTAGE OR TO SCHEDULE PUMPING OF TANKS LATE SUMMER OR EARLY FALL TO AVOID TANKS FLOATING PERIODS OF HIGH GROUNDWATER. CAREFUL CONSIDERATION SHALL BE PAID TO TANKS CLOSE TO TANK ZONES, WHERE GROUNDWATER LEVELS MAY FLUCTUATE DUE TO TIDAL INFLUENCE. ALL TANKS SHALL BE FILLED WITH TAP WATER IMMEDIATELY AFTER SEPTAGE PUMPING IS COMPLETED.

### ADVANTEX TREATMENT SYSTEM GENERAL NOTES:

- VENDOR INFORMATION, TECHNICAL INFORMATION OR VENDOR SERVICE MAY BE OBTAINED FROM THE FOLLOWING: ORENCO SYSTEMS INC. 874 AIRWAY AVENUE, SUTHERLIN, OR 97478 TEL: 1-800-348-8843 FAX: 1-541-452-2864, OR ATLANTIC SOLUTIONS, LTD. 2417 EAST MAIN RD., PORTSMOUTH, RI 02871 TEL: 1-401-293-0176 FAX: 1-401-293-0178.
- THE TREATMENT SYSTEM PROVIDED (ADVANTEX TREATMENT SYSTEM - AX SERIES) MEETS THE REQUIREMENTS OF A CATEGORY 1 SYSTEM, ADVANCED TREATMENT UNIT THAT IS TIMED DOSED AND AND HAS BEEN CLASSIFIED BY RIDEM AS MEETING EFFLUENT STANDARDS LESS THAN OR EQUAL TO 18 mg/l FOR TN AND LESS THAN OR EQUAL TO 5 mg/l FOR TSS AND BODS.
- ALL SEPTIC TANKS AND PUMP CHAMBERS FOR THE ADVANTEX TREATMENT SYSTEM SHALL BE WATER-TIGHT CONSTRUCTION AND SHALL BE PROVIDED WITH WATER-TIGHT PLASTIC OR FIBERGLASS RISERS ABOVE FINISHED GRADE. ALL INLET AND OUTLET PIPES TO CONCRETE CHAMBERS SHALL HAVE FLEXIBLE RUBBER TIE-ROPS SECURED BY STAINLESS STEEL BOLDS TO FORM A WATER-TIGHT CONNECTION. WATER-TIGHT RUBBER GROMMETS SHALL BE USED AT INLET AND OUTLET PIPES TO PLASTIC OR FIBERGLASS PUMP CHAMBERS/BASINS.
- THE PUMP CHAMBER SPECIFIED AFTER THE TREATMENT SYSTEM DISCHARGING TO THE BSF SHALL PROVIDE A MINIMUM STORAGE VOLUME DOSED INTO THE BSF DURING ONE PUMP RUN TIME AS INDICATED ON THIS SHEET. PUMP CHAMBERS FOR SEASONALLY-USED SYSTEMS SHALL BE INCREASED IN CAPACITY BY A MINIMUM OF THIRTY (30) PERCENT. REFER TO PUMP CHAMBER DIMENSIONAL SIZING THIS SHEET.
- A LICENSED ELECTRICIAN SHALL INSTALL ALL ELECTRICAL COMPONENTS, WIRING, CIRCUITS, CONTROL & ALARM PANELS, AND ELECTRONIC CONTROL PANELS PER STATE/NATIONAL ELECTRIC CODE REQUIREMENTS.
- THE ADVANTEX TREATMENT SYSTEM SHALL INCLUDE A PROGRAMMABLE TIMER TO PROVIDE SMALL DOSES OF TREATED EFFLUENT TO THE BSF THROUGHOUT THE DAY. THE TYPICAL SYSTEM DESIGN DOES WILL OCCUR 1 TO 2 DOSES PER HOUR. THE DESIGNER SHALL VERIFY THAT INSTALLER HAS FIELD-SET THE TIMER AND PUMP CHAMBER FLOAT SWITCHES AT THE TIME OF SYSTEM START-UP. THE INSTALLER WILL BE REQUIRED TO MEET WITH THE DESIGNER TWO TO FOUR WEEKS AFTER SUFFICIENT USE HAS OCCURRED OF THE SYSTEM TO CONFIRM THAT THE PROGRAMMABLE TIMER IS RESET, AS NEEDED, AND ADJUSTED TO ACTUAL FLOW CONDITIONS FOR THE SYSTEM.
- THE INSTALLER SHALL PROVIDE A HIGH LEVEL WATER ALARM, PUMP, AND FLOAT SWITCH(S) SET TO OVERRIDE THE PROGRAMMABLE TIMER IN THE EVENT OF TIMER MALFUNCTIONS OR TEMPORARY EXCESSIVE WATER USE. A LOW LEVEL WATER REDUNDANT OFF SHALL ALSO BE PROVIDED - REFER TO SEPTIC TANK AND PUMP BASIN DETAILS THIS SHEET.
- AN IMPULSE COUNTER SHALL BE PROVIDED ON THE TIMER OVERRIDE OR HIGH WATER ALARM FLOAT (WHICHEVER IS APPLICABLE BASED ON ESTIMATED FLOW CONDITIONS) FOR THE ADVANTEX TREATMENT SYSTEM AND PUMP CHAMBER/BASIN PUMPS.
- PUMP CONTROL PANELS SHALL BE PROVIDED WITH AN ELAPSED TIME RUN METER AND A DOSING EVENT COUNTER (PUMP IMPULSE COUNTER) FOR EACH PUMP IN THE SYSTEM. THE ELAPSED TIME RUN METER AND DOSING EVENT COUNTER SHALL BE NON-RESETTABLE. PUMP CONTROL PANELS SHALL BE MOUNTED ON AN EXTERIOR WALL OF THE STRUCTURE FOR EASE OF SERVICE OF THE SYSTEM. IT IS RECOMMENDED THAT THE PANEL BOX(ES) BE PLACED IN A MANNER WITHIN VIEW OF THE SYSTEM LOCATION IF POSSIBLE TO HELP FACILITATE OPERATION AND MAINTENANCE. CONTROL PANELS SHALL BE MOUNTED TO AVOID UNNECESSARY NOISES ASSOCIATED WITH MOTOR CONTACTS.
- INSTALLATION OF THE ADVANTEX TREATMENT SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE ADVANTEX TREATMENT SYSTEM INSTALLATION GUIDE.
- IF THE ADVANTEX-AX TREATMENT POD IS PLACED OVER THE TOP OF THE TANK, A MINIMUM 5" THICK LAYER OF COMPACTED SOIL OR SAND MUST BE PLACED ON TOP OF THE TANK IN ORDER TO ACHIEVE THE REQUIRED SLOPE ON THE FILTERATE RETURN LINE, REFER TO INSTALLATION GUIDELINES DOCUMENT AND MANUFACTURER'S SPECIFICATIONS.
- RISER TANK ADAPTERS AND ACCESS RISERS SHALL BE CONSTRUCTED TO BE WATER-TIGHT. CARE SHALL BE TAKEN TO ORIENT RISERS TO CORRECT POSITIONS BEFORE REQUIRED ADHESIVE CURES. RISER-ADAPTER JOINTS SHALL ALSO BE SEALED BETWEEN THE ADAPTER AND RISER JOINT WITH A CONTINUOUS FILLET OF ADHESIVE SEALER. INSTALLER SHALL WATER TEST TANK AND RISER CONNECTIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SAFETY GUIDELINES.
- INSTALLATION OF THE RECIRCULATING SPLITTER VALVE SHALL BE INSTALLED WITH THE RISER OVER THE SEPTIC TANK'S INLET AND MUST BE INSTALLED SO AS NOT TO INTERFERE WITH THE INLET TEE.
- THE PASSAGEWAY FROM THE ADVANTEX TREATMENT POD SHALL BE MOUNTED TO THE SIDE OF THE TREATMENT POD OR SHALL BE INSTALLED WITHIN THE VENT LINE DISTANCE (INCLUDING ALL VERTICAL & HORIZONTAL VENT LINE RUNS) AND SHALL BE SLOPED BACK TO THE ADVANTEX TREATMENT POD TO ELIMINATE CONDENSATION BUILDUP WITHIN THE VENT LINE. CONSULT ORENCO FOR TOTAL DISTANCES GREATER THAN 20' TOTAL VENT LINE RUN. REPLACE CARBON IMPREGATED FIBER WHEN REQUIRED.
- THE HIGH-HEAD PUMP AND RESPECTIVE FLOAT LEVELS FOR THE ADVANTEX FILTER POD WITH THE TWO COMPARTMENT SEPTIC TANK SHALL BE INSTALLED PER THE INSTALLATION GUIDELINES DOCUMENT AND MANUFACTURER'S SPECIFICATIONS.
- CONTROL PANEL, ELECTRICAL JUNCTION BOXES, AND WIRING RUNS SHALL BE INSTALLED BY A LICENSED ELECTRICIAN.
- PUMPS AND FLOAT LEVELS SHALL BE MANUALLY AND AUTOMATICALLY TESTED. DESIGNER SHALL BE PRESENT DURING TESTING OF SYSTEM COMPONENTS. MANUAL AND AUTOMATIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- WHENEVER AN ALARM CONDITION OCCURS, THE RED LIGHT ON THE FRONT OF THE ALARM PANEL WILL COME ON, ALONG WITH THE AUDIBLE HORN. THE AUDIBLE PORTION OF ALL ALARMS CAN BE SILENCED BY PUSHING THE ILLUMINATED LIGHT.

### ADVANTEX TREATMENT SYSTEM OPERATION & MAINTENANCE (O&M) REQUIREMENTS:

- WARNING - BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT, TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE "OFF" POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- THE INSTALLER AND SYSTEM SERVICE PROVIDER SHALL BE FAMILIAR WITH THE ADVANTEX TREATMENT SYSTEM O&M MANUAL REQUIREMENTS AND PROCEDURES FOR THE SYSTEM TO BE INSTALLED.
- THE OWNER(S) SHALL BE PROVIDED WITH A 3-YEAR LIMITED WARRANTY FOR THE ADVANTEX TREATMENT SYSTEM FROM ORENCO SYSTEMS, INC. OR A LICENSED VENDOR. THIS WARRANTY REQUIRES THE OWNER(S) OF THE SYSTEM TO OBTAIN A 3-YEAR SERVICE CONTRACT BY AN ORENCO SYSTEMS SERVICE PROVIDER, AS SPECIFIED OUT IN THE SALES CONTRACT.
- THE INSTALLER SHALL PROVIDE THE OWNER(S) WITH PUMP WARRANTY INFORMATION - TYPICALLY 5 YEARS FOR THE OSI PUMPS.
- REGULAR INSPECTION AND MAINTENANCE OF THE ADVANTEX TREATMENT SYSTEM COMPONENTS SHALL BE PERFORMED THREE (3) MONTHS AFTER SYSTEM START-UP AND THEN EVERY 12 MONTHS THEREAFTER, OR MORE FREQUENTLY, IF NECESSARY. PUMP OPERATIONS, CONTROL PANELS, PUMP ALARMS AND TIMER SETTINGS SHALL BE TESTED IN ACCORDANCE WITH THE O&M MANUAL REQUIREMENTS. ALL OUTLINED SAFETY PRECAUTIONS SHALL BE TAKEN DURING TESTING AND SERVICING OF THE SYSTEM.
- MEASUREMENT OF SOLIDS ACCUMULATION SHOULD BE PERFORMED SO THAT THE PROCESSING TANK (SEPTIC TANK) PUMPING RECOMMENDATIONS CAN BE GIVEN TO THE OWNER(S). A RECOMMENDATION FOR PUMPING SHALL BE MADE WHEN THE BOTTOM OF THE SOIL LAYER IS WITHIN 6" OF THE FLOW-THROUGH PORTS OF THE TANKS (2nd TANK COMPARTMENT) OR WHEN THERE IS AN ACCUMULATION OF SLUDGE WITHIN 6" BELOW THE FLOW-THROUGH PORTS.
- HANGING TEXTILE FILTER MEDIA (AX SERIES) WITHIN THE RECIRCULATING FILTER POD SHALL BE CLEANED/REPLACED AS NECESSARY IN ACCORDANCE WITH THE ADVANTEX O&M MANUAL AND MANUFACTURER'S RECOMMENDATIONS.
- ALL EFFLUENT FILTER(S) SHALL BE HOSED OFF ON A YEARLY BASIS, AND WHENEVER SEPTIC TANKS AND PUMP BASINS ARE PUMPED, SYSTEMS OPERATING ABOVE THEIR DESIGN FLOWS MAY REQUIRE MORE FREQUENT EFFLUENT FILTER CLEANING. IF THE SCREENED PUMP VAULT IS REMOVED, THE CLEANED VAULT SHOULD BE FILLED WITH CLEAN WATER FROM A GARDEN HOSE OR CLEAN POTABLE WATER SUPPLY BY THE SERVICE PROVIDER AS THE PUMP VAULT IS LOWERED BACK INTO THE SEPTIC TANK. ALL SLIME MATERIAL HOSED OFF OF FILTERS, PUMPS AND VAULTS SHOULD BE INSTALLED INTO THE INLET END OF THE SEPTIC TANK, ACCESSIBLE THROUGH THE INLET ACCESS RISER/ADAPTER.
- ALL TANKS AND BASINS SHALL BE VISUALLY INSPECTED FOR WATER-TIGHTNESS AND STRUCTURAL SOUNDNESS WHEN MAINTENANCE IS PERFORMED.

### ADVANTEX TREATMENT SYSTEM CONTROL PANEL REQUIREMENTS:

NOTE: CONTROL PANEL SHALL BE VERICOMM MODEL "VCOM-AXE1HT" CONTROL PANEL OR EQUAL. CONTROL PANEL SHALL BE CAPABLE OF CONTROLLING TWO (2) PUMPS IN A SAND FILTER TREATMENT SYSTEM. CONTROL PANEL SHALL ALSO BE CAPABLE OF RUNNING ELAPSED TIME METERS, DIGITAL FLOAT SWITCH DATA AND USE ONE FLOAT TYPE FOR ALL FUNCTIONS. CONTROL PANEL SHALL HAVE WEB BASED REMOTE MONITORING SYSTEM CAPABILITIES.

AX20 TIMER SETTINGS WORKSHEET DATA PUMP/ON/OFF & CYCLE TIME ESTIMATES FOR RECIRCULATION TANK

Number of People 6 ÷ 3 Bedroom Design  
Water Usage Per Person = 50gpd  
Q = Actual Daily Flow = 6x50 = 300gpd  
R = Return Recirc. Ratio = 2:1  
Qt = Total Daily Flow to AX20 Unit = Qi x (Rb+1) = 900gpd  
Qd = 28gpm Field Pump Data  
T = Pump On (Dose) = 0.30min/cycle Factory Set  
Tr = Pump Off (Rest) = 9.78min.  
Pump Cycles Per Day = 720min/day ÷ (0.30+9.78) = 71.2 cycles  
Dose Volume Per Cycle 900gpd/71.2 cycles = 12.64gals.  
Dose Pump Orifice = 12.64gal/cycle ÷ 68 orifices = 0.186gal per orifice  
Meets Range of 0.12 to 0.25 gal/orifice/dose  
Pump On 0.30min. Pump Off 9.78min. Override 1/2 Off cycle = 4.89min.

### PUMP BASIN FOR TREATED EFFLUENT ELEVATION SCHEDULE DATA:

Basin Top = EL. 7.5±  
Basin Height = 11" ± Depth (9.5')  
Basin Diameter = 36"  
Inlet Inv. From AX20 Pod RSV = 4.6±  
Outlet Inv. To BSF = 5.0±  
High Water Alarm/Override Timer = EL. 4.00±  
Pump On = EL. 3.50± (Includes Transport Line)  
Pump Off = EL. 0.0± & BSF Piping Volume  
Dosing Per Cycle = 28.8Gals + 154.9Gals = 183.7Gals  
Basin Bottom = EL. -2.0±

PUMP BASIN DOSE CALCULATIONS

Sand Filter: 345 gals. per day ÷ 12 cycles/day (120 min. intervals) = 28.75 gals./cycle  
Pump Chamber: 28.75 gals. per cycle (36" diameter basin)  
36" Diameter Basin Volume Capacity per 1" of Basin Height = 4.40 gals./inch  
On/Off Differential = 183.7 gals. ÷ 4.40 gals./inch = 41.75 inches Use 42.0 inches (Includes System Pipe Volume)  
Check Effluent Volume for BSF & Piping:  
3/4" Laterals = 160ft x 0.3gal/ft = 3.7gals. 1-1/4" Manifold Piping = 10ft x 0.064gal/ft = 0.7gals.  
2.5" Transport Line = 590ft x 0.55gal/ft = 326.5gals. Total Piping Volume BSF System = 154.9gals.

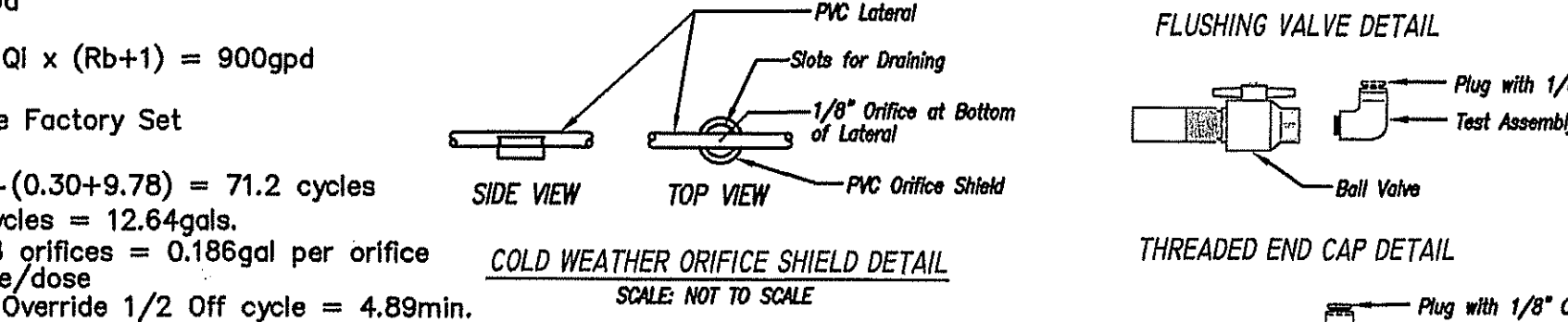
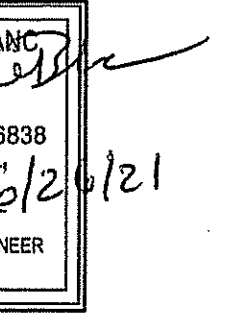
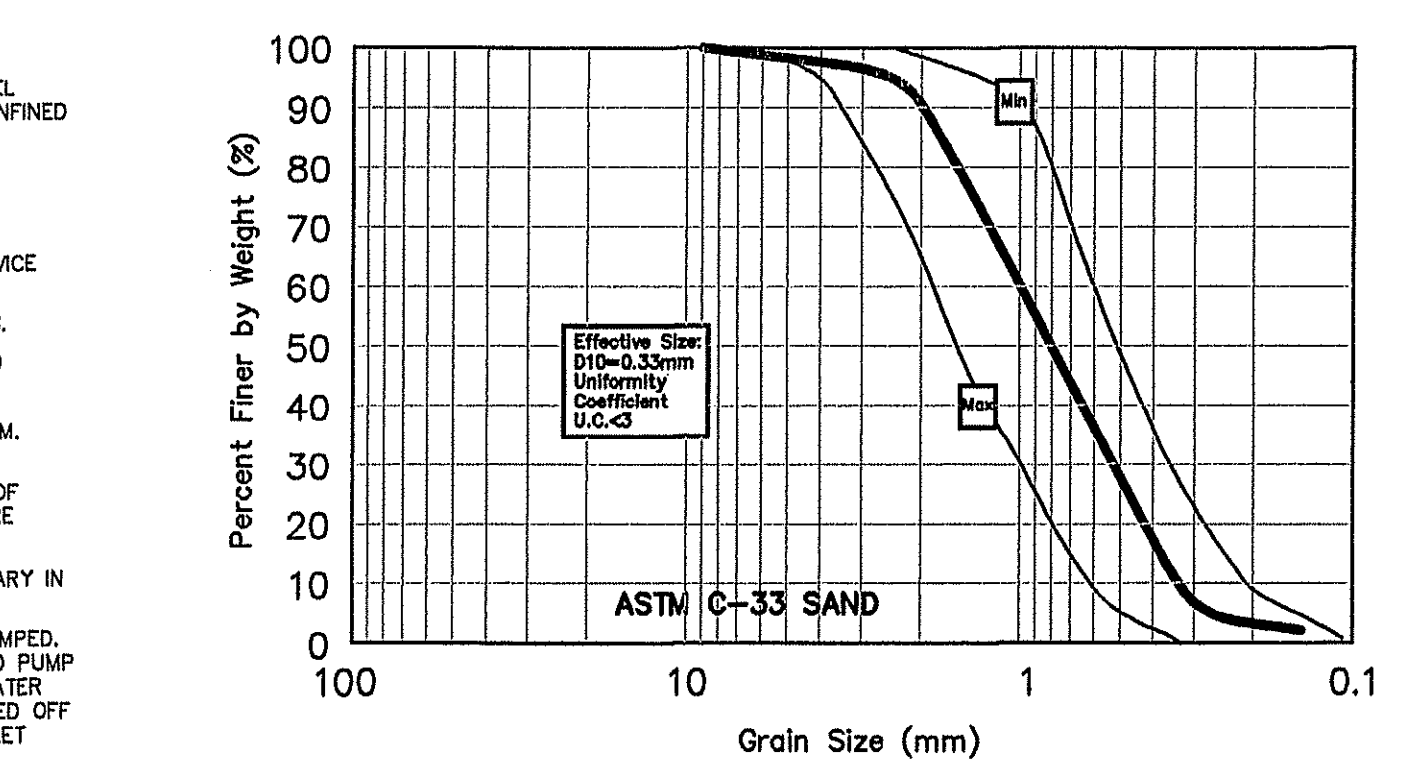
PUMP BASIN BUOYANCY CALCULATIONS

ASSUME 100% DRAWDOWN IS APPROXIMATELY (PUMP CHAMBER EMPTY) (CHECKS WITH OSI PIPE VOLUME CALCS)

WATER TABLE @ Elev. 5.5+ (Max. Storm) UPLIFT FORCE	21(1.50) x 7.5 ft. x 62.4 lb/cf = 3306 LBM-FORCE UPWARDS
BASE OF DOSE TANK @ Elev. -2.0	DOSE TANK WEIGHT (ASSUME FIBERGLASS TANK/PVC TANK IS INSIGNIFICANT)
	DOSE TANK WEIGHT = 0 LBM-FORCE DOWNWARDS

NOTE: ASSUME CONCRETE ANTI-FLotation COLLAR = 36" DIA.

CONCRETE ANTI-FLotation COLLAR CONCRETE THICKNESS = 2" MIN. @ 48" DIA. RING DIMENSION = 3768 LBS  
INSTALLER SHALL PLACE A MINIMUM WEIGHT OF 3306 POUNDS OF CONCRETE FOR ANTI-FLotation COLLAR  
INSTALLER SHALL USE RECOMMENDED ATTACHMENT METHODS PER BASIN MANUFACTURER'S REQUIREMENTS.

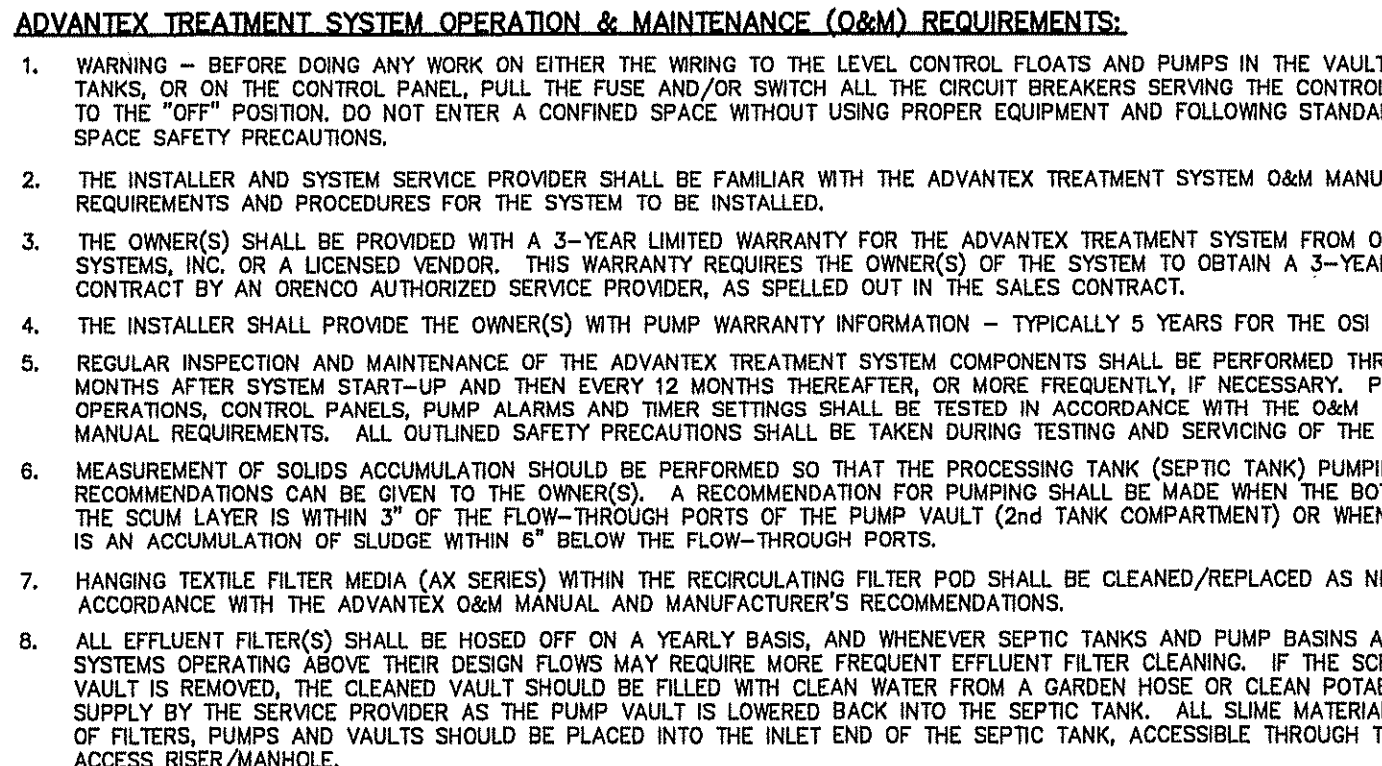
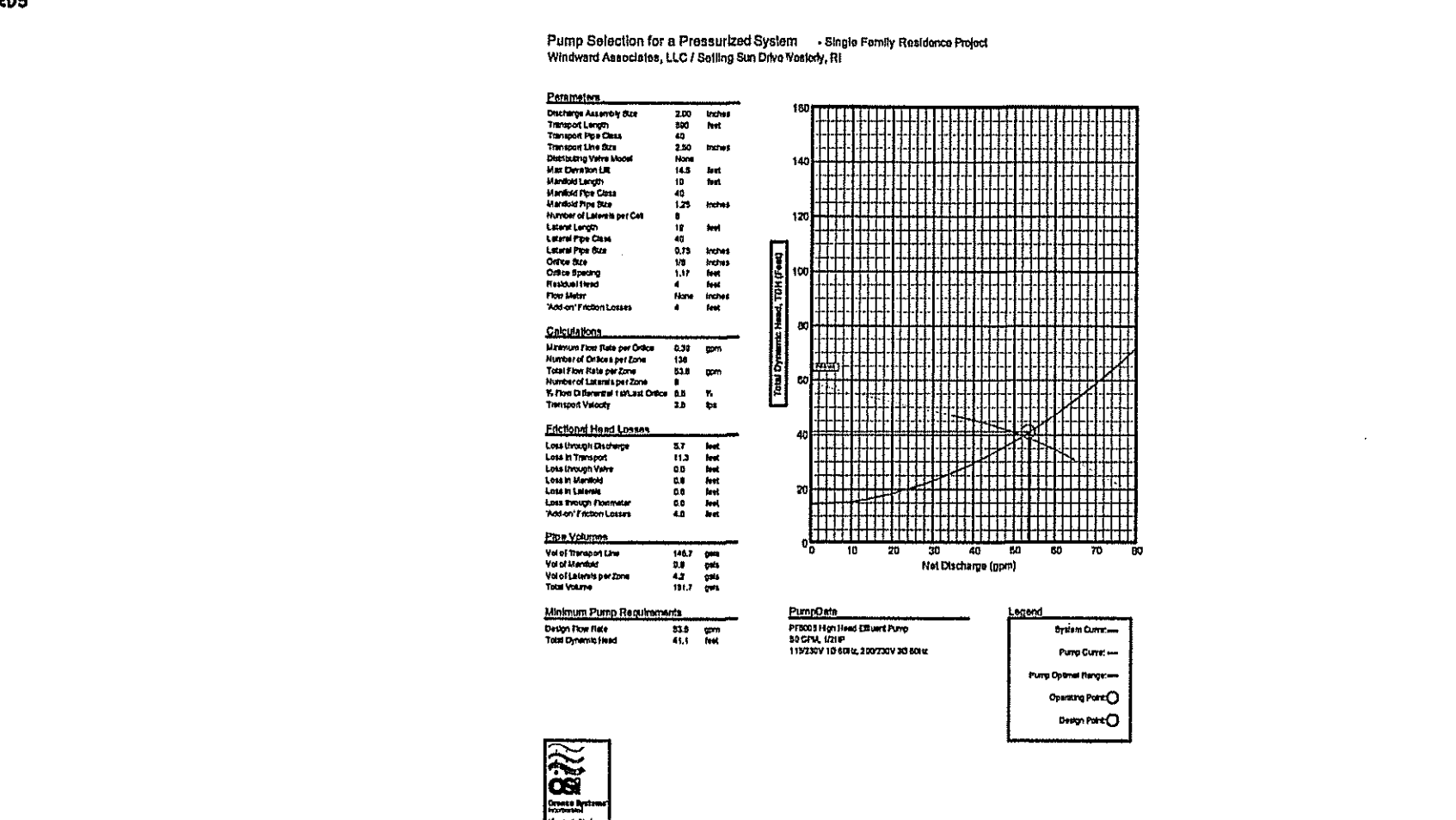


PROCESSING TANK BUOYANCY CALCULATIONS

ASSUME 100% DRAWDOWN IS APPROXIMATELY (PROCESSING TANK IS EMPTY)

WATER TABLE @ Elev. 5.5+ (Max. Storm) UPLIFT FORCE	10.5' x 6.75' x 5.5' x 62.4 lb/cf = 24,324.3 LBM-FORCE UPWARDS
BOTTOM OF PROCESSING TANK @ Elev. -1.25	PROCESSING TANK WEIGHT = 12,100 LBS
	PROCESSING TANK WEIGHT = 12,100 LBM-FORCE DOWNWARDS
	WEIGHT OF OVERBURDEN SOIL MASS = 13,158 LBM-FORCE DOWNWARDS
	TOTAL DOWNWARD FORCE = 25,258 ÷ 24,324 LBM-FORCE

CAUTION: PROCESSING TANK & PUMP CHAMBER NOT TO BE PUMPED OF CONTENTS DURING EXTREME HIGH G.W.T./FLOODING CONDITIONS



## PLAN SHOWING PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) AND SITE IMPROVEMENTS FOR:

# WINDWARD ASSOCIATES, LLC

3 SETTING SUN DRIVE  
ASSESSOR'S PLAT 137, LOT 41  
WESTERLY, RHODE ISLAND  
SCALE: AS SHOWN  
DATE: SEPTEMBER 17, 2019  
REVISED: JUNE 26, 2021  
PREPARED BY: LeBLANC ENGINEERING, LLC  
WESTERLY, RHODE ISLAND  
SHT. 2 OF 4

(Address: P.O. Box 1967, Westerly, RI 02891 ~ CELL: 401-741-2956)



REV.#	DATE:	REVISION:
1.	9/30/19	RIDEN OWT5 PRELIMINARY STAFF REVIEW COMMENTS DATED 9/25/19 - ADDED
2.	6/11/21	RIDEN OWT5 PRELIMINARY STAFF REVIEW COMMENTS DATED 9/25/19 - ADDED ADJUSTING DWELLING LOCATION, WATER SERVICE LINE AND CONFORMING TO SHOW #11 SETTING SUN DRIVE & #106 WATCH HILL ROAD PROPERTIES
3.	6/15/21	NRS REVIEW COMMENTS DATED 6/17/21 RICRMC COASTAL BUFFER ZONE CHANGES ADDED SUPPLEMENTAL G.W.T. DATA FOR SOIL EVALUATION & LEDGE TESTS/HOLES
4.	6/15/21	

## SUPPLEMENTAL GROUNDWATER TABLE (G.W.T.) DATA

### WET SEASON VERIFIED PERIOD 11/4/2019 THRU 5/31/2021

**RECEIVED**  
 september 2, 2021  
**COASTAL RESOURCES MANAGEMENT COUNCIL**

APPLICANT - WINDWARD ASSOCIATES LLC  
 83 SETTING SUN DRIVE, WESTERLY RI  
 P.O. BOX 1967  
 WET SEASON MONITORING DATA

PREPARED BY: LEBLANC ENGINEERING, LLC - PAUL D. LEBLANC, PE (SOLE PRINCIPLE) - DATE: MARCH 31, 2020, REVISED THRU MAY 30, 2021

LOCATION OF READING	DATE HOLE EXCAVATED	TOP OF PIPE ELEVATION	EXISTING GROUND SURFACE ELEVATION	DATE OF G.W.T. READING	DEPTH TO G.W.T. FROM TOP OF PIPE (feet)	DEPTH TO G.W.T. FROM EXIST. GRADE	G.W.T. Depth (ft.)	COMMENTS				
SE 2019-1	8/6/2019	13.88	13.48	11/4/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/19/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/16/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/10/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				1/20/2020	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				1/16/2020	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				1/10/2020	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				1/4/2020	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/29/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/22/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/15/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/8/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				12/1/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				11/24/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				11/17/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				11/10/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				11/3/2019	118	8.83	4.15	9.33 Dry - No Sign of GW Within Pipe				
				SE 2019-2	8/6/2019	13.55	9.7	11/4/2019	97	8.08	3.07	6.68
								12/10/2019	94	7.83	3.22	6.38
								12/16/2019	92	7.67	3.48	6.22
				1/2/2020	90	7.50	3.55	6.05				
				1/20/2020	91	7.60	3.47	6.03				
				1/16/2020	96	8.00	3.15	6.55				
				1/10/2020	94.5	8.00	3.15	6.55				
				1/4/2020	96.5	7.88	3.28	6.43				
				12/29/2019	98	8.17	2.98	6.72				
				12/22/2019	97	8.08	3.07	6.63				
				1/17/2020	99.5	8.29	2.86	6.84				
				1/10/2020	99	8.25	2.90	6.80				
				1/4/2020	95	7.92	3.23	6.47				
				12/29/2019	93.5	7.79	3.36	6.34				
				12/22/2019	93.5	8.22	2.84	6.76				
				1/17/2020	98	8.17	2.98	6.72				
				1/10/2020	99	8.25	2.90	6.80				
				1/4/2020	98.5	8.29	2.86	6.84				
				12/29/2019	98.5	8.21	2.94	6.76				
				12/22/2019	99	8.25	2.90	6.80				
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				12/22/2019	93.5	8.22	2.84	6.76				
				1/17/2020	98	8.17	2.98	6.72				



REV.#	DATE:	REVISION:
1.	9/30/19	RIDEM OWTS PRELIMINARY STAFF REVIEW COMMENTS DATED 9/25/19
2.	6/11/21	RIDEM OWTS PRELIMINARY STAFF REVIEW COMMENTS DATED 6/25/19 - ADDED ASBESTOS DWELLING LOCATION, WATER SERVICE LINE AND CONFORMED ISDS TO SHOW #11 SETTING SUN DRIVE & #106 WATCH HILL SOLO PROPERTIES.
3.	6/15/21	NES REVIEW COMMENTS DATED 6/17/21 RICHMOND COASTAL BUFFER ZONE CHANGES ADDED SUPPLEMENTAL G.W.T. DATA FOR SOIL EVALUATION & LEDGE TESTHOLES
4.	6/15/21	

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: 0036-1132

Property Owner: 3 Setting Sun Drive - Westerly  
Date of Test Hole: 8/6/19  
Soil Evaluator: Edward J. Avizins  
Weather: Sunny - 80s

TH 2019-1 Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Dex	Texture	Structure	Consistence	Soil Category
Ap	0-8"	a s	10YR 3/1	-	fSL	1gr	vfr	3
Bw1	8-32"	g s	10YR 5/4	-	stSL	1Lsbk	vfr	3
Bw2	32-54"	c s	10YR 5/3 10YR 6/2	1(2) d 1(2) f	fSL	1Lsbk	vfr	3
C1	54-110"	c s	2.5Y 6/2	-	vColfs	Osg	L	1m
C2	110-120"	-	2.5Y 5/1	-	ColS	Osg	L	1m

TH 2019-2 Horizon

Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Dex	Texture	Structure	Consistence	Soil Category
Ap	0-9"	a s	10YR 3/3	-	fSL	1gr	vfr	3
Bw1	9-18"	c s	10YR 5/4 10YR 6/1	c(2) p c(2) f	fSL	1mbk	vfr	3
Bw2	18-33"	c s	10YR 6/3 10YR 6/1	c(2) p c(2) f	ColS	1Lsbk	vfr	3
Cg	33-120"	-	2.5Y 6/1	-	glS	Osg	L	1m

TH 2019-1 Soil Class: D Total Depth: 120" Impervious/Limiting Layer Depth: ( ) GW Seepage Depth: SHWT: 36" log  
TH 2019-2 Soil Class: D Total Depth: 120" Impervious/Limiting Layer Depth: ( ) GW Seepage Depth: 90" SHWT: 18" log

Part B

Site Evaluation - to be completed by Soil Evaluator or Class II or III Designer  
Please use the area below to locate:  
1. Test holes and bedrock test holes.  
2. Approximate gradient and direction of slope.  
3. Observe from all test holes to locate points such as street, utility pole, or other permanent, marked object.  
CROSSRETS MUST BE SHOWN

1. Relief and Slope: 5 - 8%

2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test hole? If yes, locate on above sketch.  YES  NO

3. Restrictive Layer or Bedrock, within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above.  YES  NO

4. Presence of existing or proposed private drinking water wells within 200 feet of test hole? If yes, locate on above sketch.  YES  NO

5. Public drinking water wells within 200 feet of test hole? If yes, locate on above sketch.  YES  NO

6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 6.427?  YES  NO

7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch.  YES  NO

8. Site's potential for flooding or ponding: NONE  SLIGHT  MODERATE  SEVERE  at road frontage

9. Landscape position:  Shoulder

10. Vegetation: Red cedar, Red oak, Smilax, Viburnum

11. Indicate approximate location of property lines and easements.

12. Additional comments, site constraints or additional information regarding site: \_\_\_\_\_

Certification:  
The undersigned hereby certifies that the 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 report.

Part A prepared by: [Signature] License # [ ] Part B prepared by: [Signature] License # [ ]

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur  Inconclusive  Disclaim   
Unwitnessed Soil Evaluation Decision: Accept  Inconclusive  Disclaim

Was Revised Determination required?  Additional Field Review Required?

Explanation: \_\_\_\_\_

Signature Authorized Agent: \_\_\_\_\_ Date: \_\_\_\_\_

Rhode Island Department of Environmental Management  
Onsite Wastewater Treatment System Program  
Phone: 401-222-6820 Fax: 401-222-6177

INSPECTION REPORT

APPLICATION NUMBER: 0036-1132  
STREET: 3 Setting Sun Dr  
CITY/TOWN: WESTERLY  
PLAT/LOT: 137/41 POLE NO:  
OWTS INSTALLER: Westerly  
PHONE NO: 3741 INSPECTION NUMBER: 1  
TYPE OF INSPECTION: No Installer/Unknown XXXXX Designer: D4083

INSPECTOR: [Signature]  
INSPECTION DATE: 8/6/19  
ARRIVAL TIME: 08:00 AM  
WEATHER CONDITIONS: 80s

FINDINGS/COMMENTS:  
LP-1 - 18"  
LP-2 - 12"  
LP-3 - 14"  
LP-4 - 14"  
LP-5 - 16"

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.  
 (COG) Designer submit COG  
 (O&M) O&M agreement and permit must be recorded in Land Evidence Records.  
 (Fee) A \$100.00 fee is required before re-inspection.  
 Inspection waived

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: [Signature]  
OWNER'S COPY

SOIL EVALUATION REPORT FOR SE 2020-01 & SE 2020-02  
RESULTS REPLACED BY ACCEPTED WET SEASON VERIFIED READINGS SEE SHT 3 OF 4.

RIDEM E.S.H.W.T. @ LEDGE TESTHOLES LP-1 THRU LP-5  
RESULTS REPLACED BY ACCEPTED WET SEASON VERIFIED READINGS THIS SHT.

Additional Wet Season Monitoring Data

OWTS Application No. 0036-1132

Site information  
Street name: #3 SETTING SUN DRIVE Westerly RI  
Plat/Lot: 137/41  
Owner name: WINDWARD ASSOCIATES, LLC

SEE PRINA  
SOIL EVAL  
ACCEPTED  
11-25-2019

TEST HOLE NO.	DATE	DATE	DATE	DESIGNER/SOIL EVALUATOR'S DETERMINATION: SHWT Depth	
LP-1	11/13/2020	2/11/2020	3/30/2020	5.99' 6.12' 5.95' 66"	18"
LP-2	4.05'	3.93'	3.88'	42"	12"
LP-3	2.37'	1.62'	1.54'	18"	14"
LP-4	2.64'	2.43'	2.35'	26"	14"
LP-5	4.64'	4.77'	4.39'	48"	16"

Preparer's Name (print): Paul D. LeBlanc, P.E.  
Signature: [Signature] Designer License Number: D3050  
Date: 3/30/2020

This form must be completed and submitted to the Department along with the 4-part Verification of Groundwater form no later than April 1.

DESIGNER'S WET SEASON VERIFIED G.W.T. @  
LEDGE TESTHOLES LP-1 THRU LP-5  
ACCEPTED BY RIDEM TO REPLACE E.S.H.G.W.T. READINGS 11.25.2019

Rhode Island Department of Environmental Management  
Onsite Wastewater Treatment System Program  
Phone: 401-222-6820 Fax: 401-222-6177

INSPECTION REPORT

APPLICATION NUMBER: 0036-1132  
STREET: 3 Setting Sun Drive  
CITY/TOWN: WESTERLY  
PLAT/LOT: 137/41 POLE NO:  
OWTS INSTALLER: Westerly  
PHONE NO: 3741 INSPECTION NUMBER: 1  
TYPE OF INSPECTION: No Installer/Unknown XXXXX Designer: D4083

INSPECTOR: [Signature]  
INSPECTION DATE: 08/06/2019  
ARRIVAL TIME: 08:00 AM  
WEATHER CONDITIONS: 80s

FINDINGS/COMMENTS:  
Dry Season Inspection for soil scheduled @ noon  
TH1-2019 - 31  
TH2-2019 - 18"  
cat 1m / Ice Contact

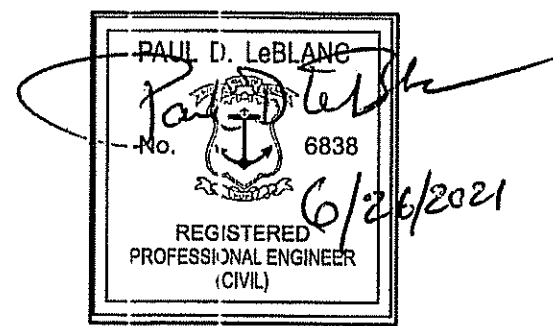
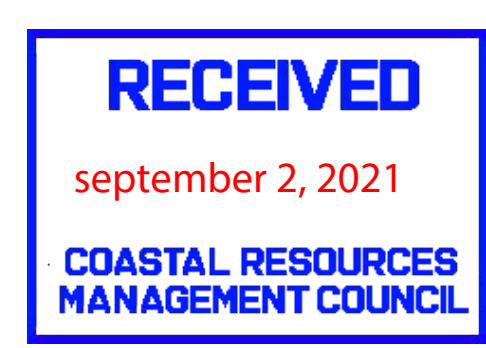
RESULTS OF INSPECTION/ACTION REQUIRED

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.  
 (COG) Designer submit COG  
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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: [Signature]

RIDEM E.S.H.G.W.T. FOR SE-2019-01 &  
SE-2019-02  
NOTE: SUPERSEDED BY WET SEASON VERIFIED READINGS  
SEE SHEET 3 OF 4.



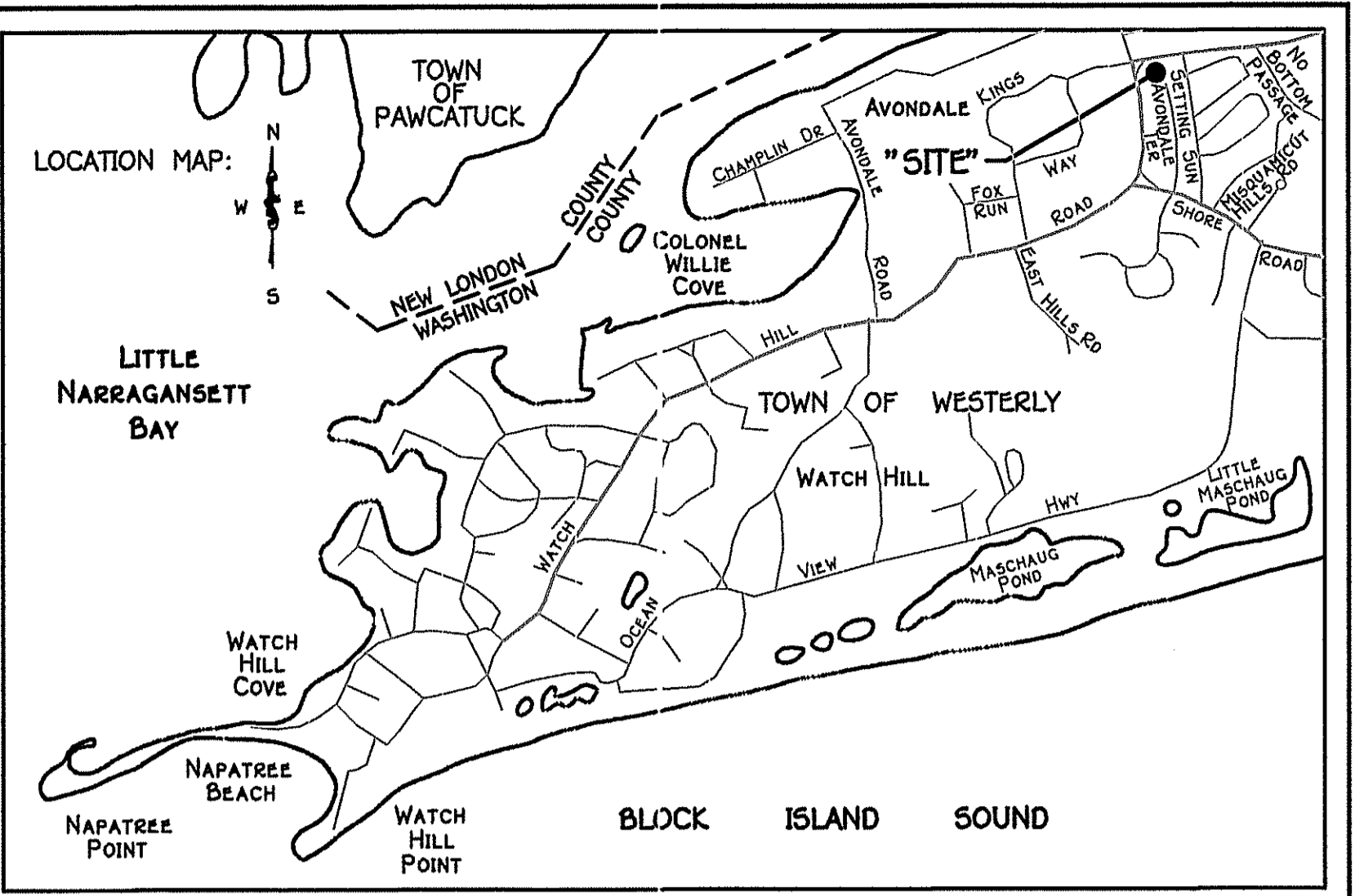
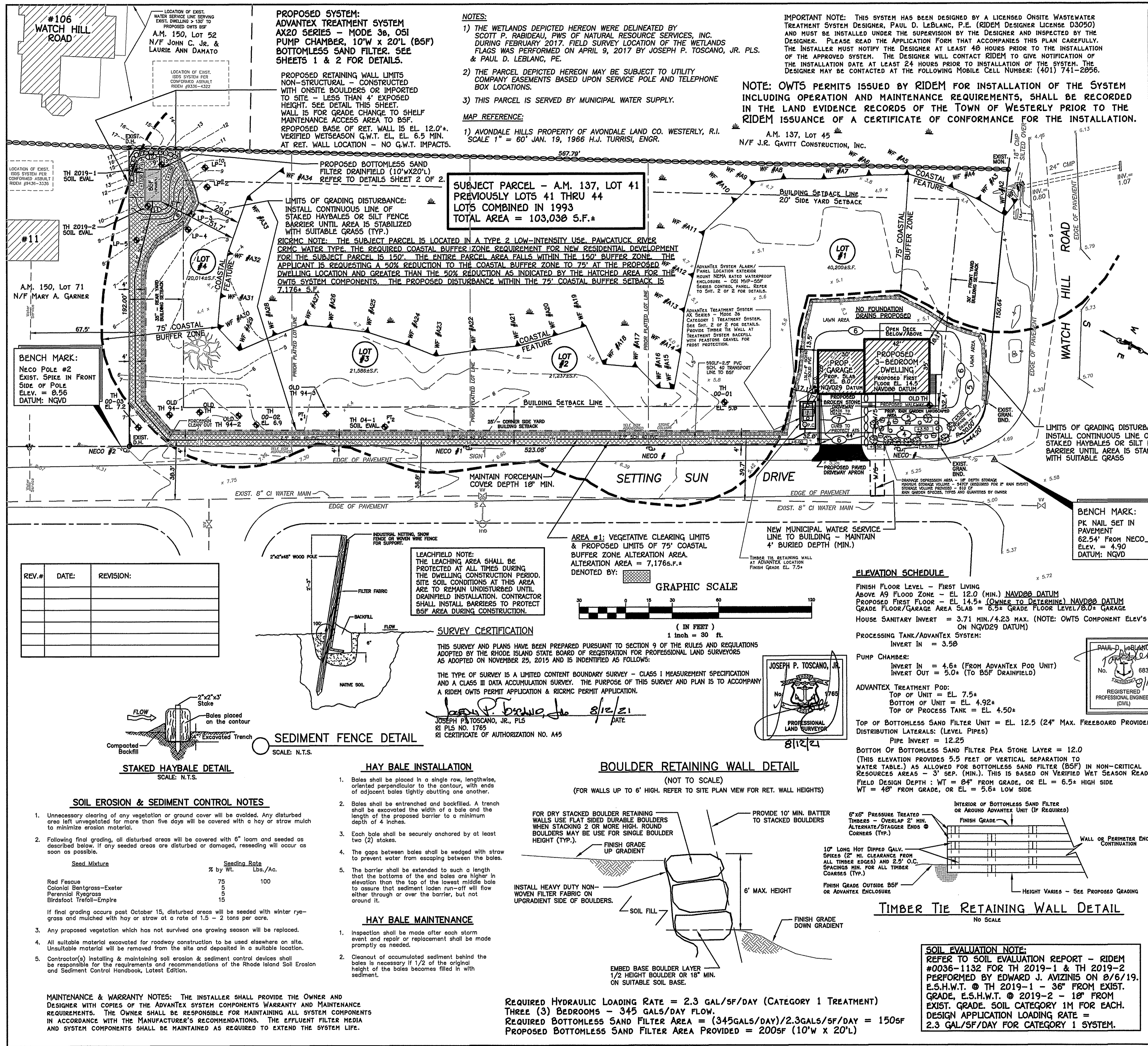
PLAN SHOWING PROPOSED ONSITE  
WASTEWATER TREATMENT SYSTEM (OWTS)  
AND SITE IMPROVEMENTS FOR:

**WINDWARD ASSOCIATES, LLC**

3 SETTING SUN DRIVE  
ASSESSOR'S PLAT 137, LOT 41  
WESTERLY, RHODE ISLAND  
SCALE: AS SHOWN  
DATE: JUNE 26, 2021  
REVISED:

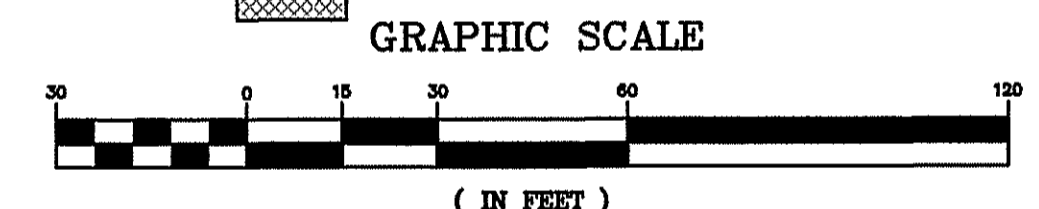
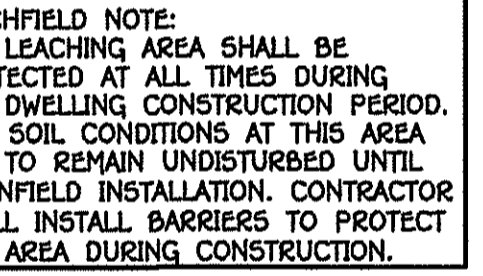
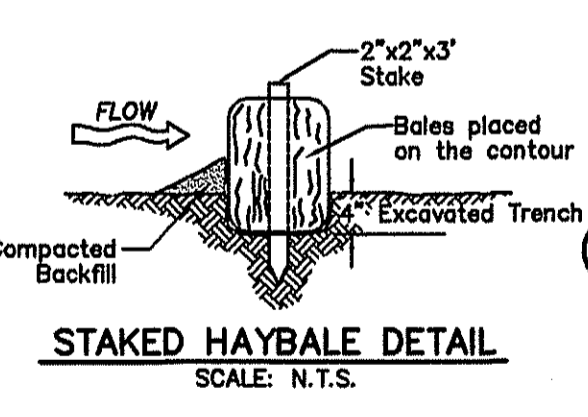
PREPARED BY: LeBLANC ENGINEERING, LLC  
WESTERLY, RHODE ISLAND SHT. 4 OF 4  
(ADDRESS: P.O. Box 1967, WESTERLY, RI 02691 - CELL: 401-741-2056)





- GENERAL NOTES:**
1. WATER SUPPLY BY TOWN PUBLIC SYSTEM. THERE ARE NO EXISTING NOR PROPOSED PUBLIC NOR PRIVATE WELLS WITHIN 500 FT. OF THE PROPOSED SYSTEM. THERE ARE NO EXISTING NOR PROPOSED WELLS ON THIS SITE.
  2. THIS SITE IS NOT LOCATED IN A CRITICAL RESOURCE AREA. THERE ARE COASTAL FRESHWATER WETLANDS WITHIN 200 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM AS SHOWN.
  3. THE PROPOSED SEPTIC TANK SHALL HAVE A 1500 GAL. (MIN.) CAPACITY AND BE EQUIPPED WITH AN ADVANTEX TREATMENT SYSTEM - AX SERIES-MODE 3b SYSTEM BY ORENCO SYSTEMS, INC. REFER TO ATTACHED DETAIL SHEET(S) FOR ADDITIONAL INFORMATION AND TYPICAL DETAILS.
  4. GRADE SYSTEM AREA PROPERLY TO ENSURE SURFACE WATER RUN-OFF AND SEED WITH GRASS. PARKING OR VEHICULAR TRAFFIC OVER SYSTEM IS PROHIBITED. CLEAR ALL TREES WITHIN 10 FT.
  5. AND INDICATES TEST HOLE, SOIL EVALUATION AND PERCOLATION TEST LOCATIONS.
  6. DASHED CONTOUR LINES INDICATE EXISTING GRADE. EXISTING SPOT ELEVATIONS ARE INDICATED BY:  $\times 7.8$   
 SOLID CONTOUR LINES INDICATE PROPOSED GRADE. PROPOSED SPOT ELEVATIONS ARE INDICATED BY:  $+10.50$
  7. ALL PVC PIPE USED FOR THE SEWAGE DISPOSAL SYSTEM SHALL BE SCHEDULE 40 OR BETTER SPECIFICATION OR AS NOTED ON THESE PLANS.
  8. TWO (2) MAN-HOLE RISERS WITH COVERS SHALL BE INSTALLED OVER THE PROCESSING TANK ENDS AND SHALL BE RAISED ABOVE THE FINISHED GRADE.
  9. THERE ARE NO SUBSURFACE DRAINS, INCLUDING FOUNDATION DRAINS EXISTING OR PROPOSED WITHIN 25 FEET UP GRADIENT OR DOWN GRADIENT OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.
  10. THIS SURVEY AND PLAN CONFORM TO A CLASS II SURVEY AS DEFINED BY THE RI BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. REFERENCE IS MADE TO THE "TOPOGRAPHIC WORKSHEET" PLAN PREPARED FOR WINDWARD ASSOCIATES, LLC, AP 137 LOTS 41-44 SETTING SUN DRIVE, WESTERLY, RHODE ISLAND SCALE 1"=30' JULY 27, 2000 PREPARED BY JIM KASIERSKI, PLS, INC. 5713 SHORE ROAD WESTERLY, RHODE ISLAND 02891. SUPPLEMENTAL SURVEY DATE PROVIDED BY JOSEPH P. TOSCANO, PLS FOR UPDATED WETLAND FLAG LOCATIONS, TOPOGRAPHIC DATA AND SOIL EVALUATION LOCATIONS FOR THE PROPOSED OWTS.
  11. THE PROCESSING TANK SHALL BE PUMPED OF CONTENTS WHEN THE SLUDGE DEPTH BECOMES WITHIN 6" BELOW THE FLOW THROUGH PORTS OR THE SCUM LAYER IS WITHIN 3" OF THE FLOW THROUGH PORT OF THE PUMP VAULT.
  12. THE SUBJECT PROPERTY IS SITUATED IN A ZONE AE BFE (EL. 12') FLOOD HAZARD ZONE AS INDICATED ON FIRM FLOOD INSURANCE RATE MAP TOWN OF WESTERLY, RHODE ISLAND WASHINGTON COUNTY COMMUNITY PANEL NUMBER 445410 AREA 44009C 0254. MAP EFFECTIVE OCTOBER 16, 2013.
  13. REFERENCE IS MADE TO THE FOLLOWING OWTS APPROVAL: "PLAN SHOWING INDIVIDUAL SEWAGE DISPOSAL SYSTEM AND SITE IMPROVEMENTS FOR: WINDWARD ASSOCIATES, LLC AS SETTING SUN DRIVE, ASSESSOR'S PLAT 137, LOT 41 WESTERLY, RHODE ISLAND SCALE: AS SHOWN DECEMBER 18, 2001 REVISED: NOVEMBER 18, 2004" PREPARED BY PAUL D. LEBLANC, P.E. WESTERLY, RHODE ISLAND (ADDRESS: 2 VOSE STREET - TEL/FAX: 348-6025) SHEETS 1 & 2 - PRIOR RIDEM 1505 APPROVAL 0036-1132 DATED: JANUARY 26, 2005.

REV.#	DATE	REVISION



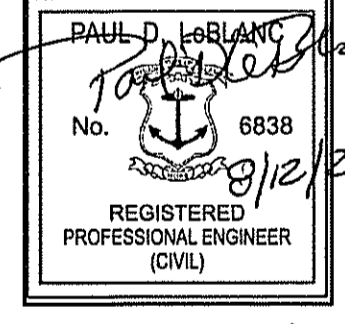
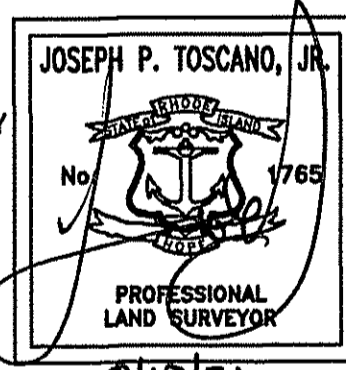
**SURVEY CERTIFICATION**

THIS SURVEY AND PLANS HAVE BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS AS ADOPTED ON NOVEMBER 25, 2015 AND IS IDENTIFIED AS FOLLOWS:

THE TYPE OF SURVEY IS A LIMITED CONTENT BOUNDARY SURVEY - CLASS I MEASUREMENT SPECIFICATION AND A CLASS III DATA ACCUMULATION SURVEY. THE PURPOSE OF THIS SURVEY AND PLAN IS TO ACCOMPANY A RIDEM OWTS PERMIT APPLICATION & RICRMC PERMIT APPLICATION.

JOSEPH P. TOSCANO, JR., PLS  
RI PLS NO. 1765  
RI CERTIFICATE OF AUTHORIZATION NO. A45

*Joseph P. Toscano, Jr.* 8/12/21  
DATE



**ELEVATION SCHEDULE**

FINISH FLOOR LEVEL - FIRST LIVING ABOVE A9 FLOOD ZONE - EL. 12.0 (MIN.) NAVD83 DATUM  
PROPOSED FIRST FLOOR - EL. 14.5 (ONLINE TO DETERMINE) NAVD83 DATUM  
GRADE FLOOR/GARAGE AREA SLAB = 5.5 GRADE FLOOR LEVEL/78.0" GARAGE  
HOUSE SANITARY INVERT = 3.71 MIN./4.23 MAX. (NOTE: OWTS COMPONENT ELEV'S BASED ON NGVD29 DATUM)

PROCESSING TANK/ADVANTEX SYSTEM:  
INVERT IN = 3.50

PUMP CHAMBER:  
INVERT IN = 4.6 (FROM ADVANTEX POD UNIT)  
INVERT OUT = 5.0 (TO BSF DRAINFIELD)

ADVANTEX TREATMENT POD:  
TOP OF UNIT = EL. 7.5+  
BOTTOM OF UNIT = EL. 4.92+  
TOP OF PROCESS TANK = EL. 4.50+

TOP OF BOTTOMLESS SAND FILTER UNIT = EL. 12.5 (24" MAX. FREEBOARD PROVIDED)  
DISTRIBUTION LATERALS: (LEVEL PIPES)  
PIPE INVERT = 12.25

BOTTOM OF BOTTOMLESS SAND FILTER PEA STONE LAYER = 12.0  
(THIS ELEVATION PROVIDES 5.5 FEET OF VERTICAL SEPARATION TO WATER TABLE.) AS ALLOWED FOR BOTTOMLESS SAND FILTER (BSF) IN NON-CRITICAL RESOURCES AREAS - 3' SEP. (MIN.). THIS IS BASED ON VERIFIED WET SEASON READINGS.  
FIELD DESIGN DEPTH: WT = 84" FROM GRADE, OR EL. = 6.5+ HIGH SIDE  
WT = 48" FROM GRADE, OR EL. = 5.6+ LOW SIDE

**HAY BALE INSTALLATION**

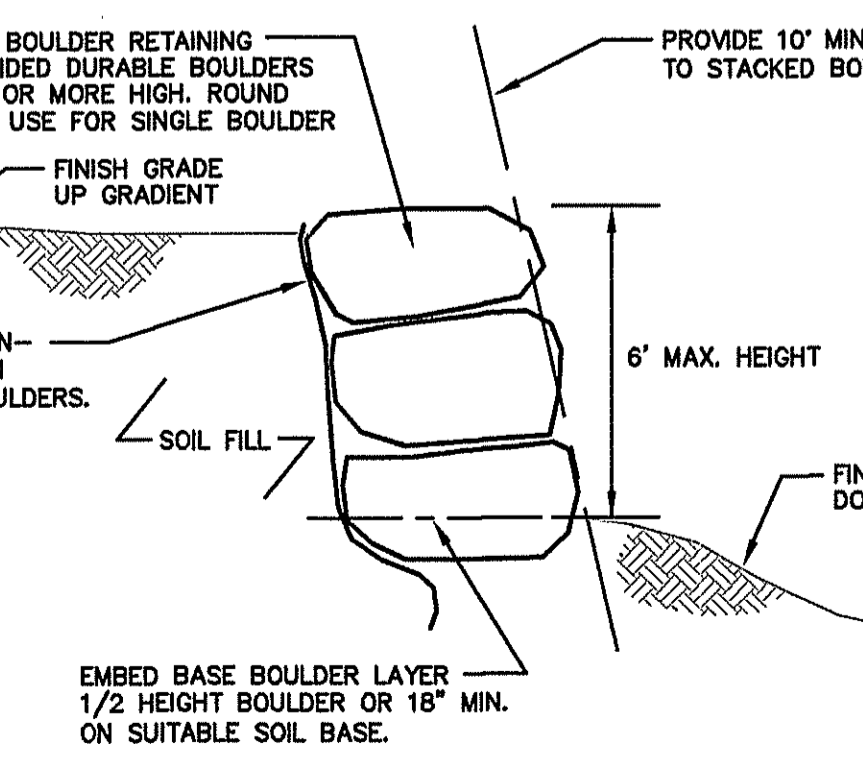
1. Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
2. Bales shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches.
3. Each bale shall be securely anchored by at least two (2) stakes.
4. The gaps between bales shall be wedged with straw to prevent water from escaping between the bales.
5. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment laden run-off will flow either through or over the barrier, but not around it.

**HAY BALE MAINTENANCE**

1. Inspection shall be made after each storm event and repair or replacement shall be made promptly as needed.
2. Cleanout of accumulated sediment behind the bales is necessary if 1/2 of the original height of the bales becomes filled in with sediment.

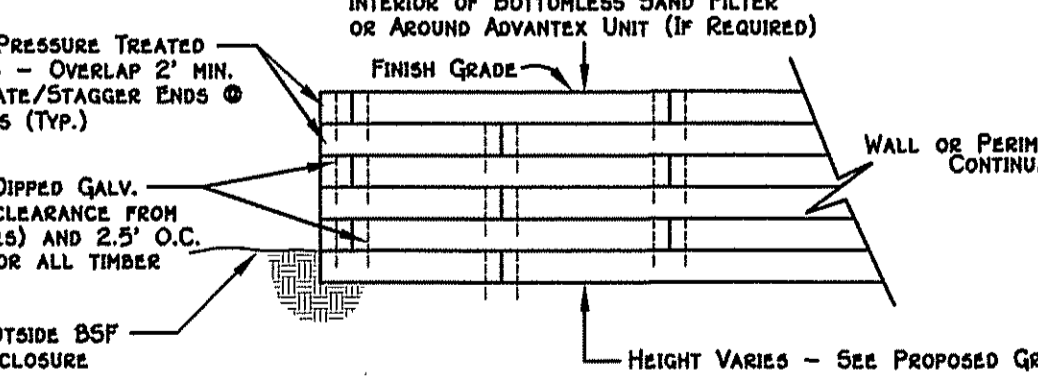
**BOULDER RETAINING WALL DETAIL**

(NOT TO SCALE)  
(FOR WALLS UP TO 6' HIGH, REFER TO SITE PLAN VIEW FOR RET. WALL HEIGHTS)



**TIMBER TIE RETAINING WALL DETAIL**

No SCALE



**SOIL EVALUATION NOTE:**  
REFER TO SOIL EVALUATION REPORT - RIDEM #0036-1132 FOR TH 2019-1 & TH 2019-2 PERFORMED BY EDWARD J. AVIZINIS ON 8/6/19. E.S.H.W.T. @ TH 2019-1 - 36" FROM EXIST. GRADE. E.S.H.W.T. @ 2019-2 - 18" FROM EXIST. GRADE. SOIL CATEGORY 1M FOR EACH. DESIGN APPLICATION LOADING RATE = 2.3 GAL/SF/DAY FOR CATEGORY 1 SYSTEM.

**SOIL EROSION & SEDIMENT CONTROL NOTES**

1. Unnecessary clearing of any vegetation or ground cover will be avoided. Any disturbed area left unvegetated for more than five days will be covered with a hay or straw mulch to minimize erosion material.
  2. Following final grading, all disturbed areas will be covered with 6" loam and seeded as described below. If any seeded areas are disturbed or damaged, reseeding will occur as soon as possible.
- | Seed Mixture               | Seeding Rate<br>% by Wt. | Lbs./Ac. |
|----------------------------|--------------------------|----------|
| Red Fescue                 | 75                       | 100      |
| Colonial Bentgrass-Exeter  | 5                        |          |
| Perennial Ryegrass         | 5                        |          |
| Birdsfoot Trifolium-Empire | 15                       |          |
- If final grading occurs past October 15, disturbed areas will be seeded with winter ryegrass and mulched with hay or straw at a rate of 1.5 - 2 tons per acre.
3. Any proposed vegetation which has not survived one growing season will be replaced.
  4. All suitable material excavated for roadway construction to be used elsewhere on site. Unsuitable material will be removed from the site and deposited in a suitable location.
  5. Contractor(s) installing & maintaining soil erosion & sediment control devices shall be responsible for the requirements and recommendations of the Rhode Island Soil Erosion and Sediment Control Handbook, Latest Edition.

**MAINTENANCE & WARRANTY NOTES:** THE INSTALLER SHALL PROVIDE THE OWNER AND DESIGNER WITH COPIES OF THE ADVANTEX SYSTEM COMPONENTS WARRANTY AND MAINTENANCE REQUIREMENTS. THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE EFFLUENT FILTER MEDIA AND SYSTEM COMPONENTS SHALL BE MAINTAINED AS REQUIRED TO EXTEND THE SYSTEM LIFE.

REQUIRED HYDRAULIC LOADING RATE = 2.3 GAL/SF/DAY (CATEGORY 1 TREATMENT)  
THREE (3) BEDROOMS - 345 GALS/DAY FLOW.  
REQUIRED BOTTOMLESS SAND FILTER AREA = (345GALS/DAY)/2.3GALS/SF/DAY = 150sf  
PROPOSED BOTTOMLESS SAND FILTER AREA PROVIDED = 200sf (10'W x 20'L)

PLAN TO ACCOMPANY CRMC APPLICATION  
PROPOSED NEW DWELLING CONSTRUCTION  
AND SITE IMPROVEMENTS FOR:  
**WINDWARD ASSOCIATES, LLC**

3 SETTING SUN DRIVE  
ASSESSOR'S PLAT 137, LOT 41  
WESTERLY, RHODE ISLAND  
SCALE: AS SHOWN

DATE: AUGUST 11, 2021

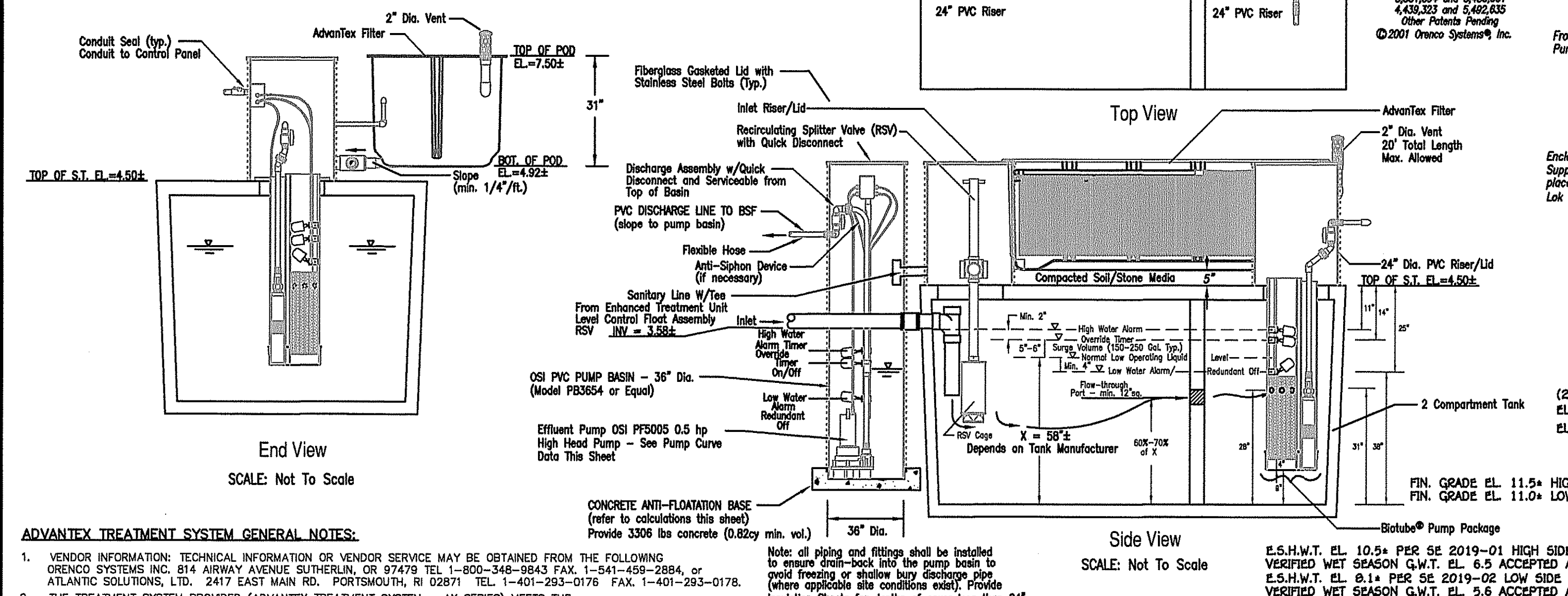
REVISED:  
PREPARED BY: **LEBLANC ENGINEERING, LLC**  
WESTERLY, RHODE ISLAND SHT. 1 OF 2  
(ADDRESS: 85 BEACH STREET, BUILDING B, UNIT 3, WESTERLY, RI 02891 - CELL: 401-741-2856)

**RECEIVED**  
SEPTEMBER 8, 2021  
COASTAL RESOURCES  
MANAGEMENT COUNCIL



REV.#	DATE	REVISION

# AdvanTex™ Treatment System AX 20 Series - Mode 3B



**ADVANTEX TREATMENT SYSTEM GENERAL NOTES:**

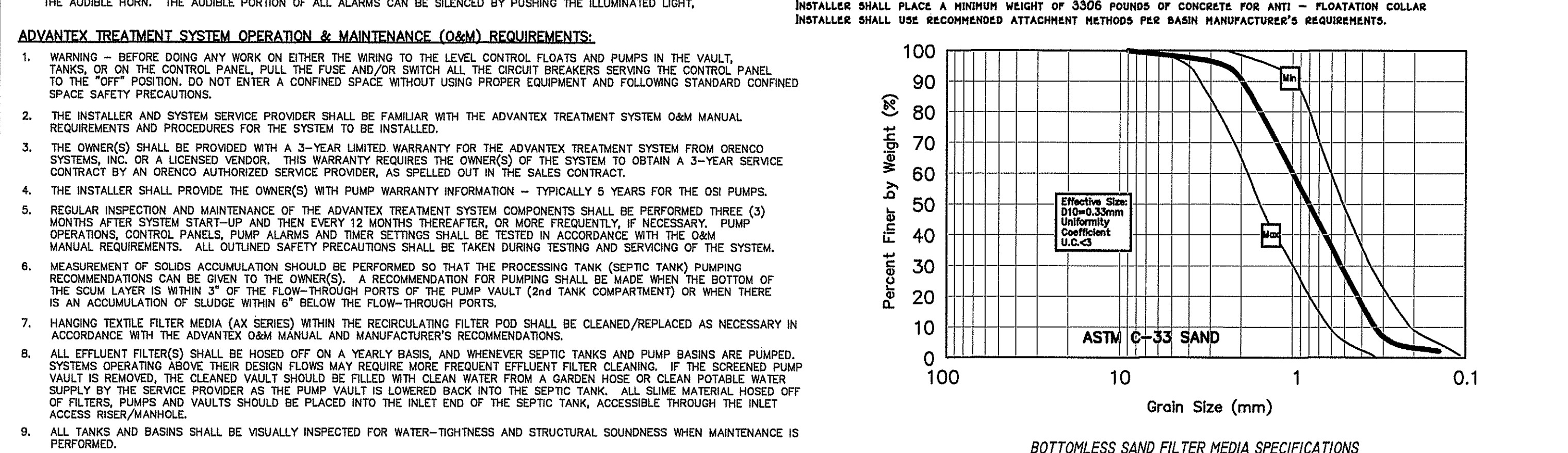
- VENDOR INFORMATION: TECHNICAL INFORMATION OR VENDOR SERVICE MAY BE OBTAINED FROM THE FOLLOWING: ORENCO SYSTEMS INC. 814 AIRWAY AVENUE SUTHERLIN, OR 97479 TEL: 1-800-348-9843 FAX: 1-541-459-2884, OR ATLANTIC SOLUTIONS, LTD. 2417 EAST MAIN RD. PORTSMOUTH, RI 02871 TEL: 1-401-293-0176 FAX: 1-401-293-0178.
- THE TREATMENT SYSTEM PROVIDED (ADVANTEX TREATMENT SYSTEM - AX SERIES) MEETS THE REQUIREMENTS OF A CATEGORY 1 SYSTEM: ADVANCED TREATMENT UNIT THAT IS TINED DOSED AND HAS BEEN CLASSIFIED BY RIDEM AS MEETING EFFLUENT STANDARDS LESS THAN OR EQUAL TO 19 mg/L FOR TN AND LESS THAN OR EQUAL TO 5 mg/L FOR TSS AND BOD5.
- ALL SEPTIC TANKS AND PUMP CHAMBERS FOR THE ADVANTEX TREATMENT SYSTEM SHALL BE WATER-TIGHT CONSTRUCTION AND SHALL BE PROVIDED WITH WATER-TIGHT PLASTIC OR FIBERGLASS RISERS ABOVE FINISHED GRADE. ALL INLET AND OUTLET PIPES TO CONCRETE CHAMBERS SHALL HAVE FLEXIBLE RUBBER SEALS SECURED BY STAINLESS STEEL BANDS TO FORM A WATER-TIGHT CONNECTION. WATER-TIGHT RUBBER GROMMETS SHALL BE USED AT INLET AND OUTLET PIPES TO PLASTIC OR FIBERGLASS PUMP CHAMBERS/BASINS.
- THE PUMP CHAMBER SPECIFIED AFTER THE TREATMENT SYSTEM DISCHARGING TO THE BSF SHALL PROVIDE A MINIMUM STORAGE VOLUME EQUAL TO THE DESIGN VOLUME DOSED ONTO THE BSF DURING ONE PUMP RUN TIME AS INDICATED ON THIS SHEET. PUMP CHAMBERS FOR SEASONALLY-USED SYSTEMS SHALL INCREASE IN CAPACITY BY A MINIMUM OF THIRTY (30) PERCENT, REFER TO PUMP CHAMBER DIMENSIONAL SIZING THIS SHEET.
- A LICENSED ELECTRICIAN SHALL INSTALL ALL ELECTRICAL COMPONENTS, WIRING, CIRCUITS, CONTROL & ALARM PANELS, AND ELECTRONIC CONTROL PANELS PER STATE/NATIONAL ELECTRIC CODE REQUIREMENTS.
- THE ADVANTEX TREATMENT SYSTEM SHALL INCLUDE A PROGRAMMABLE TIMER TO PROVIDE SMALL DOSES OF TREATED EFFLUENT TO THE BSF THROUGHOUT THE DAY. THE TYPICAL SYSTEM DESIGN DOSE WILL OCCUR 1 TO 2 DOSES PER HOUR. THE DESIGNER SHALL VERIFY THAT INSTALLER HAS FIELD-SET THE TIMER AND PUMP CHAMBER FLOAT SWITCHES AT THE TIME OF SYSTEM START-UP. THE INSTALLER WILL BE REQUIRED TO MEET WITH THE DESIGNER TWO TO FOUR WEEKS AFTER SURVEILANCE TO ENSURE THAT THE PROGRAMMABLE TIMER IS RESET, AS NEEDED, AND ADJUSTED FOR ACTUAL FLOW CONDITIONS FOR THE SYSTEM.
- THE INSTALLER SHALL PROVIDE A HIGH LEVEL WATER ALARM, PUMP, AND FLOAT SWITCH(S) SET TO OVERRIDE THE PROGRAMMABLE TIMER IN THE EVENT OF TIMER MALFUNCTIONS OR TEMPORARY EXCESSIVE WATER USE. A LOW LEVEL WATER REUNDANT OFF SWITCH SHALL ALSO BE PROVIDED - REFER TO SEPTIC TANK AND PUMP BASIN DETAILS THIS SHEET.
- AN IMPULSE COUNTER SHALL BE PROVIDED ON THE TIMER OVERRIDE OR HIGH WATER ALARM FLOAT (WHICHEVER IS APPLICABLE BASED ON ESTIMATED FLOW CONDITIONS) FOR THE ADVANTEX TREATMENT SYSTEM AND PUMP CHAMBER/BASIN PUMPS.
- PUMP CONTROL PANELS SHALL BE PROVIDED WITH AN ELAPSED TIME RUN METER AND A DOSING EVENT COUNTER (PUMP IMPULSE COUNTER) FOR EACH PUMP IN THE SYSTEM. THE ELAPSED TIME RUN METER AND DOSING EVENT COUNTER SHALL BE NON-RESETTING. PUMP CONTROL PANELS SHALL BE MOUNTED ON AN EXTERIOR WALL OF THE STRUCTURE FOR EASE OF SERVICE OF THE SYSTEM. IT IS RECOMMENDED THAT THE PANEL BOX(ES) BE PLACED IN A MANNER WITHIN VIEW OF THE SYSTEM LOCATION IF POSSIBLE TO HELP FACILITATE OPERATION AND MAINTENANCE. CONTROL PANELS SHALL BE MOUNTED TO AVOID UNNECESSARY NOISES ASSOCIATED WITH MOTOR CONTACTS.
- INSTALLATION OF THE ADVANTEX TREATMENT SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE ADVANTEX TREATMENT SYSTEM INSTALLATION GUIDE.
- IF THE ADVANTEX TREATMENT POD IS PLACED OVER THE TOP OF THE TANK, A MINIMUM 5\"/>

**ADVANTEX TREATMENT SYSTEM OPERATION & MAINTENANCE (O&M) REQUIREMENTS:**

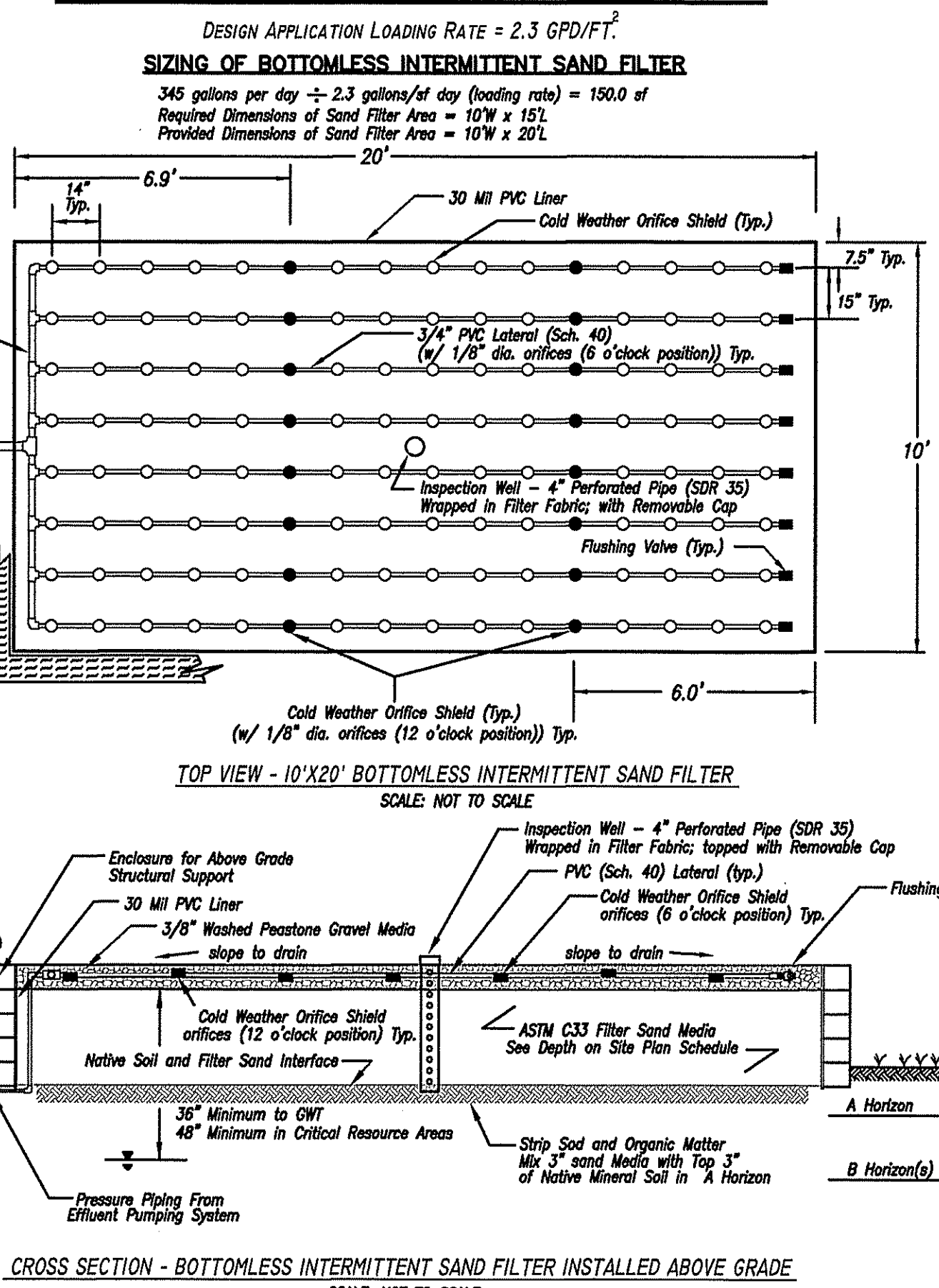
- WARNING - BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT, TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE "OFF" POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- THE INSTALLER AND SYSTEM SERVICE PROVIDER SHALL BE FAMILIAR WITH THE ADVANTEX TREATMENT SYSTEM O&M MANUAL REQUIREMENTS AND PROCEDURES FOR THE SYSTEM TO BE INSTALLED.
- THE OWNER(S) SHALL BE PROVIDED WITH A 3-YEAR LIMITED WARRANTY FOR THE ADVANTEX TREATMENT SYSTEM FROM ORENCO SYSTEMS, INC. OR A LICENSED VENDOR. THIS WARRANTY REQUIRES THE OWNER(S) OF THE SYSTEM TO OBTAIN A 3-YEAR SERVICE CONTRACT BY AN ORENCO AUTHORIZED SERVICE PROVIDER, AS SPELLED OUT IN THE SALES CONTRACT.
- THE INSTALLER SHALL PROVIDE THE OWNER(S) WITH PUMP WARRANTY INFORMATION - TYPICALLY 5 YEARS FOR THE OSI PUMPS.
- REGULAR INSPECTION AND MAINTENANCE OF THE ADVANTEX TREATMENT SYSTEM COMPONENTS SHALL BE PERFORMED THREE (3) MONTHS AFTER SYSTEM START-UP AND THEN EVERY 12 MONTHS THEREAFTER, OR MORE FREQUENTLY, IF NECESSARY. PUMP OPERATIONS, CONTROL PANELS, PUMP ALARMS AND TIMER SETTINGS SHALL BE TESTED IN ACCORDANCE WITH THE O&M MANUAL REQUIREMENTS. ALL OUTLINED SAFETY PRECAUTIONS SHALL BE TAKEN DURING TESTING AND SERVICING OF THE SYSTEM.
- MEASUREMENT OF SOLIDS ACCUMULATION SHOULD BE PERFORMED SO THAT THE PROCESSING TANK (SEPTIC TANK) PUMPING RECOMMENDATIONS CAN BE GIVEN TO THE OWNER(S). A RECOMMENDATION FOR PUMPING SHALL BE MADE WHEN THE BOTTOM OF THE SCUM LAYER IS WITHIN 3\"/>

**ADVANTEX TREATMENT SYSTEM OPERATION & MAINTENANCE (O&M) REQUIREMENTS:**

- WARNING - BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT, TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE "OFF" POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- THE INSTALLER AND SYSTEM SERVICE PROVIDER SHALL BE FAMILIAR WITH THE ADVANTEX TREATMENT SYSTEM O&M MANUAL REQUIREMENTS AND PROCEDURES FOR THE SYSTEM TO BE INSTALLED.
- THE OWNER(S) SHALL BE PROVIDED WITH A 3-YEAR LIMITED WARRANTY FOR THE ADVANTEX TREATMENT SYSTEM FROM ORENCO SYSTEMS, INC. OR A LICENSED VENDOR. THIS WARRANTY REQUIRES THE OWNER(S) OF THE SYSTEM TO OBTAIN A 3-YEAR SERVICE CONTRACT BY AN ORENCO AUTHORIZED SERVICE PROVIDER, AS SPELLED OUT IN THE SALES CONTRACT.
- THE INSTALLER SHALL PROVIDE THE OWNER(S) WITH PUMP WARRANTY INFORMATION - TYPICALLY 5 YEARS FOR THE OSI PUMPS.
- REGULAR INSPECTION AND MAINTENANCE OF THE ADVANTEX TREATMENT SYSTEM COMPONENTS SHALL BE PERFORMED THREE (3) MONTHS AFTER SYSTEM START-UP AND THEN EVERY 12 MONTHS THEREAFTER, OR MORE FREQUENTLY, IF NECESSARY. PUMP OPERATIONS, CONTROL PANELS, PUMP ALARMS AND TIMER SETTINGS SHALL BE TESTED IN ACCORDANCE WITH THE O&M MANUAL REQUIREMENTS. ALL OUTLINED SAFETY PRECAUTIONS SHALL BE TAKEN DURING TESTING AND SERVICING OF THE SYSTEM.
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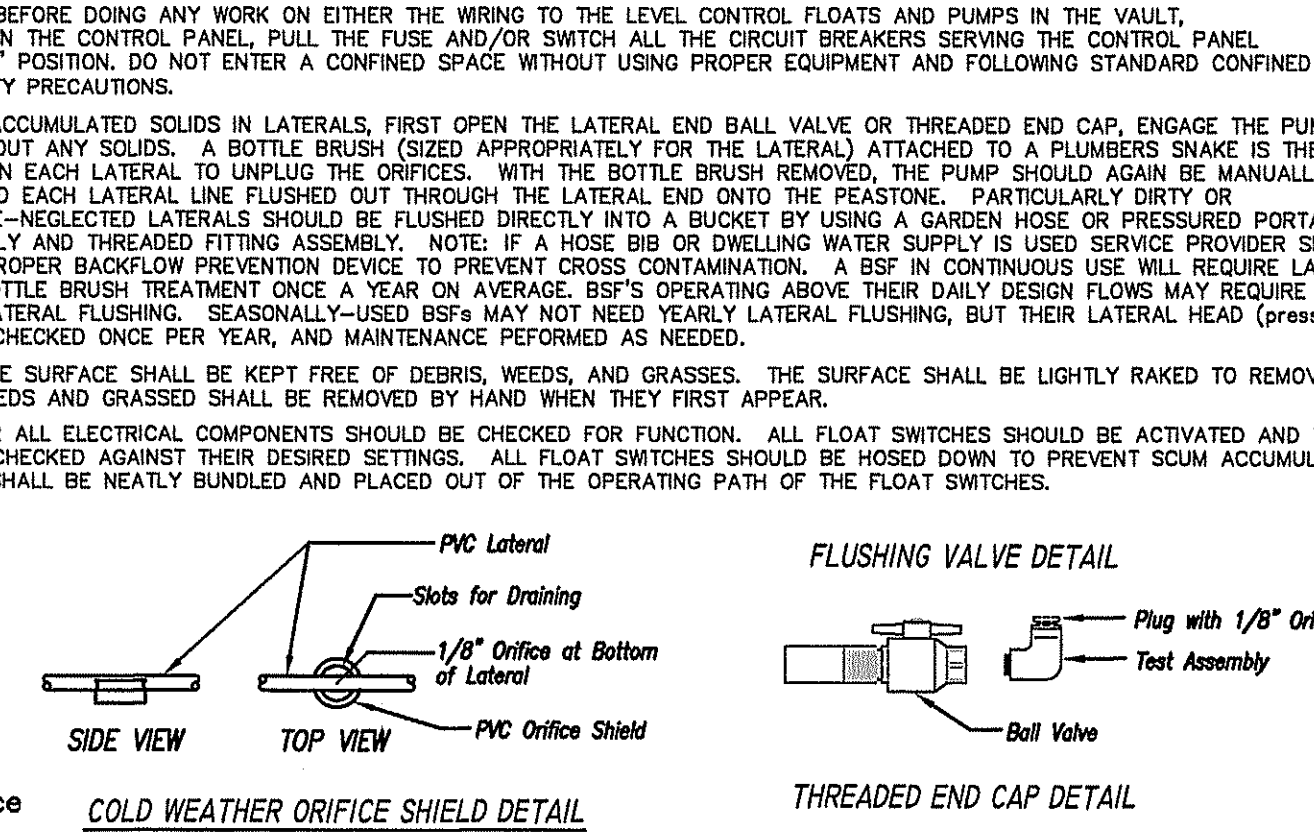


## 10'x20' Bottomless Intermittent Sand Filter Detail

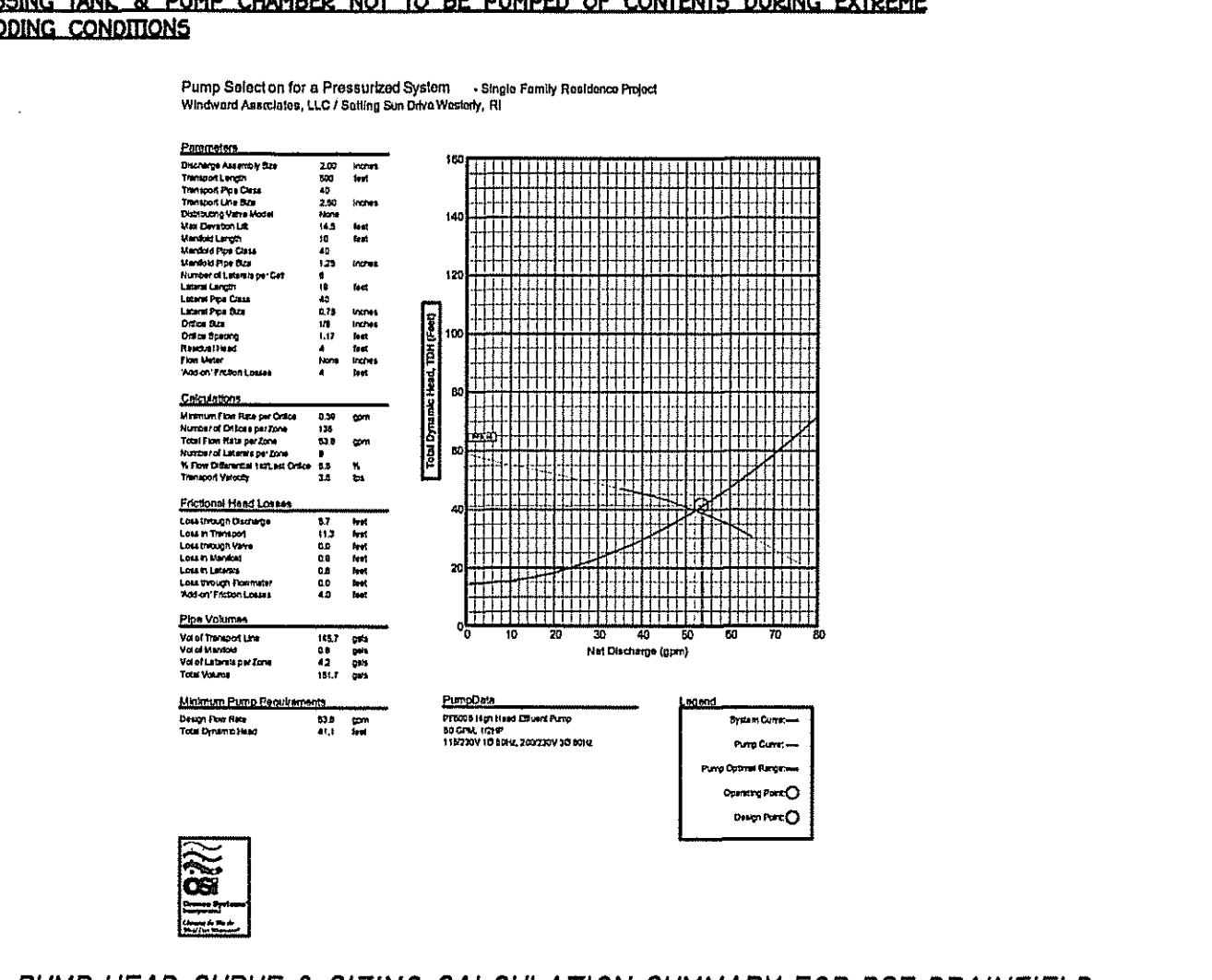


**BOTTOMLESS SAND FILTER (BSF) OPERATION & MAINTENANCE (O&M) REQUIREMENTS:**

- WARNING - BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT, TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE "OFF" POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- TO REMOVE ACCUMULATED SOLIDS IN LATERALS, FIRST OPEN THE LATERAL END BALL VALVE OR THREADED END CAP, ENGAGE THE PUMP AND FLUSH OUT ANY SOLIDS. A BOTTLE BRUSH (SIZED APPROPRIATELY FOR THE LATERAL) ATTACHED TO A PLUMBERS SNAKE IS THEN PUSHED DOWN EACH LATERAL TO LINEUP THE ORIFICES. WITH THE BOTTLE BRUSH REMOVED, THE PUMP SHOULD AGAIN BE MANUALLY ENGAGED AND EACH LATERAL LINE FLUSHED OUT THROUGH THE LATERAL END INTO THE PEASTONE. PARTICULARLY DIRTY OR MAINTENANCE-NEGLECTED LATERALS SHOULD BE FLUSHED DIRECTLY INTO A GARDEN HOSE OR PRESSURED PORTABLE WATER SUPPLY AND THREADED FITTING ASSEMBLY. NOTE: IF A HOSE BIB OR DWELLING WATER SUPPLY IS USED SERVICE PROVIDER SHALL INSTALL A PROPER BACKFLOW PREVENTION DEVICE TO PREVENT CROSS CONTAMINATION. A BSF IN CONTINUOUS USE WILL REQUIRE LATERAL FLUSHING/BOTTLE BRUSH TREATMENT ONCE A YEAR ON AVERAGE. BSFS OPERATING ABOVE THEIR DAILY DESIGN FLOWS MAY REQUIRE MORE FREQUENT LATERAL FLUSHING. SEASONALLY-USED BSFS MAY NOT NEED YEARLY LATERAL FLUSHING, BUT THEIR LATERAL HEAD (PRESSURE) SHOULD BE CHECKED ONCE PER YEAR, AND MAINTENANCE PERFORMED AS NEEDED.
- THE PEASTONE SURFACE SHALL BE KEPT FREE OF DEBRIS, WEEDS, AND GRASSES. THE SURFACE SHALL BE LIGHTLY RAKED TO REMOVE ANY LEAVES. WEEDS AND GRASSSED SHALL BE REMOVED BY HAND WHEN THEY FIRST APPEAR.
- ONCE A YEAR ALL ELECTRICAL COMPONENTS SHOULD BE CHECKED FOR FUNCTION. ALL FLOAT SWITCHES SHOULD BE ACTIVATED AND TIMERS SHOULD BE CHECKED AGAINST THEIR DESIRED SETTINGS. ALL FLOAT SWITCHES SHOULD BE HOSED DOWN TO PREVENT SCUM ACCUMULATION. ALL WIRING SHALL BE NEATLY BUNDLED AND PLACED OUT OF THE OPERATING PATH OF THE FLOAT SWITCHES.



**PROCESSING TANK BUOYANCY CALCULATIONS**  
 ASSUME 100% DRAWDOWN IS APPROXIMATELY (PROCESSING TANK IS EMPTY)  
 WATER TABLE @ ELEV. 5.5' (MAX. STORM) UPLIFT FORCE 10.5'x75'x5.5' / cft.x62.4 Lb/cf = 24,324.3 LB-FORCE UPWARDS  
 BOTTOM OF PROCESSING TANK EL. -1.25 PROCESSING TANK WEIGHT = 12,100.89  
 NET UPLIFT FORCE = 12,223.41 LB-FORCE UPWARDS  
 WEIGHT OF OVERBURDEN SOIL MASS = 13,139 LB-FORCE DOWNWARDS  
 TOTAL DOWNWARD FORCE = 25,239.52 LB-FORCE  
**CAUTION: PROCESSING TANK & PUMP CHAMBER NOT TO BE PUMPED OF CONTENTS DURING EXTREME HIGH G.W.T. FLOODING CONDITIONS**



## BOTTOMLESS SAND FILTER GENERAL NOTES

- THE BOTTOMLESS SAND FILTER (BSF) SHALL BE INSTALLED BY A QUALIFIED LICENSED INSTALLER. THE INSTALLER SHALL BE FAMILIAR WITH THE REQUIREMENTS AND FABRICATION OF THE GUIDELINES FOR THE DESIGN, USE AND MAINTENANCE OF PRESSURIZED DRAINFIELDS DOCUMENT ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) ISSUED NOVEMBER, 2013.
- THE DESIGNER SHALL BE GIVEN ADEQUATE NOTIFICATION FROM THE INSTALLER TO PROVIDE PROPER INSPECTION OF THE MATERIALS SOURCE AND SITE ANALYSIS PRIOR TO INSTALLATION. THE DESIGNER AND/OR PROPERTY OWNER SHALL HAVE THE RIGHT TO REQUEST SITE ANALYSIS TESTS OF SAND FILTER MEDIA MATERIALS SHALL MEET THE REQUIREMENTS OF THE GRADATION SPECIFICATIONS SHOWN ON THIS DETAIL SHEET. ALLOWING FINES PASSING THROUGH A NO. 200 SIEVE SHALL BE 1%. THE DESIGNER AND/OR PROPERTY OWNER SHALL HAVE THE RIGHT TO REQUEST SITE ANALYSIS TESTS OF SAND FILTER MATERIALS WHICH APPEAR NOT TO MEET THE ASTM C-33 SPECIFICATIONS. SEE ANALYSIS PERFORMED SHALL MEET THE REQUIREMENTS OF ASTM C-117. THE METHOD SPECIFIED IN SOIL SURVEY LABORATORY METHODS AND PROCEDURES FOR COLLECTING SOIL SAMPLES, SOIL SURVEY INVESTIGATION REPORT #1, U.S. DEPARTMENT OF AGRICULTURE, 1984.
- THE BOTTOMLESS SAND FILTER (BSF) MUST BE USED IN CONJUNCTION WITH THE REQUIRED ADVANCED PRE-TREATMENT SYSTEM INDICATED ON THE APPROVED DESIGN.
- THE PREPARED BOTTOM OF BED EXCAVATION FOR THE BSF SHALL BE INSPECTED BY THE DESIGNER PRIOR TO CONSTRUCTION OF THE STRUCTURAL ENCLOSURE AND PLACEMENT OF SAND FILTER MEDIA MATERIALS.
- THE LANDSCAPE AREA IMMEDIATELY ADJACENT TO THE BSF SYSTEM SHALL BE PROTECTED FROM HEAVY VEHICLE TRAFFIC AND EXCESSIVE WEIGHT LOADS, BEFORE, DURING AND POST-CONSTRUCTION. THE SITE CONTRACTOR WITH DIRECTION OF THE DESIGNER SHALL INSTALL A PROTECTIVE BARRIER TO KEEP VEHICLE TRAFFIC OFF THE LEACHED AREA. WHERE REQUIRED ON THE SITE PLAN, THE INSTALLER SHALL INSTALL REQUIRED TIMBER THE BARRIERS, FENCING OR WALLS TO PROTECT THE BSF AFTER SYSTEM CONSTRUCTION IS COMPLETED.
- THE FINISHED GRADE OF ANY BOTTOMLESS SAND FILTER SHALL BE A MINIMUM OF 6 INCHES ABOVE THE ELEVATION OF THE SURROUNDING FINISH GRADE TO PREVENT SURFACE WATER FROM FLOWING ONTO THE BSF FILTER AREA. LANDSCAPING TIMBERS SHALL BE PRESSURE TREATED AND SHALL BE SECURED IN PLACE WITH IRON PINS, STEEL REBAR, OR GALVANIZED SPIKES TO THE SUPPORT WALLS. CONCRETE LANDSCAPING BLOCKS SUCH AS VERSA-LOCK RETAINING WALL BLOCKS MAY BE SUBSTITUTED FOR THE SUPPORT STRUCTURE. SEGMENTAL BLOCK UNITS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND CONSTRUCTION METHODS.
- THE LAND SURFACE ELEVATION 2 FEET BELOW THE PEASTONE/SAND FILTER MEDIA INTERFACE SHALL BE MAINTAINED FOR A DISTANCE OF 5 FEET FROM THE EDGE OF THE BSF - SEE APPLICABLE DETAIL THIS SHEET. LAND SURFACE REGRADING ADJOINING THIS 5-FOOT PERIMETER MUST MAINTAIN A MINIMUM OF 3:1 SLOPE DOWN AWAY FROM THE BSF.
- THE DESIGNER WILL AID IN THE STAKEOUT OF THE PROTECTED BSF AREA PRIOR TO ANY SITE PREPARATION ACTIVITIES.
- A MINIMUM BUFFER OF TEN (10) FEET SHOULD BE MAINTAINED BETWEEN BSF'S AND NEIGHBORING TREES AND SHRUBS AT LOCATIONS WHERE A 10'-FOOT BUFFER IS NOT MAINTAINED FROM EXISTING TREES OR NEW SHRUB PLANTINGS TO SCREEN THE BSF SYSTEM, THEN A ROOT BARRIER FABRIC SHALL BE PLACED BETWEEN THE TREES AND THE FILTER.
- PUMPS SPECIFIED AFTER THE ADVANCED TREATMENT SYSTEM SHALL BE SIZED TO PROVIDE A MINIMUM OF TWO (2) FEET OF HEAD (Lb. pressure) AT THE DISTAL END OF EACH DISTRIBUTION LATERAL IN THE BSF. A PUMP SIZING DIAGRAM HAS BEEN PROVIDED WITH THIS SHEET. THE INSTALLER SHALL INSTALL AN EQUAL PUMP AFTER RECEIVING DESIGNER APPROVAL FIRST. THE DESIGNER WILL BE PRESENT TO VERIFY DISTAL END PRESSURES WITH THE INSTALLER AFTER CONSTRUCTION OF THE BSF. PUMP CALCULATIONS PROVIDED INCLUDE DISTAL END PRESSURES OF 5 FEET OF HEAD.
- EFFLUENT TRANSPORT LINES FROM THE PUMP TO THE BSF SHALL BE CLASS 200 MINIMUM PIPE SIZE SPECIFIED ON THE ATTACHED SITE PLAN. THE TRANSPORT LINE SHALL BE SLOPED BACK TOWARD THE PUMP CHAMBER/BASIN OR ON THE BSF AREA AFTER EACH DOSE. CHECK VALVES SHALL NOT BE INSTALLED AT THE PUMP CHAMBER/BASIN TO PREVENT FREEZING WITHIN THE TRANSPORT LINES. TRANSFER LINES SHOULD BE DRAINED. THE INSTALLER WILL BE REQUIRED TO INSTALL THE TRANSPORT LINES WITH A 2-FOOT MINIMUM BURIAL WITH 2\"/>

**IMPORTANT NOTE:** THIS SYSTEM HAS BEEN DESIGNED BY A LICENSED ONSITE WASTEWATER TREATMENT SYSTEM DESIGNER, PAUL D. LEBLANC, P.E. (RIDEM DESIGNER LICENSE D3050) AND MUST BE INSTALLED UNDER THE SUPERVISION OF THE DESIGNER AND INSPECTED BY THE DESIGNER. PLEASE READ THE APPLICATION FORM THAT ACCOMPANIES THIS PLAN CAREFULLY. THE INSTALLER MUST NOTIFY THE DESIGNER AT LEAST 48 HOURS PRIOR TO THE INSTALLATION OF THE APPROVED SYSTEM. THE DESIGNER WILL CONTACT RIDEM TO GIVE NOTIFICATION OF THE INSTALLATION DATE AT LEAST 24 HOURS PRIOR TO INSTALLATION OF THE SYSTEM. THE DESIGNER MAY BE CONTACTED AT THE FOLLOWING MOBILE CELL NUMBER: (401) 741-2256.

PLAN TO ACCOMPANY CRMC APPLICATION  
 PROPOSED NEW DWELLING CONSTRUCTION  
 AND SITE IMPROVEMENTS FOR:  
**WINDWARD ASSOCIATES, LLC**

3 SETTING SUN DRIVE  
 ASSESSOR'S PLAT 137, LOT 41  
 WESTERLY, RHODE ISLAND  
 SCALE: AS SHOWN  
 DATE: AUGUST 11, 2021  
 REVISED:  
 PREPARED BY: **LEBLANC ENGINEERING, LLC**  
 WESTERLY, RHODE ISLAND  
 SHEET **2** OF **2**  
 (ADDRESS: 85 BEACH STREET, BUILDING B, UNIT 3, WESTERLY, RI 02891 - CELL: 401-741-2256)

