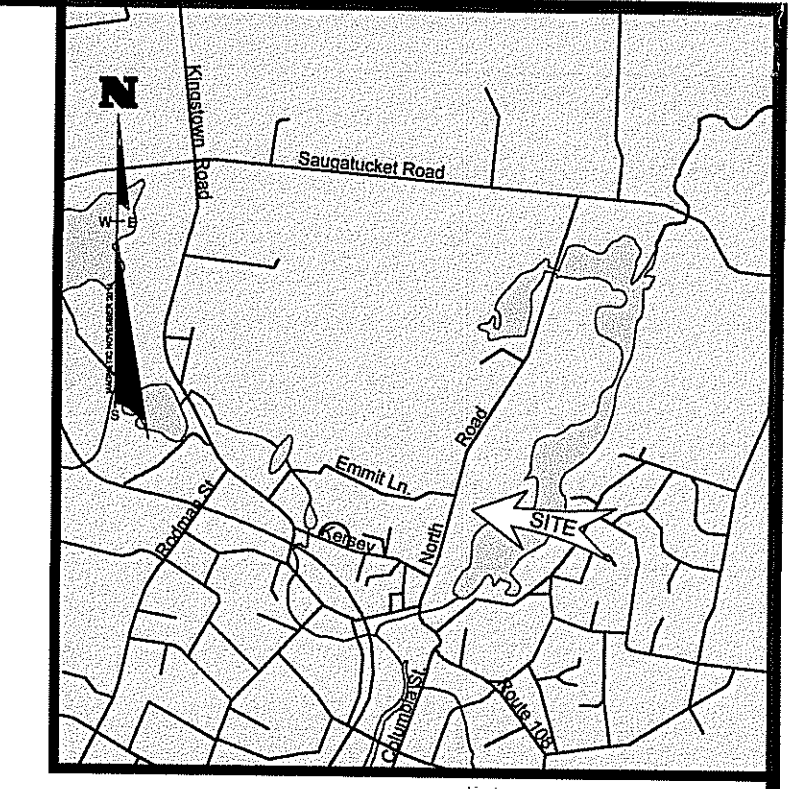


### LEGEND

- PROPERTY LINE
- UTILITY POLE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- EXISTING CONTOUR
- SOIL EVALUATION TEST PIT
- SILT FENCE/ LIMIT OF DISTURBANCE
- EXISTING WATER LINE
- WELL
- WATER SHUT-OFF
- WATER VALVE
- EXISTING EDGE OF BRUSH



### LOCATION PLAN

SCALE: 1" = 200'

JAN 12 2015

### SITE INFORMATION

LOT: 90  
A.M.: 49-1  
AREA: 1.6 ACRES  
ROAD FRONTAGE: 33.06'  
ZONING DISTRICT: R-20

**REQUIRED SETBACKS**  
FRONT: 35 FEET  
REAR: 35 FEET  
SIDE: 15 FEET  
BUILDING COVERAGE: 25 %  
BUILDING HEIGHT: 35 FEET

### QUALIFYING PERVIOUS AREAS:

THE WIDTH OF THE QPA SHALL BE EQUAL TO OR GREATER THAN THE LENGTH OF THE CONTRIBUTING ROOFTOP AREA.

- THE LENGTH OF THE CONTRIBUTING ROOF AREA = 30'
- CONTRIBUTING ROOFTOP AREA: 600 SF / 13.3' x 45.1' = LENGTH OF FLOW PATH THROUGH QPA. (1/2 OF MAIN ROOF)

### DRYWELL SIZING:

2 DRYWELLS ARE PROPOSED. ONE DRYWELL FOR 1/2 OF THE MAIN ROOF AND 1 FOR THE ATTACHED GARAGE. ALL DRYWELLS SHALL HAVE A 30" STONE DEPTH. ROOF RUNOFF SHALL BE CONVEYED TO THE BMP'S WITH A 4" ADS DRAINPIPE OR APPROVED EQUIVALENT.

REFERENCE RI STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL DEVELOPMENT, TABLE 11.

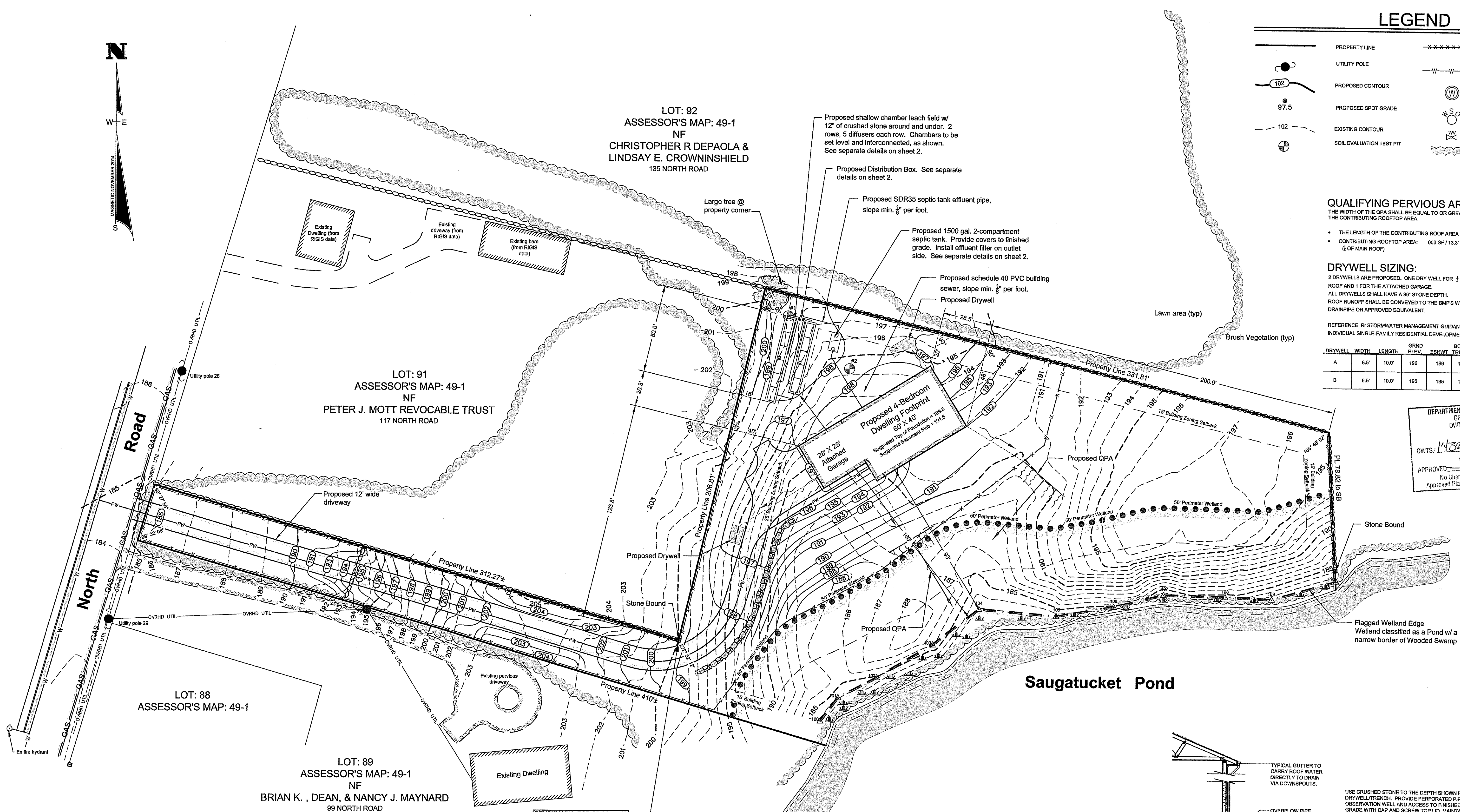
DRYWELL	WIDTH	LENGTH	GRND ELEV.	ESHWY TRENCH	BOTTOM FINISHED GRADE	INVERT START	INVERT IN-BMP
A	6.5'	10.0'	196	189	192.5	197.5	196.0
B	6.5'	10.0'	195	185	191.5	196.5	194.0

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
OWTS & FRESHWATER WETLANDS  
JOINT PLAN APPROVAL

OWTS: 1432-1379, P.W.M.P. 14-0212

APPROVED: *[Signature]* DATE: 1/26/15

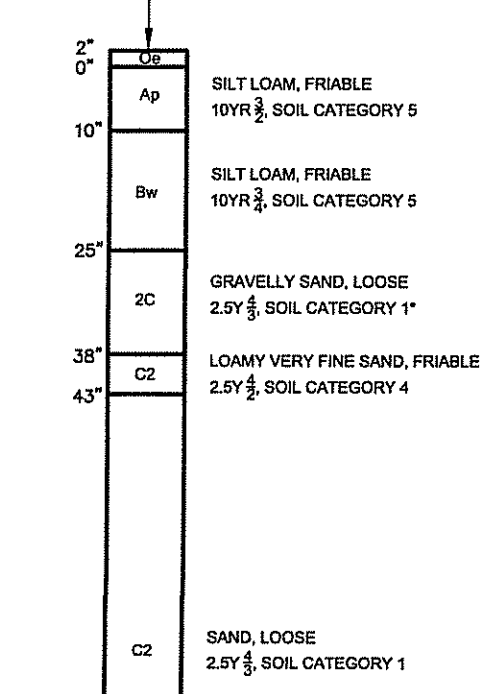
No Changes Allowed Without RIDEM Approval  
Approved Plans/Permit Must Be Kept at Construction Site



GRAPHICAL SCALE: 1" = 30'

### SOIL STRATA "1"

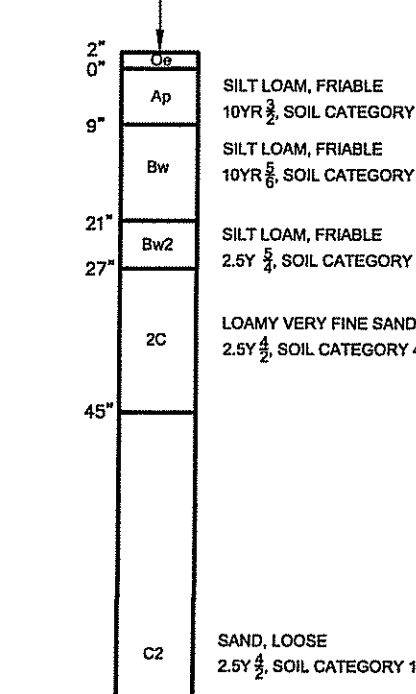
GROUND ELEVATION = 199  
BY CAROLYN J. DOYLE : 10-22-2014



VERIFIED WATER TABLE  
DEPTH = 120"  
BOTTOM OF EXCAVATION = 188.83  
APPLIC. #: 1432-1379

### SOIL STRATA "2"

GROUND ELEVATION = 184.3  
BY CAROLYN J. DOYLE : 10-22-2014



VERIFIED WATER TABLE  
DEPTH = 120"  
BOTTOM OF EXCAVATION = 184.13  
APPLIC. #: 1432-1379

### CALCULATION OF WATER TABLE ELEVATIONS:

GRADE AT TEST PIT "1"	= 199.0
GROUND WATER DEPTH	= 10.0
WATER TABLE ELEVATION	= 189.0
GRADE AT TEST PIT "2"	= 184.3
GROUND WATER DEPTH	= 10.0
WATER TABLE ELEVATION	= 184.3
AVERAGE GRADE IN THE AREA OF THE PROPOSED LF	= 197.5 (HIGH GRD = 199, LOW GRD = 199)
GROUND WATER DEPTH	= 10.0
DESIGN WATER TABLE ELEV.	= 187.5

### DESIGN CRITERIA:

- TOTAL NUMBER OF BEDROOMS PROPOSED - 4
  - DESIGN SOIL CATEGORY - 4
  - DESIGN LOADING RATE: 0.61 GAL/SF/DAY
  - 4 BEDROOMS x 115 GPD/BR = 460 GPD
  - 460 GPD / 0.61 GAL/SF/DAY = 754.1 SF REQUIRED
- USE PRECAST CONCRETE FLOW DIFFUSERS W/ 12" OF CRUSHED STONE AROUND AND UNDERNEATH
- END UNIT CREDIT: 78 SQ. FT.
  - INTERIOR UNIT CREDIT: 64 SQ. FT.
  - TOTAL END UNITS = 4... 78 x 4 = 312 SQ. FT.
  - TOTAL INTERIOR UNITS = 7... 64 x 7 = 448 SQ. FT.
  - TOTAL SQ. FT. PROVIDED = 312 + 448 = 760 SQ. FT.

### STRUCTURE:

A PROPOSED 67' x 40' 4-BEDROOM DWELLING FOOTPRINT WITH 28' x 28' ATTACHED GARAGE.

### GENERAL:

THE CONTRACTOR IS REQUIRED TO MAINTAIN THE CONSTRUCTION AREA IN A SAFE MANNER AND ALL CONSTRUCTION ACTIVITY ON THE SITE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

SYSTEM SHALL BE INSTALLED AS PER THE CURRENT RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS.

GARBAGE DISPOSALS ARE NOT ALLOWED.

D.E.M. REQUIRES THE REMOVAL OF ALL TREES AND BRUSH WITHIN 10 FEET OF THE PROPOSED LEACH FIELD.

NO VEHICULAR TRAFFIC IS PERMITTED OVER THE PROPOSED LEACH FIELD.

NO DRAINAGE, INCLUDING FOUNDATION DRAINS, SHALL BE WITHIN 20' OF THE PROPOSED LEACH FIELD.

THERE ARE NO COASTAL POND SHORELINE FEATURES AND TRIBUTARIES INCLUDING STORM AND SUBSURFACE DRAINS DIRECTLY DISCHARGING THERETO WITHIN 200' OF THE PROPOSED O.W.T.S.

THERE IS A SHORELINE WITHIN 200' OF THE PROPOSED O.W.T.S.

THERE IS A WETLAND WITHIN 200' OF THE PROPOSED O.W.T.S.

### WATER SUPPLY:

ALL WATER SUPPLY LINES SHALL NOT COME WITHIN 25' OF THE PROPOSED LEACH FIELD AND 10' OF THE PROPOSED SEPTIC TANK.

UNLESS SHOWN THERE ARE NO KNOWN EXISTING OR PROPOSED WELLS WITHIN 200 FEET OF THE PROPOSED LEACH FIELD.

THERE ARE NO KNOWN EXISTING OR PROPOSED PUBLIC WELLS WITHIN 500' OF THE PROPOSED LEACH FIELD.

### UTILITIES:

THE LOCATION OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND HAVE BEEN SHOWN USING THE BEST AVAILABLE DATA.

THE CONTRACTOR SHALL CONTACT "DIG-SAFE" AND/OR OTHER APPROPRIATE UTILITY COMPANIES TO ASCERTAIN THE EXACT LOCATION OF THE RESPECTIVE UTILITY PRIOR TO CONSTRUCTION. UTILITIES INCLUDE BUT ARE NOT LIMITED TO GAS, ELECTRIC, WATER, TELEPHONE CABLE TV, ETC.

### FEMA DESIGNATIONS:

THE PROPOSED DWELLING FOOTPRINT DEPICTED HEREON APPEARS WITHIN ZONE X. AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. REFERENCE FEMA FLOOD INSURANCE RATE MAP 4409C0203J, DATED OCTOBER 16, 2013

### WETLANDS:

WETLAND FLAGGING FOR SUBJECT PROPERTY PERFORMED BY APPLIED BIO-SYSTEMS, INC. ON SEPTEMBER 22, 2014. FLAG SERIES 100-110 DEPICTS THE LIMIT OF A WOODED SWAMP WHICH BORDERS THE EDGE OF SAUGATUCKET POND. THE WOODED SWAMP IS GREATER THAN 3 ACRES IN SIZE. THEREFORE, THE WETLAND EDGE IS SUBJECT TO A 50' PERMETER WETLAND, AS NOTED.

### LEDGE OR BOULDER REMOVAL:

LEDGE OR BOULDER EXCAVATION IS NOT ANTICIPATED FOR THIS SITE. HOWEVER, THE CONTRACTOR SHALL PROVIDE A UNIT PRICE COST FOR LEDGE AND/OR BOULDER REMOVAL.

UNIT PRICE SHALL BE GIVEN FOR BOTH ON AND OFF SITE DISPOSAL. COST OF REPLACEMENT MATERIAL SHALL BE INCLUDED IF ADDITIONAL FILL MATERIAL IS REQUIRED.

### CONTRACTOR SHALL PROVIDE THE FOLLOWING TO FRISELLA-BALCH & ASSOCIATES:

COPY OF DELIVERY SLIPS FOR ALL MATERIALS DELIVERED TO SITE.

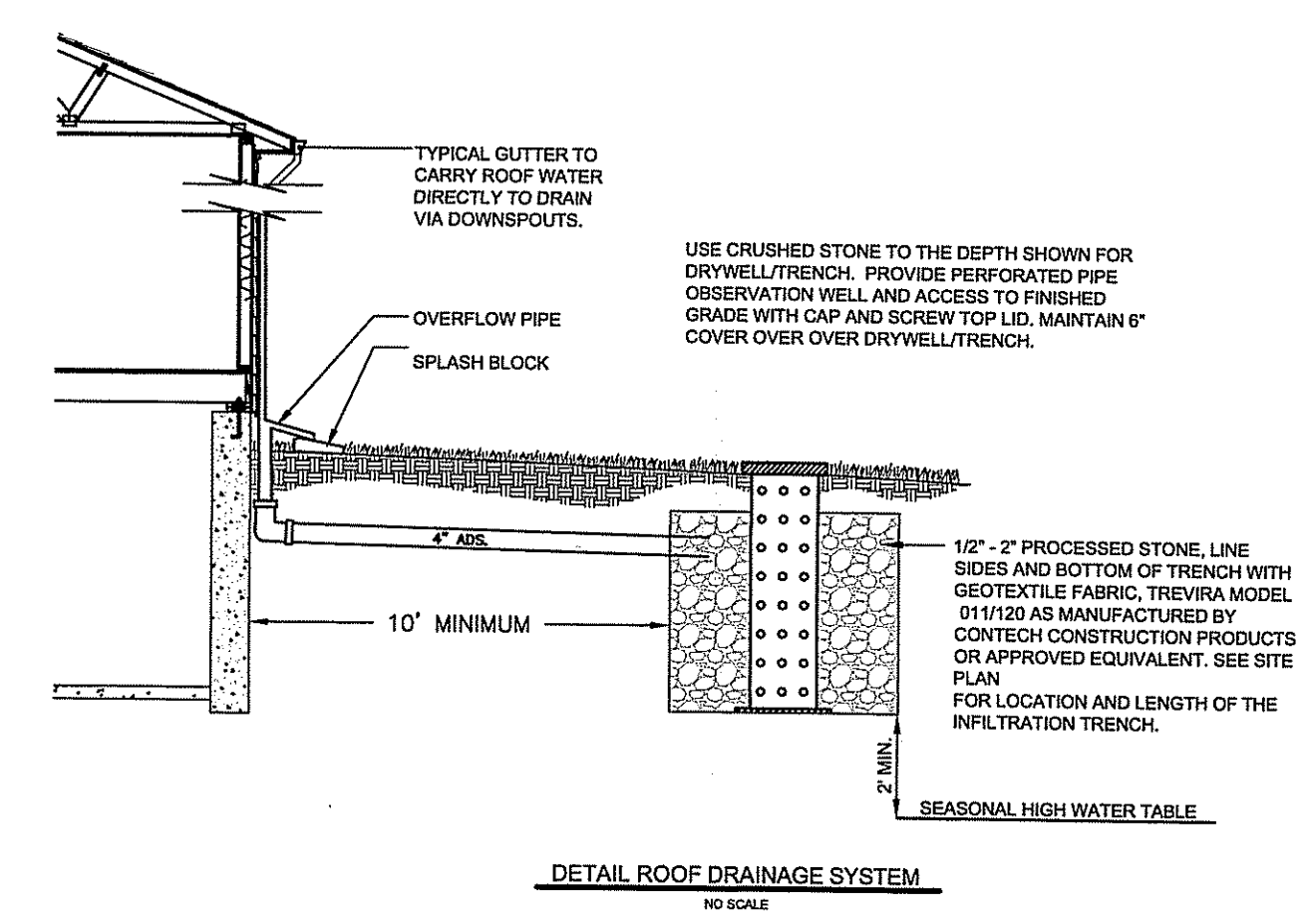
COPY OF CURRENT SIEVE ANALYSIS FOR BOTTOMLESS SAND FILTER MEDIA MEETING ALL REQUIREMENTS AS SPECIFIED ON FIGURE 9 OF THE MOST RECENTLY PUBLISHED R.I.D.E.M. GUIDELINES FOR THE DESIGN AND USE OF BOTTOMLESS SAND FILTERS. THIS ANALYSIS HAS TO BE PRESENTED TO FRISELLA-BALCH & ASSOCIATES BEFORE BEING PLACED IN THE BPF.

### SCHEDULE OF INSPECTIONS:

1. 3-BUSINESS DAYS NOTICE SHALL BE GIVEN TO FRISELLA-BALCH & ASSOCIATES PRIOR TO THE START OF CONSTRUCTION.
2. ALL INSPECTIONS SHALL REQUIRE AT LEAST 1 BUSINESS DAYS NOTICE TO FRISELLA-BALCH & ASSOCIATES

THE FOLLOWING INSPECTIONS ARE REQUIRED BY FRISELLA-BALCH & ASSOCIATES:

1. PRE-CONSTRUCTION MEETING WITH FRISELLA-BALCH & ASSOCIATES AT THIS MEETING THE START OF CONSTRUCTION WILL BE CALLED IN TO RIDEM.
2. BOTTOM OF EXCAVATION FOR LEACH FIELD.
3. PRIOR TO COVERING ANY COMPONENT OR PIPING.
4. PRIOR TO COVERING THE WATERLINE FROM THE WELL OR THE MUNICIPAL WATER SERVICE, THE LINE MUST BE COMPLETELY INSTALLED AND EXPOSED FROM SOURCE TO FINAL DESTINATION.
5. FINAL GRADING AND 10' PERIMETERS.



**FRISELLA - BALCH & ASSOCIATES**  
LAND SURVEYORS

33 NORTH RD, SUITE C-201 | PEACE DALE, RI  
PHONE (401) 783-5849 | FAX (401) 783-5997  
www.frisella.com

NO.	DATE	DESCRIPTION	BY
1.	1-05-2015	Revisions per RIDEM review comments from email received on January 5, 2015.	JK

### PLAN OF A PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM

LOCATED ON: **LOT 90 OF ASSESSOR'S MAP 49-1**

OWNED BY: **MIRIAM G. O'NEILL, TRUSTEE**

ADDRESS: **135 NORTH ROAD**  
IN THE TOWN OF **SOUTH KINGSTOWN, RI**

DECEMBER 2014

DESIGNED BY: **JEFFREY K. BALCH, P.L.S.**

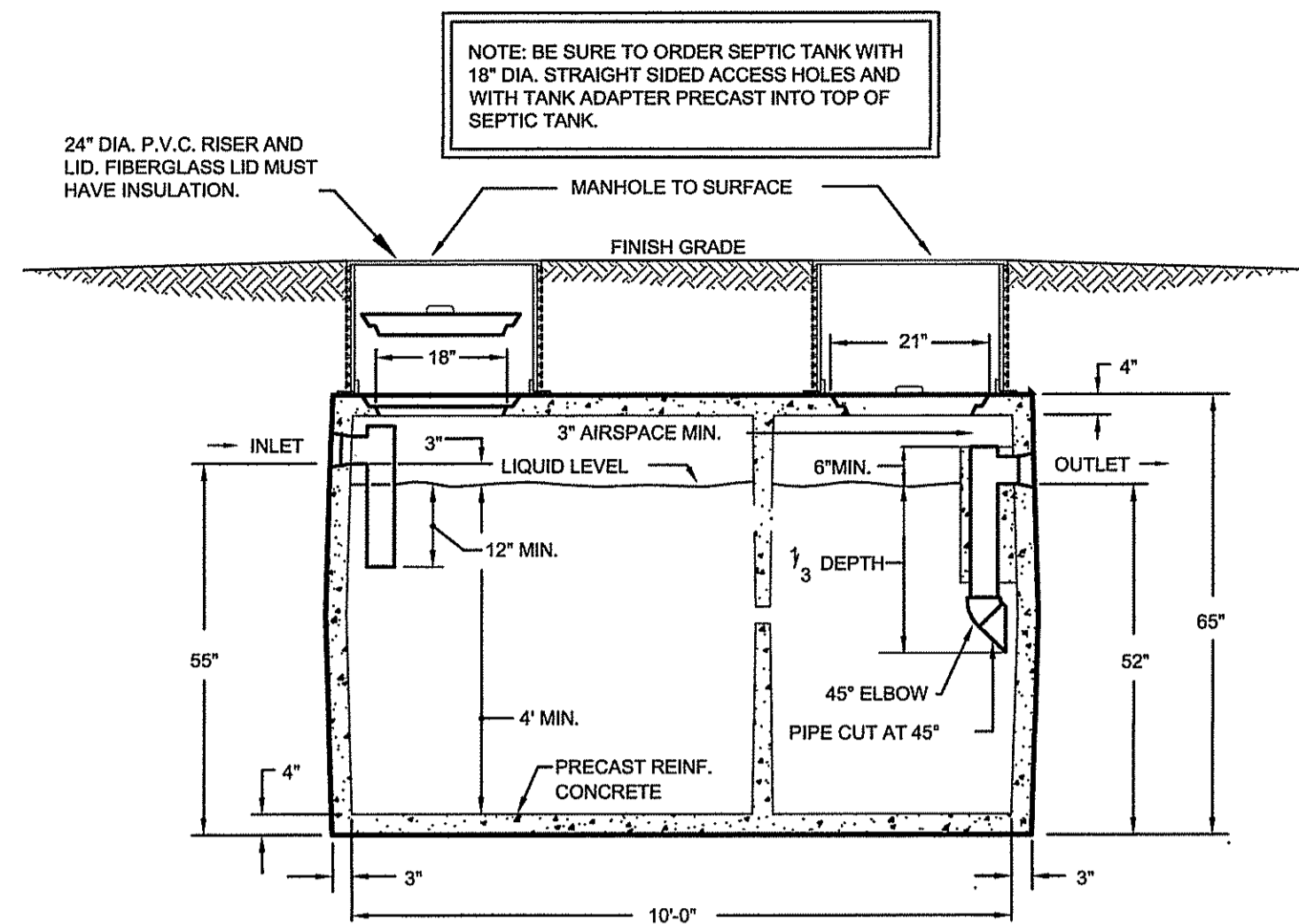
SCALE: 1" = 30'

DRAWN BY: **JK** CHECKED BY: **JKB**

DRAWING NO. **1839**

**JEFFREY K. BALCH**  
REGISTERED PROFESSIONAL LAND SURVEYOR

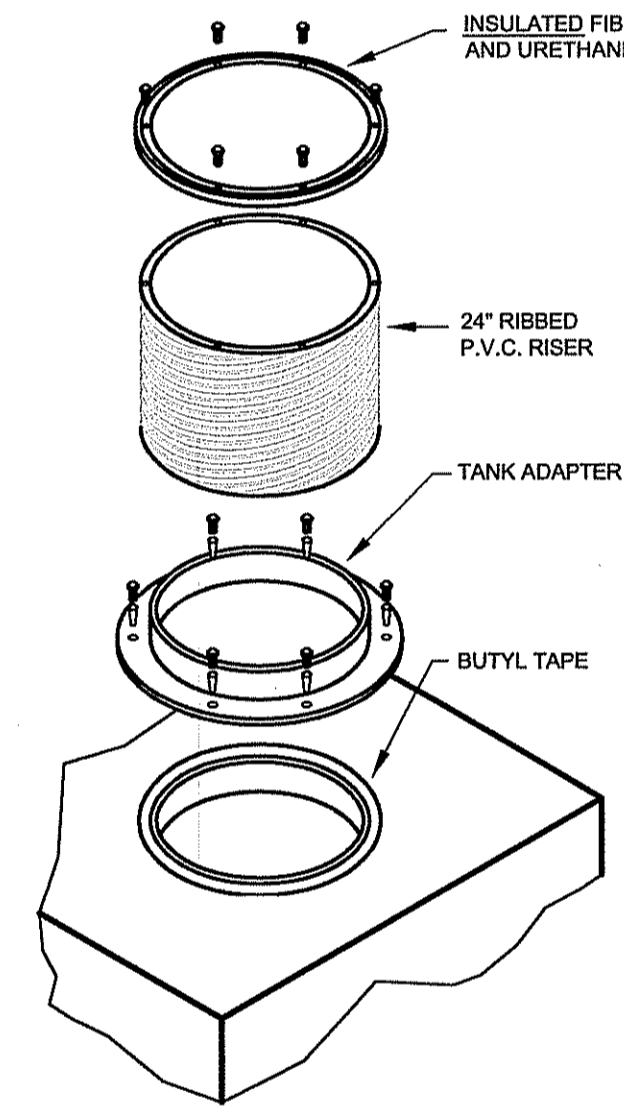
OWTS APPLICATION #: 1432-1379



**CROSS SECTION**  
**1,500 GALLON**  
**TWO COMPARTMENT SEPTIC TANK**  
 NO SCALE  
 TANK SPECIFICATION TAKEN FROM JOLLEY PRECAST, INC. DANIELSON, CONNECTICUT. 1-800-882-4638 OR APPROVED EQUAL.

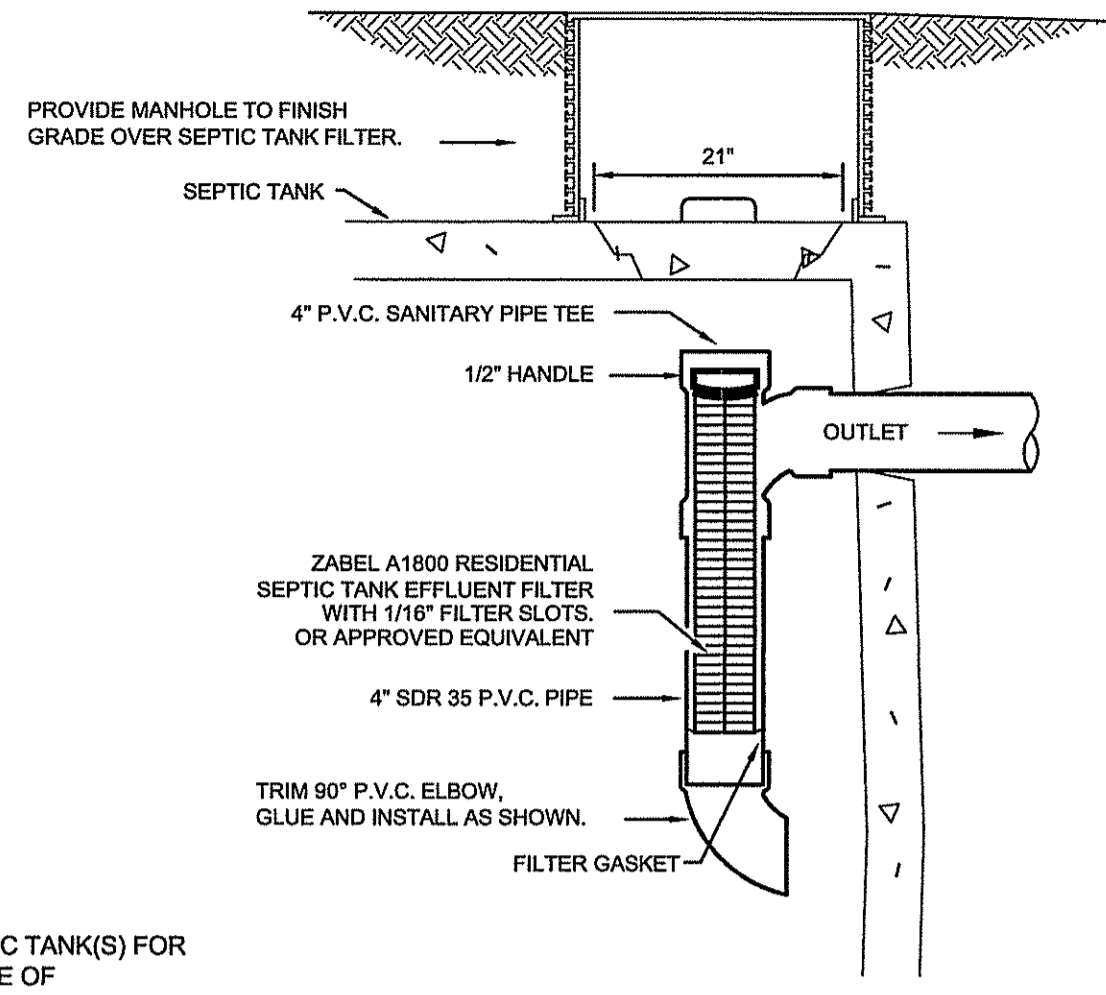
**WATER-TIGHTNESS:**  
 CONTRACTOR SHALL TEST THE SEPTIC TANK(S) FOR WATER TIGHTNESS (IN THE PRESENCE OF FRISSELLA-BALCH & ASSOCIATES) PRIOR TO BACK FILLING THE TANK FULL OF WATER AND LET STAND FOR 24 HOURS, (SIDE OF TANK MUST BE EXPOSED), OR ON-SITE VACUUM TESTING, OR A CERTIFICATION OF WATER TIGHTNESS BY MANUFACTURER IS ACCEPTABLE WHEN VACUUM TESTED AS PER ASTM C 1227-85.  
 ALL INLETS AND OUTLETS SHALL HAVE PRESS SEALS PRECASTED.

**CONFINED SPACE SIGNS:**  
 PERMANENT DURABLE CORROSION RESISTANT SIGNS INDICATING "CONFINED SPACE - ENTRY BY PERMIT ONLY" SHALL BE PLACED AT EACH TANK AND PUMP CHAMBER SIDEWALL OF RISER. SIGNS SHALL MEET O.S.H.A. REQUIREMENTS FOR SIZE, MARKINGS AND LOCATION.

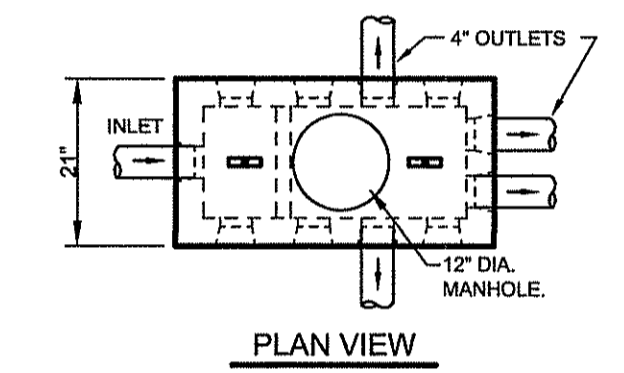


**MANHOLE RISER DETAIL**  
 NOT TO SCALE

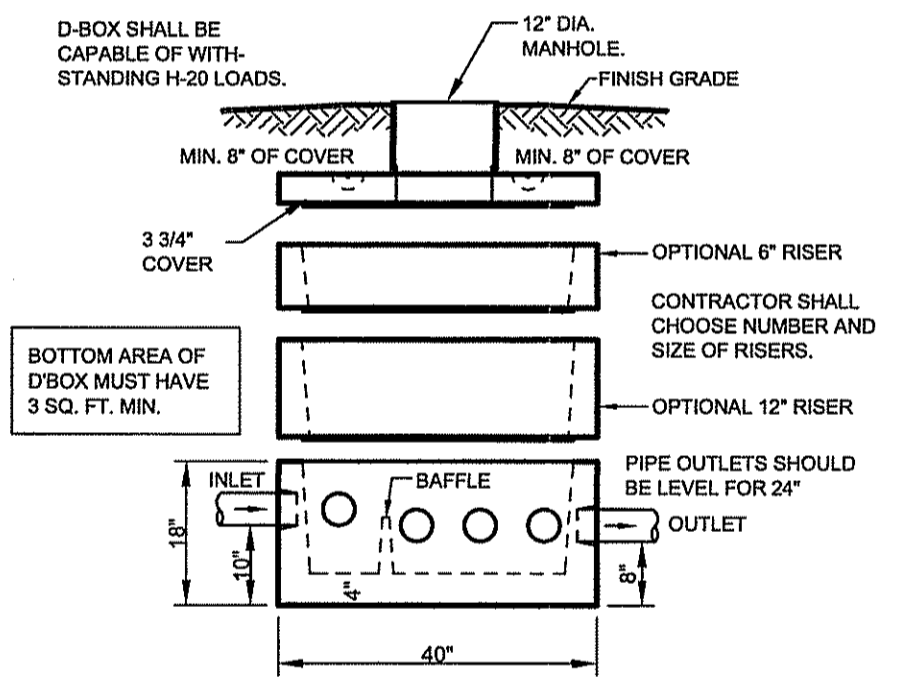
**NOTES:**  
 CLEAN TANK PRIOR TO INSTALLING BUTYL TAPE.  
 DRILL HOLES AND FASTEN ADAPTER RING WITH S.S. BOLTS, TIGHTEN EVENLY.  
 APPLY GENEROUS AMOUNT OF ADHESIVE TO INSIDE BOTTOM OF RISER.  
 CAREFULLY SLIDE RISER ONTO RING.  
 MAKE SURE ADHESIVE FORMS A WATER-TIGHT SEAL, ADD ADHESIVE AS REQD.  
 WAIT FOR ADHESIVE TO HARDEN PRIOR TO BACKFILLING.  
 INSTALL RISER PER MANUFACTURER'S REQUIREMENTS.  
 MANUF: ORENCO SYSTEMS, (503) 459-4449.



**CROSS SECTION**  
**SEPTIC TANK FILTER**  
 NO SCALE



**PLAN VIEW**



**SIDE VIEW**  
**DISTRIBUTION BOX**

NO SCALE  
 SEE MAIN PLAN AND NOTES FOR NUMBER OF OUTLETS.  
 D-BOX SPECIFICATION TAKEN FROM JOLLEY PRECAST, INC. DANIELSON, CONNECTICUT. 1-800-882-4638 OR APPROVED EQUAL.

INVERT No.	LOCATION OF INVERT	INVERT ELEV.
1	BUILDING SEWER	196.94
2	SEPTIC TANK - IN	196.44
3	SEPTIC TANK - OUT	196.19
4	D-BOX - IN	195.84
5	D-BOX - OUT	195.67
6	SHALLOW CHAMBER - INV (BEG)	195.50
7	SHALLOW CHAMBER - INV (END)	195.50

**EXCAVATION:**

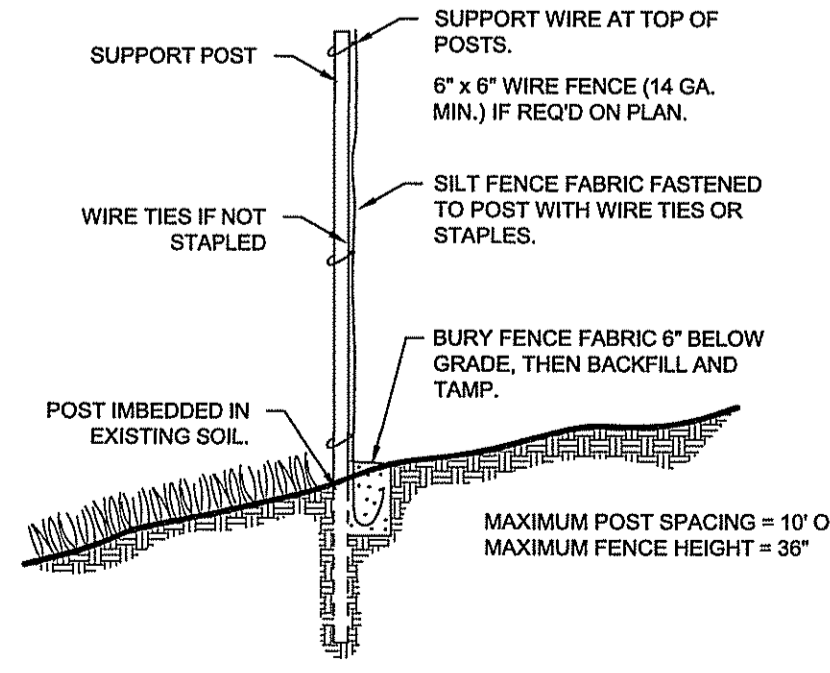
THE AREA BENEATH THE PROPOSED LEACH FIELD SHALL BE EXCAVATED DOWN TO THE C2 SOIL STRATA (BAND), APPROXIMATELY 48" BELOW THE EXISTING GRADE.  
 BACK FILL THE EXCAVATION WITH CLEAN INDRAIN SAND OR BANK RUN GRAVEL COMPACTED IN 6" LIFTS.

**GRAVEL SPECIFICATIONS:**

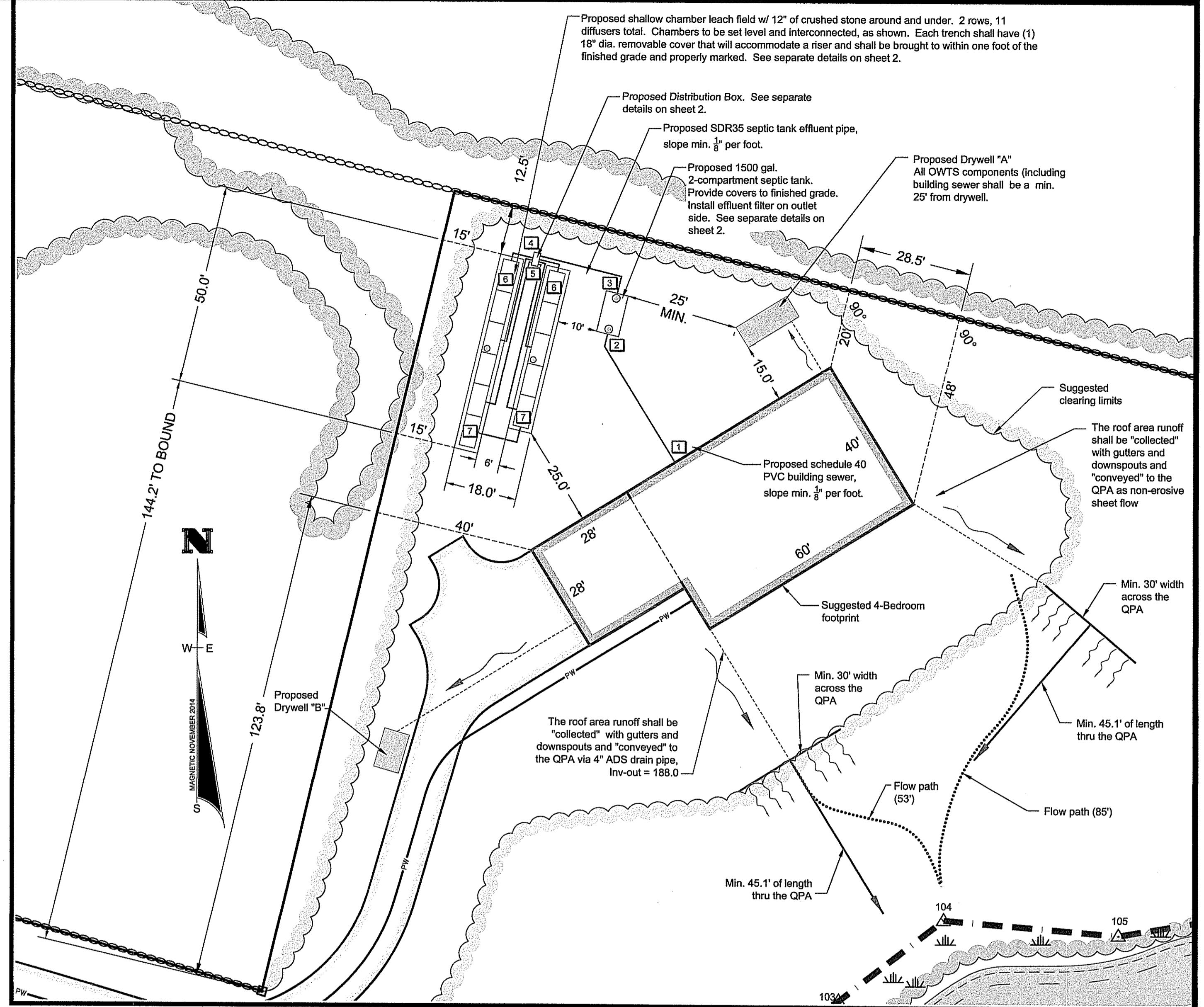
THE GRAVEL BASE MATERIAL SHALL CONSIST OF CLEAN SAND AND GRAVEL FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 3 INCHES AND UP TO 10% MAY BE SIZED BETWEEN 3/4" AND 3". THE GRAVEL SHALL MEET THE FOLLOWING CRITERIA:

SIEVE SIZE	PERCENT PASSING
3/4"	100%
#4	55% - 100%
#10	40% - 100%
#40	10% - 50%
#100	0% - 20%
#200	0% - 5%

GRAVEL SHALL BE PLACED IN SHALLOW LIFTS (6") AND PROPERLY COMPACTED. THE SURFACE OF THE GRAVEL SHALL BE LEVEL AND SCARIFIED.



**SILT FENCE DETAIL**  
 NOT TO SCALE



**DETAIL PROPOSED OWTS LAYOUT**

Inset scale: 1" = 20'  
 0 20 40 60 80

**EROSION AND SEDIMENTATION CONTROL NOTES:**

TEMPORARY AND/OR PERMANENT EROSION CONTROL DEVICES SUCH AS BALED HAY, SILT FENCING, ETC. SHALL BE INSTALLED PRIOR TO ANY CLEARING OR EXCAVATION. HAY BALES OR SILT FENCING SHALL BE PLACED IMMEDIATELY DOWN SLOPE AND ADJOINING AREAS OF SOIL DISTURBANCE AND STOCKPILES. INSTALLATION OF ALL EROSION CONTROL DEVICES SHALL BE CONDUCTED IN ACCORDANCE TO DETAIL SPECIFICATIONS.

CLEARING OF EXISTING VEGETATION SHALL BE DONE IN A CONTROLLED MANNER SO AS TO AVOID EXTENSIVE AREAS OF DEFOLIATED TERRAIN SUBJECT TO EROSION. AREAS SO DISTURBED SHALL BE BROUGHT TO FINAL GRADES AND STABILIZED AS SOON AS POSSIBLE.

DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.

ALL EROSION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS DURING CONSTRUCTION, ESPECIALLY AFTER EACH RAINFALL.  
 DUE TO CHANGING CHARACTERISTICS OF THE SITE CAUSED BY AND DURING CONSTRUCTION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE CONDITIONS WARRANT.

IF CONSTRUCTION IS SUSPENDED, ALL DISTURBED AREAS SHALL BE SEEDED AND ALL NECESSARY EROSION CONTROL DEVICES SHALL BE IN PLACE AND IN GOOD WORKING ORDER. IF SEEDING IS NOT POSSIBLE THEN EROSION CONTROL MATS SHALL BE PLACED OVER ALL DISTURBED SOIL. EROSION CONTROL BLANKETS (MATS) SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. EROSION CONTROL BLANKETS (MATS) SHALL BE MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUIVALENT AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

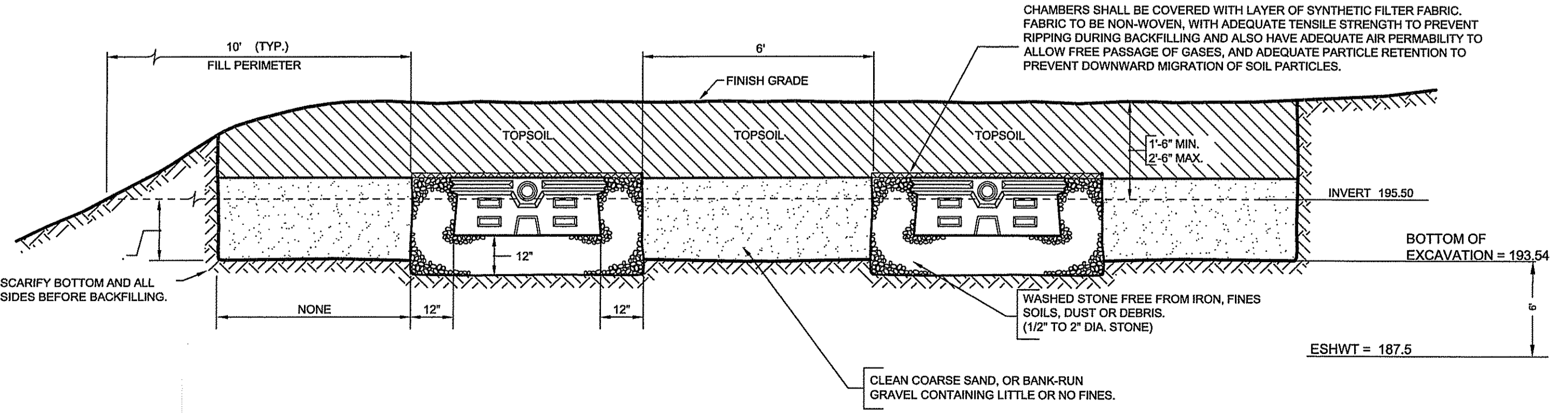
ALL EROSION CONTROL METHODS, MATERIALS AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK".

ALL AREAS WHICH ARE DISTURBED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 6" MINIMUM DEPTH OF GOOD QUALITY LOAM AND ALL SOIL AMENDMENTS DEEMED NECESSARY. THE AREA SHALL BE SEEDED WITH A QUICK GERMINATING GRASS SEED SUCH AS UR#2 OR APPROVED EQUIVALENT.

THE CONTRACTOR SHALL PROVIDE FOR ALL SEEDED AREAS TO BE WATERED AND IN GOOD CONDITION UNTIL A GOOD HEALTHY AND UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA.

**CONSTRUCTION NOTE:**

ALL UNOCCUPIED SIDE INLETS OF FLOW DIFFUSERS ARE TO BE CAPPED OFF PROPERLY WITH PVC CAP OR CEMENT. ALSO, FLOW DIFFUSERS TROUGH MUST BE CLEANED PROPERLY OF ALL CEMENT FRAGMENTS AND LOOSE STONE.



**TYPICAL FLOWDIFFUSOR CROSS-SECTION**

NO SCALE  
 SEE MAIN PLAN FOR LOCATION AND NUMBER OF FLOWDIFFUSORS AND TRENCH LINES.

**FRISSELLA & ASSOCIATES**  
 LAND SURVEYORS  
 33 NORTH RD, SUITE C-201 | PEACE DALE, RI  
 PHONE (401) 783-2949 | FAX (401) 783-2997  
 www.frissella.com

NO.	DATE	DESCRIPTION	BY
1.	1-05-2015	Revisions per RIDEM review comments from email received on January 5, 2015.	JK

**DETAILS FOR A PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM**

LOCATED ON:  
**LOT 90 OF ASSESSOR'S MAP 49-1**

OWNED BY:  
**MIRIAM G. O'NEILL, TRUSTEE**

ADDRESS:  
**135 NORTH ROAD**  
 IN THE TOWN OF SOUTH KINGSTOWN, RI

DESIGNED BY:  
**JEFFREY K. BALCH, P.L.S.**

SCALE: AS SHOWN  
 DRAWN BY: JK CHECKED BY: JKB  
 DRAWING No. PROFESSIONAL LAND SURVEYOR

SHEET 2 OF 2