

**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.

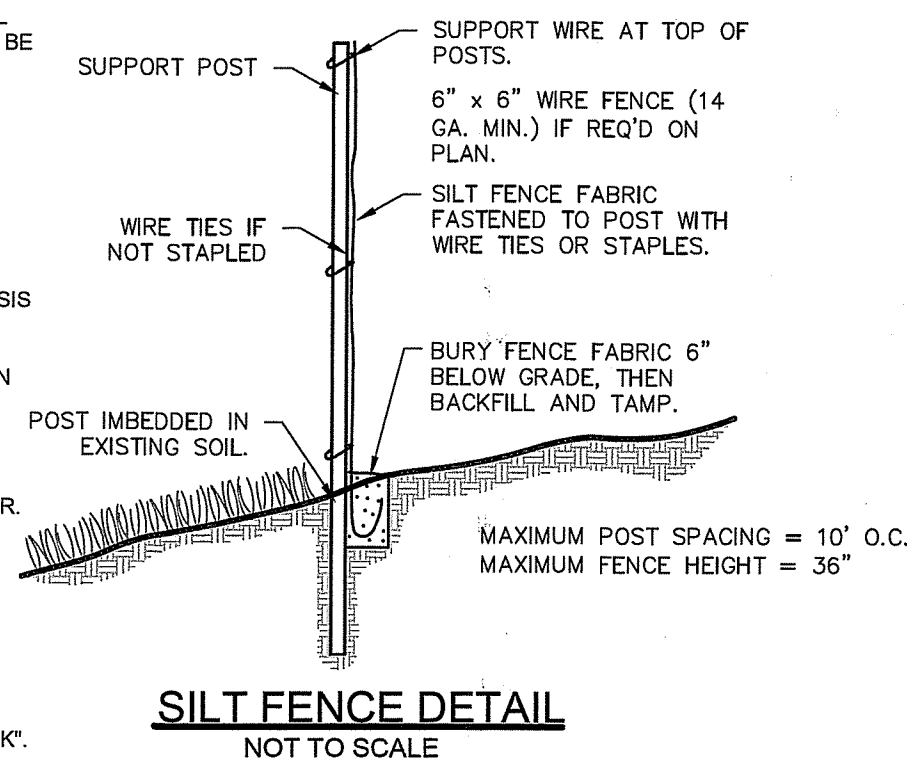
IF CONSTRUCTION IS SUSPENDED, ALL DISTURBED AREAS SHALL BE SEEDED AND ALL NECESSARY EROSION CONTROL DEVICES SHALL BE IN PLACE AND IN GOOD WORKING ORDER. IF SEEDED IS NOT POSSIBLE THEN EROSION CONTROL MATS SHALL BE PLACED OVER ALL DISTURBED SOIL.

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 URI #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.



**CONTRACTOR SHALL PROVIDE THE FOLLOWING TO CJ DOYLE, P.E.:**

PRODUCT SPECIFICATION SHEETS FOR PRODUCTS USED IF DIFFERENT THAN SPECIFIED ON THE PLANS. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM CJ DOYLE, P.E. FOR ANY ITEM THAT IS DIFFERENT THAN SHOWN ON APPROVED DESIGN PLANS. THIS WOULD INCLUDE DIFFERENT MANUFACTURERS THAN SPECIFIED BY CJ DOYLE, P.E.

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 CJ DOYLE, P.E. BEFORE BEING PLACED IN THE BSF.

**SCHEDULE OF INSPECTIONS:**

1. BUSINESS DAYS NOTICE SHALL BE GIVEN TO CJ DOYLE, P.E. PRIOR TO THE START OF CONSTRUCTION.
2. ALL INSPECTIONS SHALL REQUIRE AT LEAST 1 BUSINESS DAYS NOTICE TO CJ DOYLE, P.E.

THE FOLLOWING INSPECTIONS ARE REQUIRED BY CJ DOYLE, P.E.:

1. BOTTOM OF EXCAVATION FOR LEACH FIELD.
2. PRIOR TO COVERING ANY COMPONENT OR PIPING.
3. 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.
4. FINAL GRADING AND 5' FILL PERIMETERS.
5. CHECKING OF PUMP(S), CONTROL PANEL AND FLOAT ELEVATIONS (WHERE APPROPRIATE).

**CALCULATION OF WATER TABLE ELEVATIONS:**

	AT CURRENT DATUM
GRADE AT TEST PIT "SE-1"	= 100.00'
GROUND WATER DEPTH	= 1.00'
WATER TABLE ELEVATION	= 99.00'
	= 92.00'
	= 93.00'
	= 1.00'
	= 92.00'

\*PER OWTS #0032-2320

**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 ONSITE 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 DRAINS, INCLUDING FOUNDATION DRAINS, SHALL BE WITHIN 25' OF THE PROPOSED LEACH FIELD.

UNLESS SHOWN THERE ARE NO KNOWN DRAINS WITHIN 200' OF THE PROPOSED LEACH FIELD. THIS SITE IS NOT LOCATED IN A CRITICAL RESOURCE AREA S.D. 19.00 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.

THE PROPOSED DWELLING DEPICTED HEREON APPEARS WITHIN ZONE X, 0.2% ANNUAL FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE ON FEMA FLOOD INSURANCE RATE MAP 440080C187J REVISED DATE APRIL 4, 2020.

**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.

**ELECTRICAL:**

ALL WIRING REQUIRED FOR PUMPS, ALARMS ETC. SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND MANUFACTURER'S INSTRUCTIONS. CONDUITS ENTERING THE PUMP CHAMBERS SHALL BE PROPERLY INSTALLED WITH CONDUIT SEALS TO PREVENT SEWAGE GASES FROM LEAVING THE BASIN. CONDUITS ENTERING THE FAN CHAMBER SHALL BE PROPERLY INSTALLED WITH CONDUIT SEALS TO PREVENT WATER FROM ACCESSING THE CHAMBER.

**PLAN REFERENCE:**

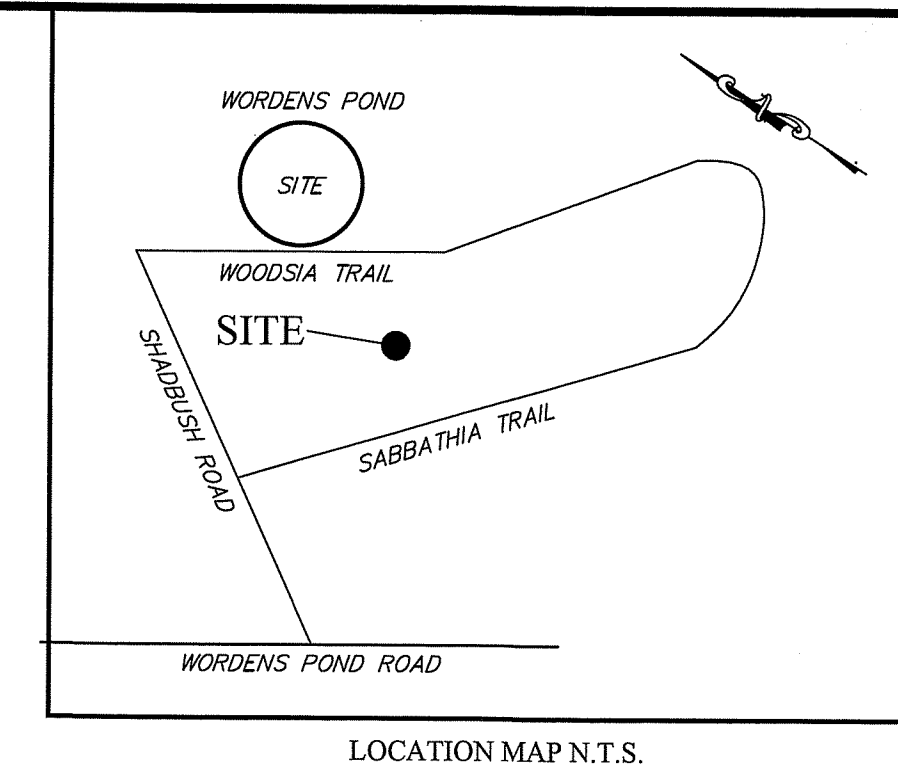
REFERENCE SURVEY PLAN BY JAMES G. FLYNN DATED MAY 28, 2020 AND ALL ASSOCIATED NOTES AND REFERENCES. REFERENCE OWTS REPAIR DESIGN #0032-2320 BY ENCAD CORPORATION DATED AUGUST 31, 2000.

**STRUCTURE:**

AN ADDITION TO THE EXISTING 2-BEDROOM DWELLING WITH A CONVENTIONAL FOUNDATION IS PROPOSED. REFERENCE ARCHITECTURAL PLANS BY KARL F. SAUERBREY ARCHITECT, 582 HOPKINS HILL ROAD, WEST GREENWICH, RI. ONE ADDITIONAL BEDROOM IS PROPOSED FOR A TOTAL OF THREE BEDROOMS. EXISTING OWTS WAS PREVIOUSLY APPROVED FOR A 3-BEDROOM DWELLING.

**WETLANDS:**

WETLANDS FLAGGING FOR THE SUBJECT PROPERTY WAS PERFORMED BY NATURAL RESOURCE SERVICES INC.



**PROPOSED OWTS COMPONENTS**

- (A) AX-10 TO BE RELOCATED PER PLAN. SURROUND WITH LANDSCAPE TIES TO SAME ELEVATION AS BSF.
- (B) ALARM/CONTROL PANEL TO BE RELOCATED OR UPGRADED TO EXTERIOR MODEL AS REQUIRED.
- (C) INTERCONNECTING PIPING AND WIRING AS REQUIRED FOR (A) & (B) ABOVE. SEE SHEET 2 FOR INVERTS EXISTING AND PROPOSED.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED SEP 24 2020 FILE # 20-01165  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

GIVEN:	CURRENT STANDARDS**
SOIL CATEGORY: N/A	N/A
LOADING RATE: 3.00 GAL/SF/DAY*	2.3 GAL/SF/DAY**
STRUCTURE: 3 BEDROOMS*	3 BEDROOMS**
DESIGN FLOW: 150 GAL/DAY/BEDROOM*	115 GAL/DAY/BEDROOM**

**TOTAL DAILY FLOW:**  
450 GAL/DAY / 3.00 GAL/SF/DAY = 150.0 SF REQ'D 345 GAL/DAY / 2.3 GAL/SF/DAY = 150.0 SF REQ'D

**FILTER PROVIDED:**  
25' LONG X 8' WIDE = 150.0 SF PROVIDED

\*PER OWTS #0032-2320

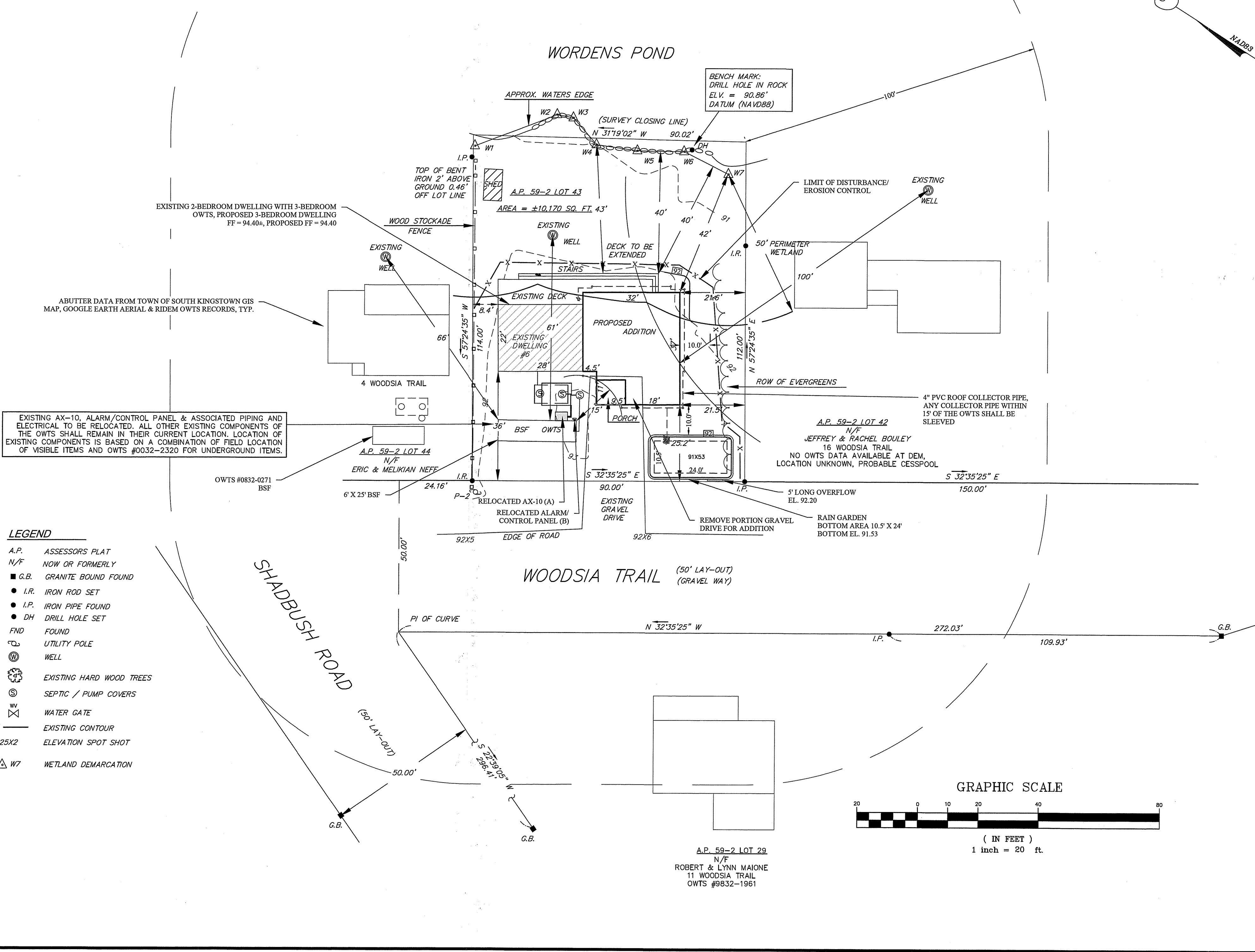
**PLAN REFERENCES:**  
WORDENS POND SHORES IN SOUTH KINGSTOWN, R.I. OWNED BY ROLAND E. & NORMAN BEAUREGARD SCALE 1" = 50'  
JULY 1951 BY EDWARD E. NEWMAN. ENG. PLAT BOOK 11 PAGE 829-83

**ZONING:** R-80  
SUBSTANDARD LOT WIDTH OF 90'

**MINIMUM LOT WIDTH:** 70'  
**MINIMUM LOT FRONTAGE:**  
YARDS: FRONT - 25'  
SIDE - 14'  
REAR - 30'

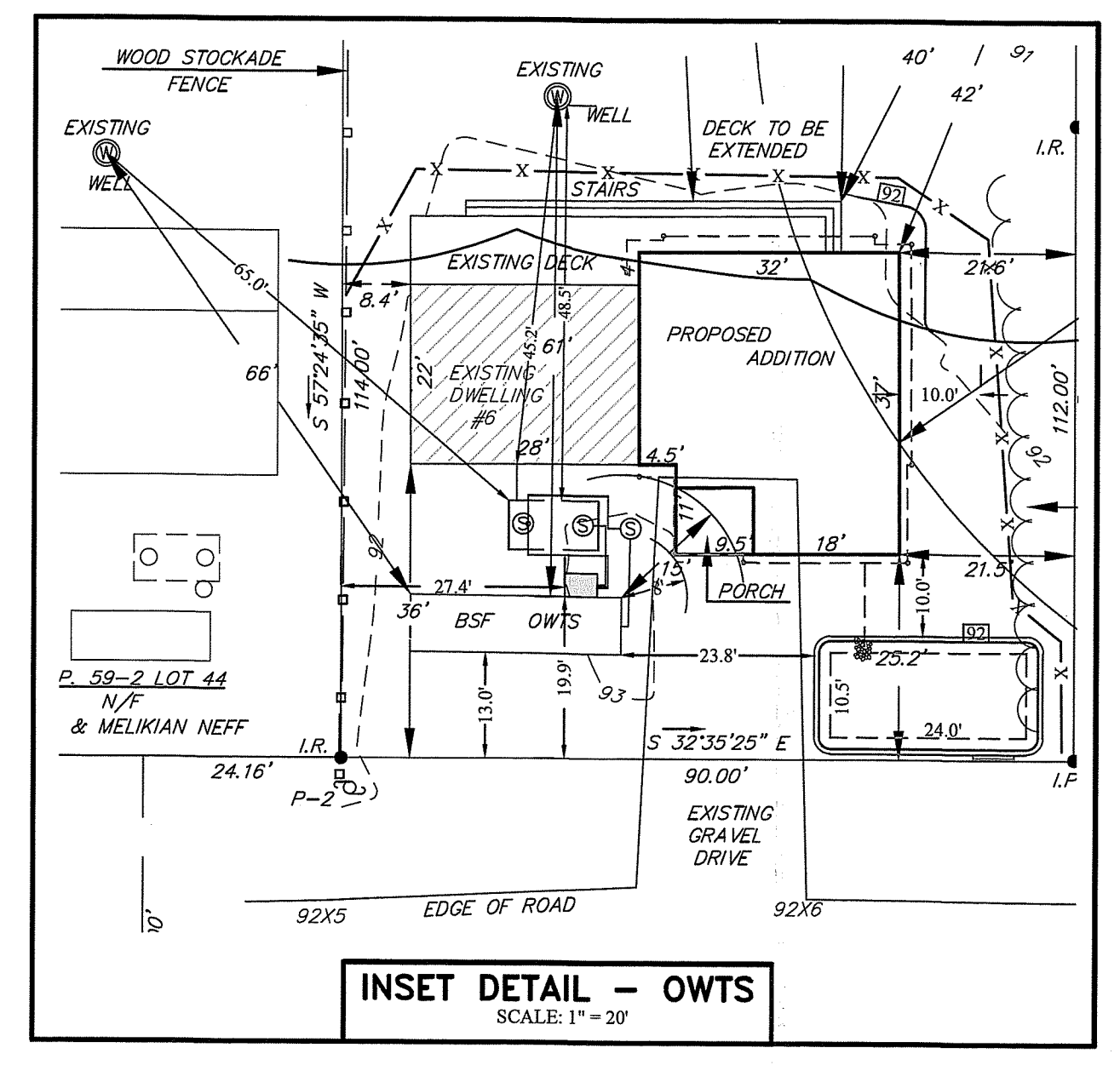
**CJ DOYLE, P.E.**  
CIVIL ENGINEERING  
MAILING ADDRESS:  
P.O. BOX 1161, HOPE VALLEY, RI 02832  
OFFICE LOCATION:  
1122 MAIN STREET, WYOMING, RI  
PHONE (401) 491-9530  
cjdengine@cox.net

NO.	DATE	DESCRIPTION	BY
DRAWING TITLED:			
ALTERATION OF AN ONSITE WASTEWATER TREATMENT SYSTEM			
LOCATED ON:			
LOT 43		PLAT 59-2	
OWNED BY:			
WILLIAM J. & PATRICIA A. SIPALA			
ADDRESS:			
6 WOODSIA TRAIL			
IN THE TOWN OF SOUTH KINGSTOWN, RI			
JULY 13, 2020			
DESIGNED BY: CAROLYN J. DOYLE, P.E.			
SCALE: 1" = 20'			
DRAWN BY: CJD		CHECKED BY: CJD	
DRAWING NO. SHEET 1 OF 2			
CAROLYN J. DOYLE No. 5078 REGISTERED PROFESSIONAL ENGINEER			



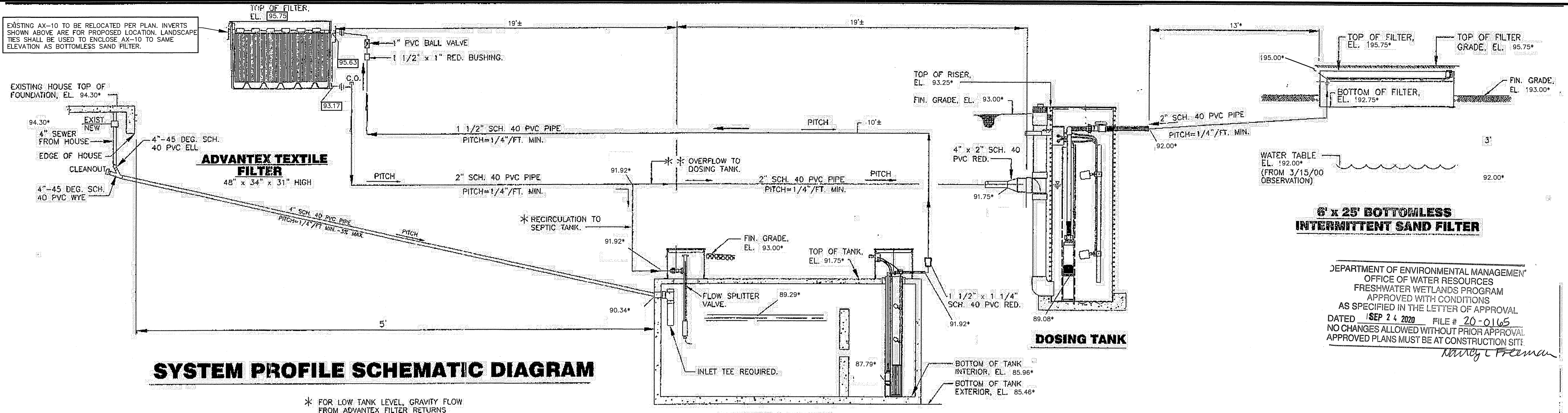
**VARIANCES FOR EXISTING OWTS:**

- RULE 6.23 E. MINIMUM HORIZONTAL DISTANCE FROM PROPOSED OWTS TO WELL - 80' REQUIRED TO LEACH FIELD, 61'(ON-SITE WELL) & 66'(ABUTTER'S WELL) PROVIDED.
- RULE 6.23 E. MINIMUM HORIZONTAL DISTANCE FROM PROPOSED OWTS TO WELL - 60' REQUIRED TO SEPTIC TANK, 48.5' PROVIDED (ON-SITE WELL), 58.3' PROVIDED TO AX-10 WHEN RELOCATED



- LEGEND**
- A.P. ASSESSOR'S PLAT
  - N/F NOW OR FORMERLY
  - G.B. GRANITE BOUND FOUND
  - I.R. IRON ROD SET
  - I.P. IRON PIPE FOUND
  - DH DRILL HOLE SET
  - FND FOUND
  - UTILITY POLE
  - WELL
  - EXISTING HARD WOOD TREES
  - SEPTIC / PUMP COVERS
  - WATER GATE
  - EXISTING CONTOUR
  - 25X2 ELEVATION SPOT SHOT
  - W7 WETLAND DEMARCATION

C:\Users\jdoyle\Documents\Cad Project\jdoyle - 6 Woodsia Tr. 5K\SIPALA OWTS.dwg 7/13/2020 11:42:11 AM

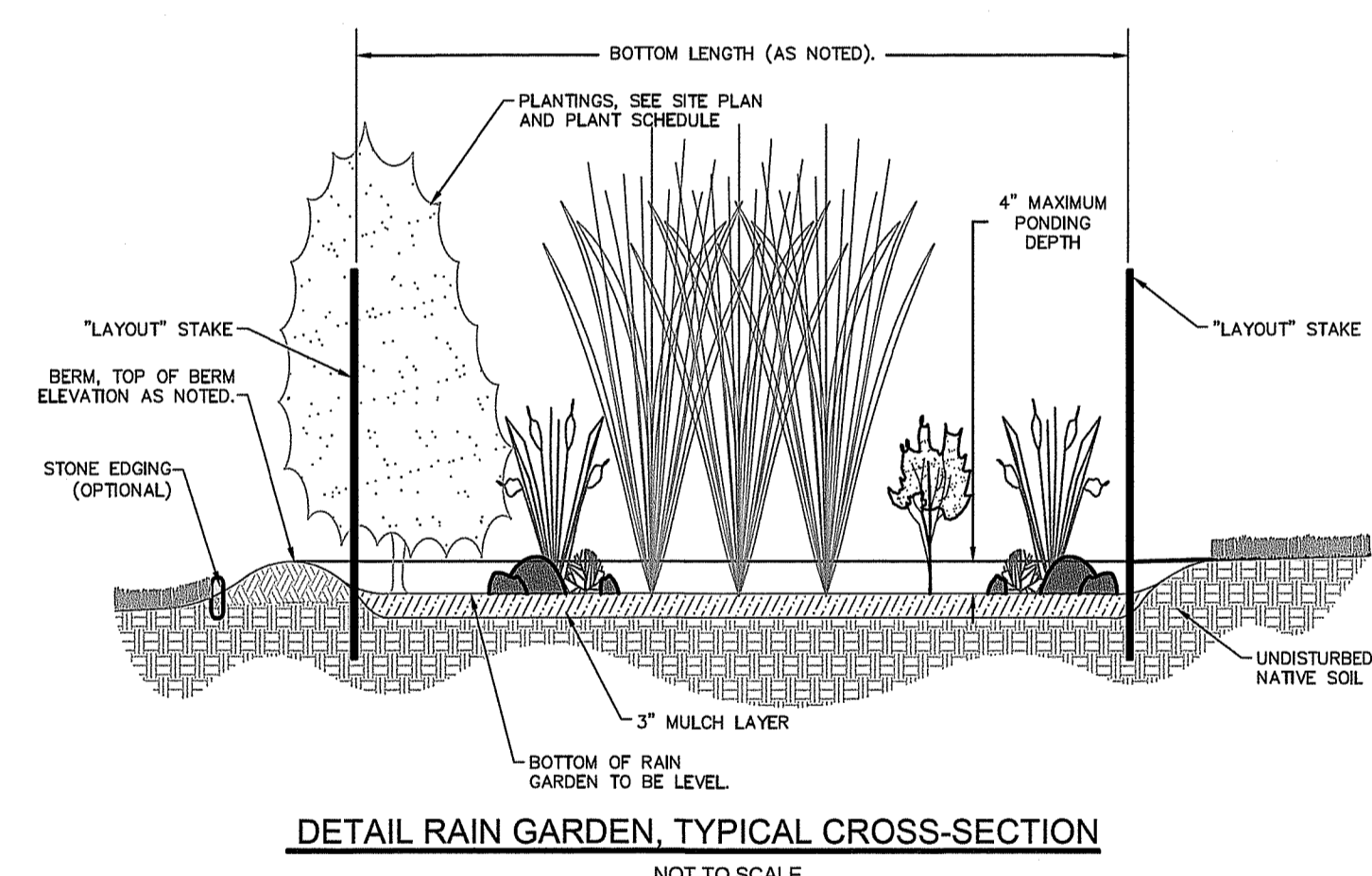
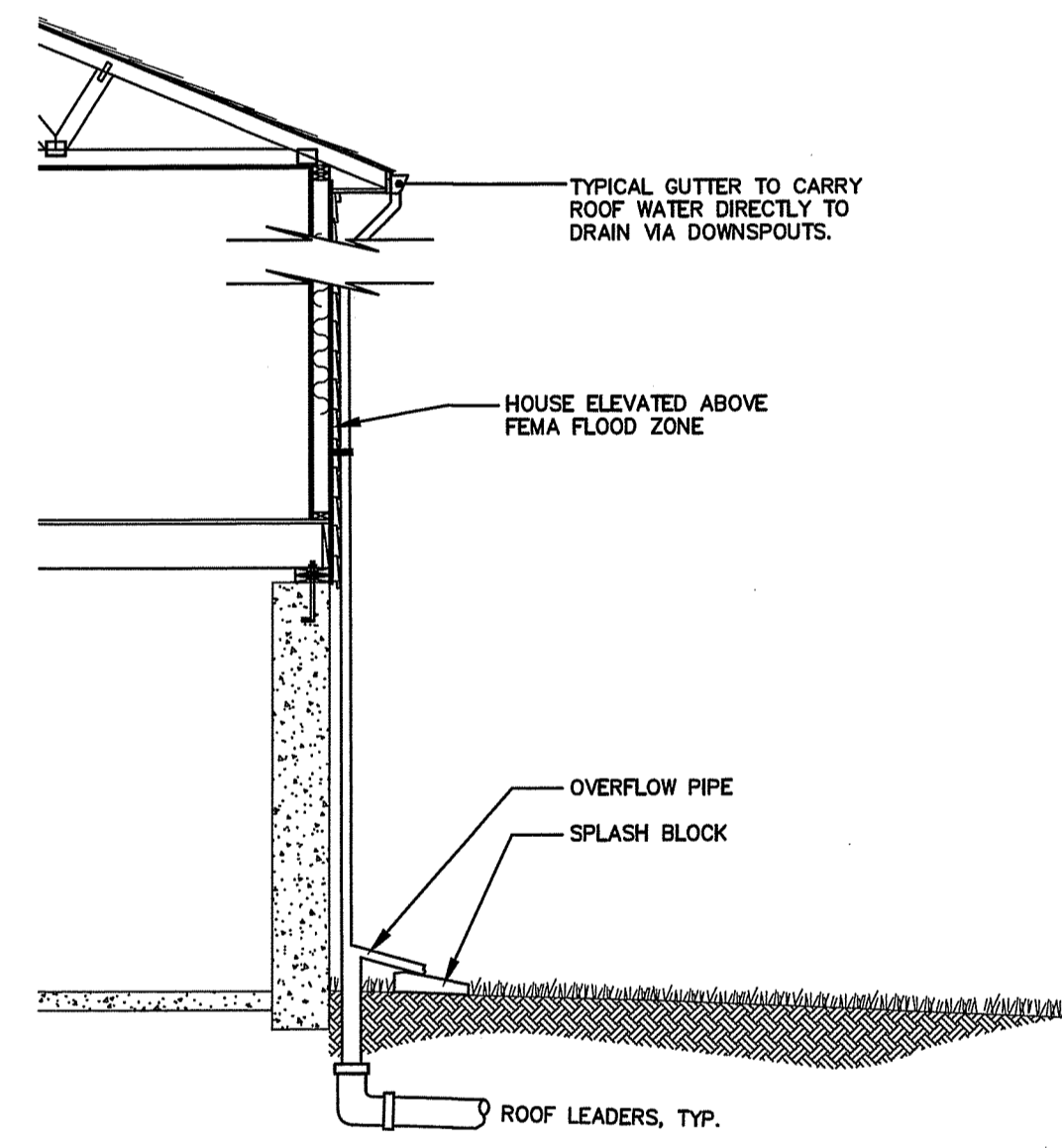


- \* FOR LOW TANK LEVEL, GRAVITY FLOW FROM ADVANTEK FILTER RETURNS TO SEPTIC TANK.
- \*\* FOR HIGH TANK LEVEL, GRAVITY FLOW FROM ADVANTEK FILTER OVERFLOWS TO DOSING TANK.

\*EXISTING INVERT ELEVATIONS HAVE BEEN ADJUSTED TO CURRENT SITE PLAN DATUM, EXISTING COMPONENT DETAILS PER OWTS #0032-2320

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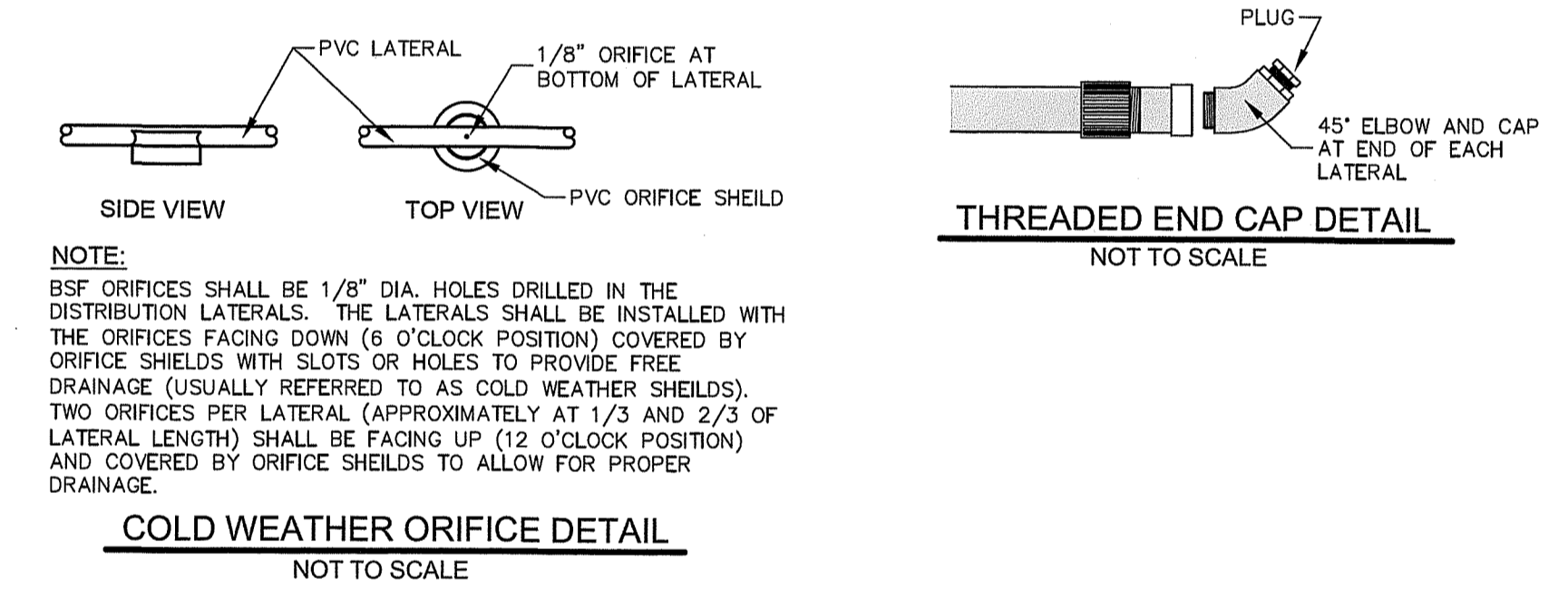
*Nancy L. Freeman*



**RAIN GARDEN NOTES:**  
ALL RAIN GARDEN CONSTRUCTION METHODS, MATERIALS AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH THE "STATE OF RI STORMWATER GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT". RAIN GARDEN USED TO TREAT WATER QUALITY VOLUME AND TO ADDRESS 10 YEAR STORM FOR PROPOSED ADDITIONAL ROOF (1281 S.F.) RUNOFF TO MEET THE TOWN OF SOUTH KINGSTOWN REQUIREMENTS. EXCEEDS THE WETLANDS REQUIREMENT TO TREAT THE WATER QUALITY VOLUME FOR THE ADDITIONAL ROOF.

**PLANT SCHEDULE FOR RAIN GARDEN**

Perennials / ground cover				
ED	10	Eupatorium dubium "Little Joe"	Joe Pys Weed	#1 30" O.C.
HM	4	Hibiscus moscheutos	Rose Mallow	#1 2' O.C.
Shrubs				
CA	2	Clethra alnifolia	Sweet pepperbush	#5 5' O.C.
IGS	2	Ilex glabra "shamrock"	Shamrock Inkberry	#3 3' O.C.



**RAIN GARDEN SIZING:**

**SIZING CRITERIA:**  
DRAINAGE AREA: 1281 SF (NEW BLDG ROOF AREA)

SOIL TYPE: FINE SANDY LOAM

100 SF\* OF BOTTOM AREA REQUIRED (8" DEPTH) AND 252 S.F. PROVIDED. BOTTOM SHALL BE LEVEL, SEE PLAN FOR DIMENSIONS, 3:1 SIDE SLOPE

AMENDED SOIL LAYER SHOULD BE A 5% MIXTURE OF THE EXCAVATED NATIVE SOILS AND MATURE ORGANIC COMPOST.

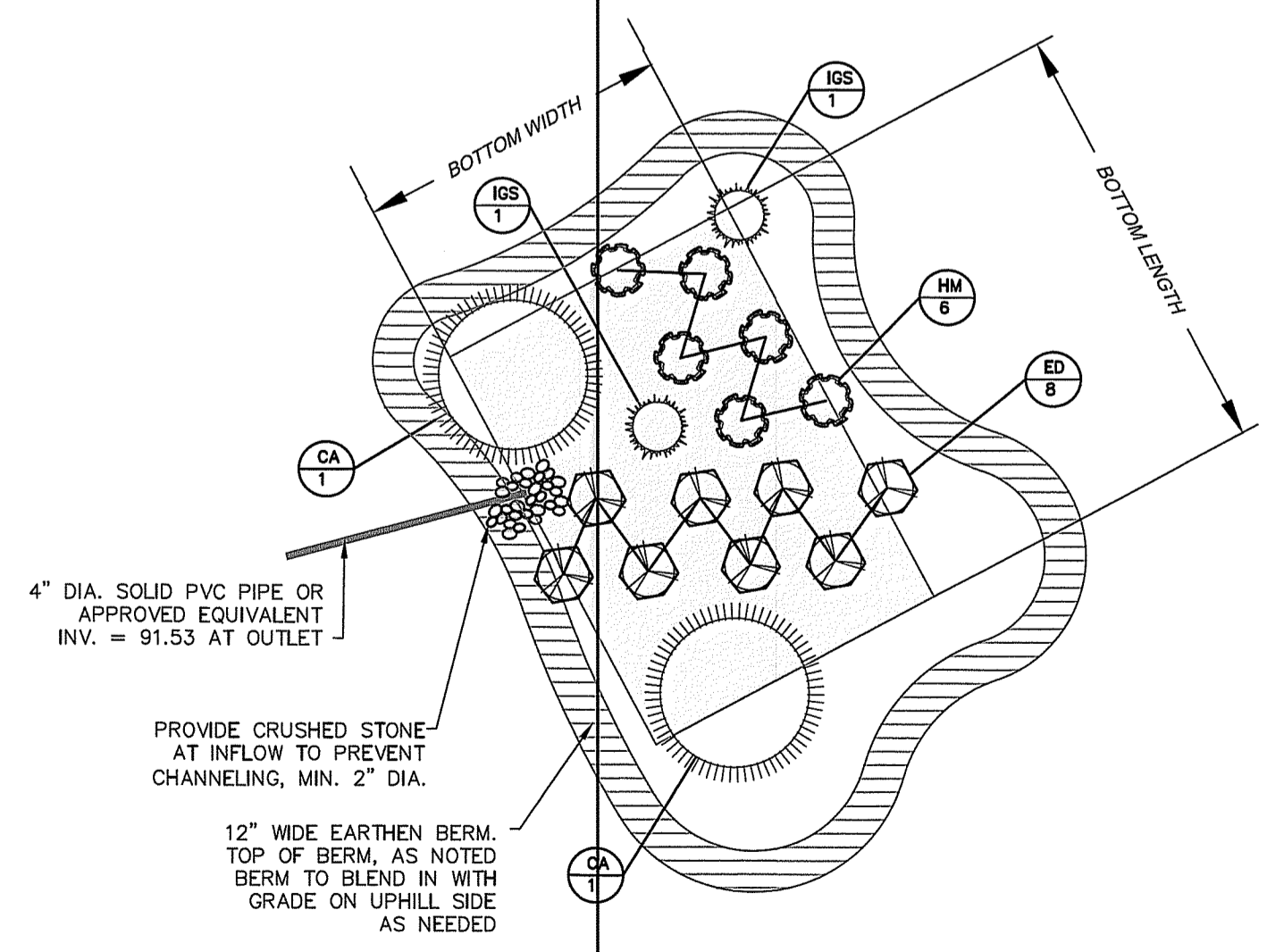
3" MULCH LAYER SHALL BE NON-DYED AGED SHREDDED HARDWOOD MULCH.

\*REFERENCE TABLE 7 & 8, PAGE 10 OF 17, STATE OF RI STORMWATER GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT. ALTERNATIVE PLANTINGS MAY BE SUBSTITUTED PER APPENDIX B OF THE RHODE ISLAND STORMWATER DESIGN & INSTALLATION STANDARDS MANUAL.

**BMP OPERATION AND MAINTENANCE**

- BMP'S SHALL BE INSPECTED ANNUALLY AND REPAIRED IF NECESSARY TO ENSURE PROPER DRAINAGE.
- ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED ANNUALLY IF NEEDED.

- CONSTRUCTION WASTE:**
- IT IS THE SOLE RESPONSIBILITY OF THE SITE CONTRACTOR FOR THE FOLLOWING:
- ALL CONSTRUCTION WASTE SHALL BE PROPERLY HANDLED AND DISPOSED IN A PROPER MANNER, I.E. STORED IN APPROPRIATE CONTAINERS AND DISPOSED OFFSITE AT APPROPRIATE FACILITIES.
  - HAZARDOUS MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH LOCAL, STATE OF FEDERAL LAWS OR REGULATIONS.
  - THE CONSTRUCTION SITE SHALL BE MAINTAINED IN A CLEAN ORDERLY FASHION WITH DEBRIS, LITTER AND CONSTRUCTION WASTE CLEANED UP AS NEEDED. THE SITE SHALL ALSO BE CLEANED AT THE END OF EACH DAY.
  - CONCRETE WASHDOWN WATER USED TO CLEAN CONCRETE TOOLS AND EQUIPMENT SHALL BE DISPOSED OF PROPERLY AND SHALL NOT BE ALLOWED TO ENTER STORM DRAINS, SANITARY SEWERS OR PERMITTED TO DISCHARGE TO STREET SURFACES. HARDENED WASTE CONCRETE CAN BE DISPOSED IN A MANNER SIMILAR TO ANY EARTH SPOILS PROVIDED THE MATERIALS ARE NOT CONTAMINATED WITH HAZARDOUS SUBSTANCES.
  - A SUFFICIENT NUMBER OF ONSITE PORTABLE TOILETS SHALL BE PROVIDED FOR PERSONNEL, IF OTHER TOILET FACILITIES ARE NOT ALREADY AVAILABLE.
  - CONTRACTOR SHALL INSURE TRUCKS AND VEHICLES DO NOT CARRY MUD FROM THE SITE ONTO ADJACENT STREETS OR PROPERTIES BY THE USE OF APPROPRIATE VEHICLE CONSTRUCTION ENTRANCE PADS. THE CONTRACTOR SHALL BE ESPECIALLY DILIGENT WHERE CONSTRUCTION PADS CANNOT BE USED OR ARE NOT FEASIBLE DUE TO SITE CONSTRAINTS, E.G. EXISTING PAVEMENT OR LIMITED AREA.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING TRACKED MUD FROM ADJACENT STREETS, STORM DRAINS, ETC., TO THE SATISFACTION OF THE OWNER OF THE STREET OR DRAINS.



**CJ DOYLE, P.E.**  
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PHONE (401) 491-9530  
cjd@cjdoyle.com

NO.	DATE	DESCRIPTION	BY

**DETAILS FOR ALTERATION OF AN ONSITE WASTEWATER TREATMENT SYSTEM**

LOCATED ON:  
LOT43 PLAT 59-2

OWNED BY:  
WILLIAM J. & PATRICIA A. SIPALA

ADDRESS:  
6 WOODSIA TRAIL  
IN THE TOWN OF SOUTH KINGSTOWN, RI

JULY 13, 2020  
DESIGNED BY:  
CAROLYN J. DOYLE, P.E.

SCALE: 1" = 20'

DRAWN BY: CJD CHECKED BY: CJD

DRAWING NO.: SHEET 2 OF 2

CAROLYN J. DOYLE  
No. 5078  
REGISTERED PROFESSIONAL ENGINEER