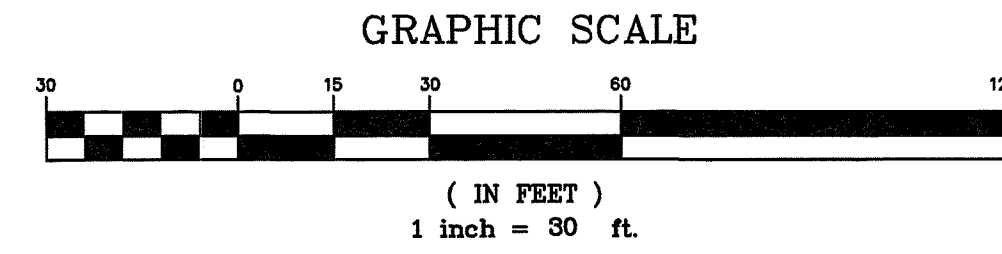


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 OWTS & FRESHWATER WETLANDS
 JOINT PERMIT APPROVAL
 OWTS# 1722-0346 PWW# 18-0109
 APPROVED: [Signature] DATE: 6/3/21
 No Changes Allowed Without RIDEM Approval
 Approved Plans/Permit Must Be Kept at Construction Site



GARY C. LAMOND
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 No. 7123
 DRAWN BY: GCL CHECKED BY: GCL
 DESIGN BY: GCL APPROVED BY: GCL
 SCALE: AS SHOWN

TITLE: REVISED SITE PLAN
PROJECT: A.P. 19 LOT 43 OFF COAST GUARD ROAD NEW SHOREHAM, RHODE ISLAND
CLIENT: JAMES SOCAS
GARY C. LAMOND, P.E., LLC
 194 HATCHERY ROAD
 NORTH KINGSTOWN, RI 02852

PROJ. NO: 2021025
 DATE: 5/13/2021
 Environmental Management
 JUN 4 2021
 Office of Water Resources
 REV: 05/27/2021

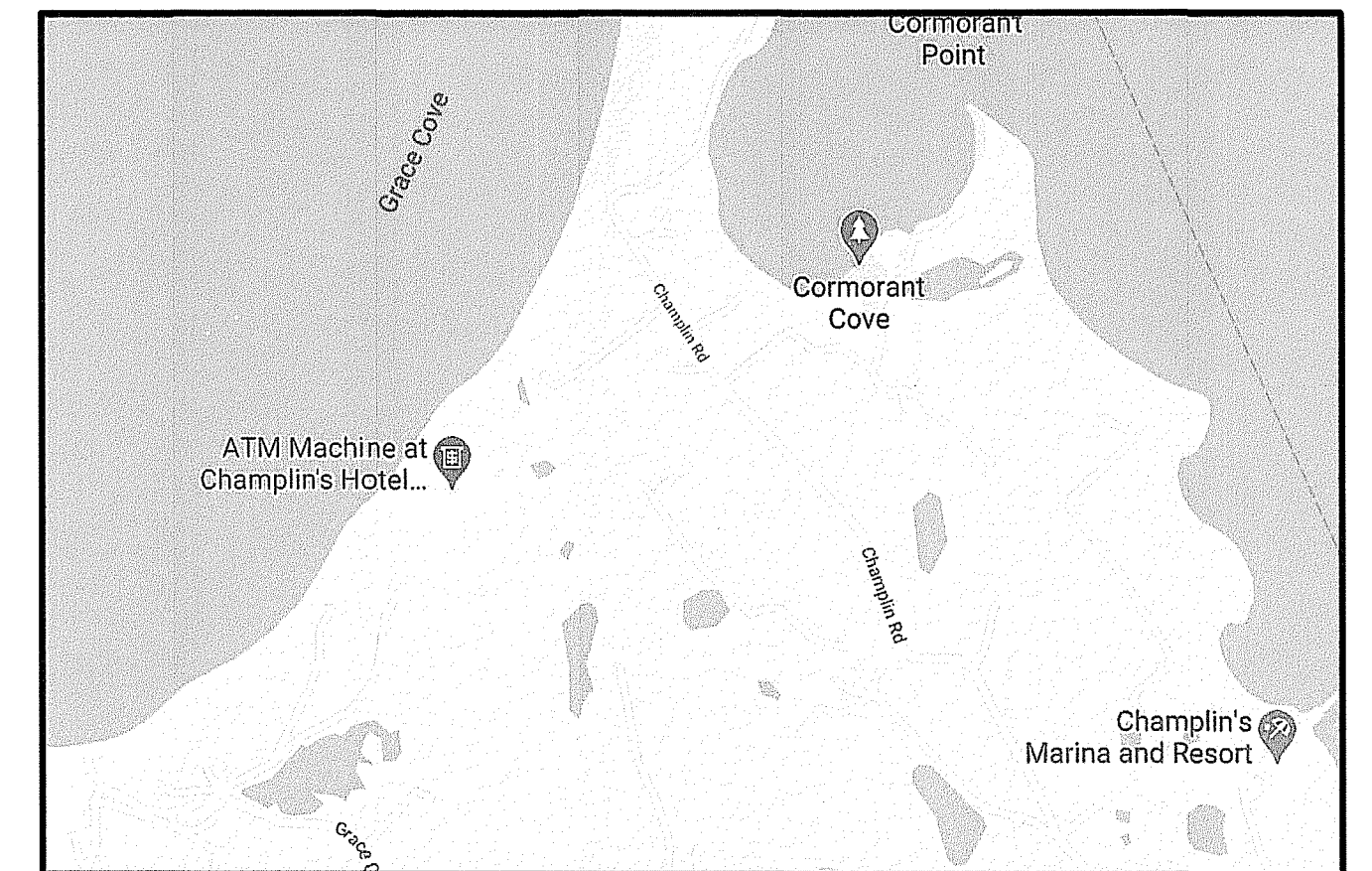
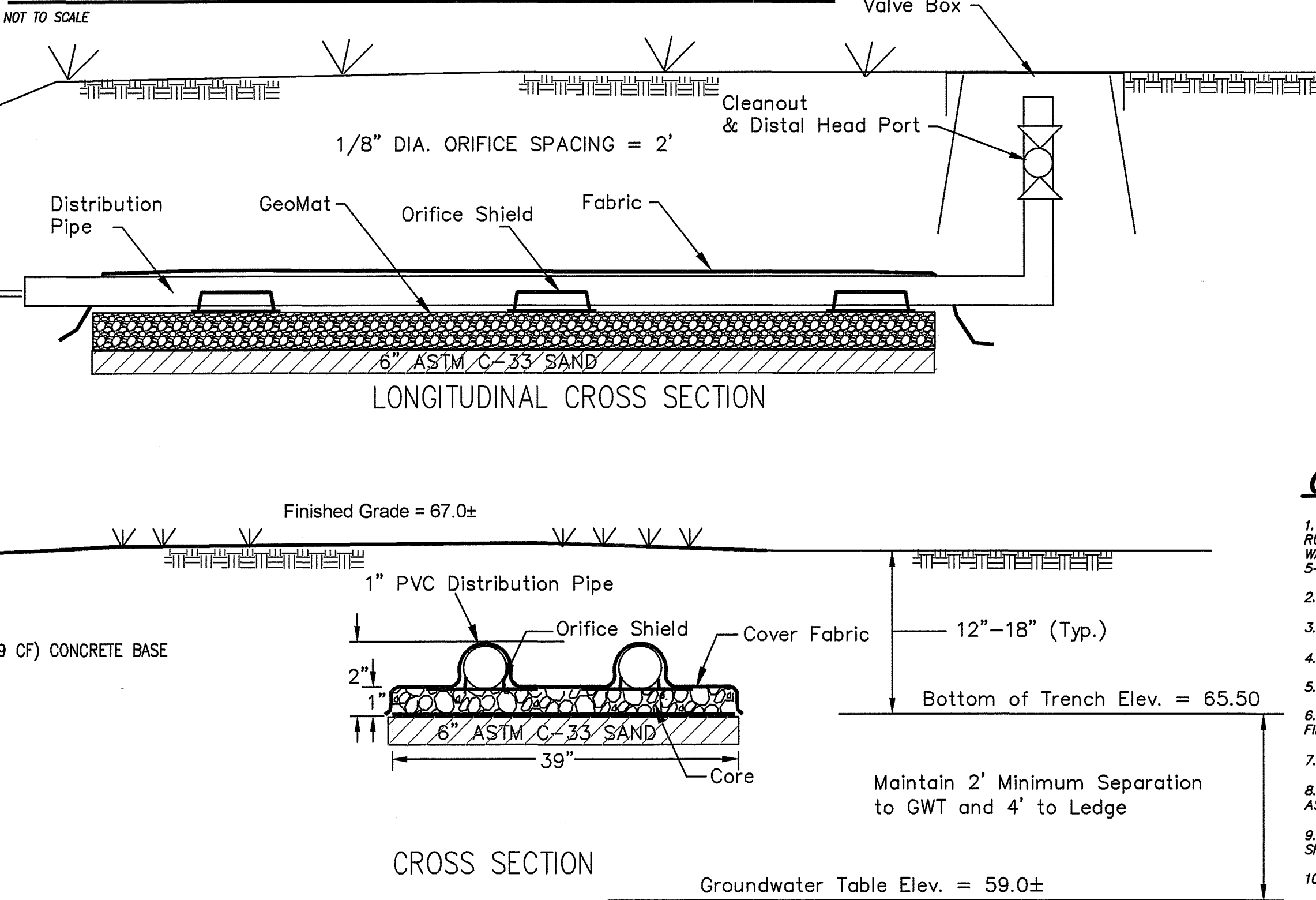
LIST OF COMPONENTS

- 1069 GALLON 3-COMPARTMENT FUJICLEAN CEN-7 TANK
- 24" DIA. HDPE PUMP BASIN (7' DEPTH)
- (2) 39" LONG GEOMAT 3900 TRENCHES
- FUJICLEAN CONTROL PANEL

SCHEDULE OF PVC PIPE SIZES

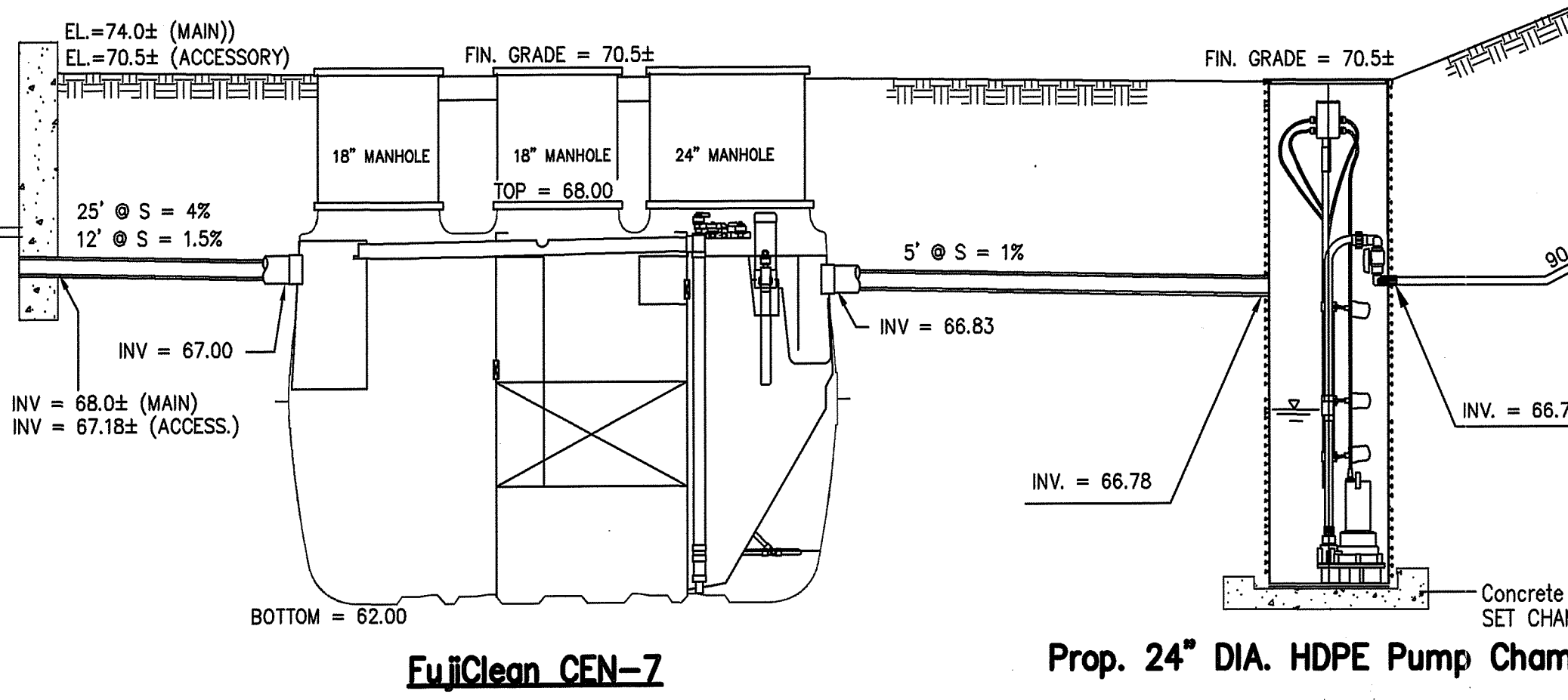
BUILDING TO FUJICLEAN TANK	4" SCH 40
FUJICLEAN TANK TO PUMP BASIN	4" SCH. 40 OR EQUAL
PUMP BASIN TO DRAINFIELD	1-1/2" SCH. 40 OR EQUAL
DRAINFIELD MANIFOLD	1-1/2" SCH. 40 OR EQUAL
DRAINFIELD LATERALS	1" SCH. 40 OR EQUAL

GeoMat™ 3900 Leaching System Details



GENERAL NOTES

- ALL OTHER DESIGN, CONSTRUCTION AND MAINTENANCE REQUIREMENTS WHETHER NOTED HEREON, OR NOT, SHALL BE IN CONFORMANCE WITH RULES & REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS, NOVEMBER 25, 2018, BY THE RIDEM AUTHORITY CHAPTER 42-35 PURSUANT TO CHAPTERS 42-17.1, 5-56, 5-56.1, 23-18.5 AND 23-24.3, OF THE RHODE ISLAND GENERAL LAWS OF 1956, AS AMENDED.
- SEE OWT'S SPECIFICATIONS ATTACHED.
- CLEAR ALL TREES AND STUMPS WITHIN 10' OF SYSTEM.
- THERE SHALL BE NO SUBSURFACE, FOUNDATION OR STORM DRAINS WITHIN 25' OF THE SYSTEM.
- COMPLY WITH ALL ADDITIONAL TERMS OF APPROVAL AS MAY BE REQUIRED BY RIDEM.
- APPROXIMATE PROPERTY LINE BASED ON TOWN OF NEW SHOREHAM ASSESSORS RECORDS ONLY. PROPERTY LINE SHOULD BE STAKED IN THE FIELD BY A RHODE ISLAND LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION IN ORDER TO ENSURE ALL REQUIRED SETBACKS ARE MAINTAINED.
- BENCHMARK IS SET WITHIN 150' OF PROPOSED OWT'S PRIOR TO CONSTRUCTION. (SEE SITE PLAN.)
- THERE ARE NO EXISTING OR PROPOSED PRIVATE DRINKING WATER WELLS WITHIN 200' OF THE PROPOSED OWT'S OR ALTERNATE AREA EXCEPT AS SHOWN.
- THERE ARE NO EXISTING OR PROPOSED PUBLIC WATER SUPPLY WELLS WITHIN 500' OF THE PROPOSED OWT'S OR ALTERNATE AREA EXCEPT AS SHOWN.
- THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLAN ON-SITE AT ALL TIMES.
- SCHEDULE 40 PVC PIPE OR EQUAL FROM BUILDING TO SEPTIC TANK.
- THE PROPOSED FUJICLEAN TANK SHALL BE PROVIDED WITH TWO (2) 18" AND ONE (1) 24" ACCESS RISER TO GRADE. THE 18" RISERS, SAFETY SCREENS AND COVERS SHALL BE POLYLOK MANHOLE 1 & 2-3009-RP 20" RISER PAN, 3009-20" SAFETY SCREEN & 3017-C20 20" HD COVER. THE 24" RISER, SAFETY SCREEN AND COVER SHALL BE POLYLOK MANHOLE 3: 3009-AR ADAPTER RING, (2) 3008 24" RISER, 3008-SS 24" SAFETY SCREEN & 3008 24" HD COVER.
- THE PROPOSED FUJICLEAN TANK SHALL BE A WATER-TIGHT, 3-COMPARTMENT TANK WITH ACCESS RISERS DESCRIBED IN NOTE 14. IT IS A COMBINED PROCESS WASTEWATER TREATMENT SYSTEM INCORPORATING FIXED MEDIA AND SUSPENDED GROWTH WASTEWATER TREATMENT IN A SINGLE PRE-ASSEMBLED UNIT. TREATED WASTEWATER CIRCULATION IS CONTINUOUS AND ADJUSTABLE TO MAXIMIZE TREATMENT PERFORMANCE. THE FUJICLEAN MAY BE PURCHASED THROUGH INTEGRATED SEPTIC SOLUTIONS AT 401-318-4300.
- THE CONTRACTOR MUST FOLLOW ALL ITEMS CIRCLED IN THE LOWER RIGHT HAND AREA OF THE OWT'S APPLICATION LABELED--IMPORTANT AND NOTIFY ENGINEER DURING THE DIFFERENT STAGES OF CONSTRUCTION TO ALLOW THE ENGINEER TO OBSERVE COMPLIANCE WITH THE APPROVED PLANS (AS REQUIRED BY RIDEM).
- THE CONTRACTOR MUST NOTIFY LICENSED DESIGNER 48 HOURS PRIOR TO START OF CONSTRUCTION WITH VALID INSTALLERS LICENSE NUMBER. DESIGNER MUST NOTIFY DEM 24 HOURS PRIOR TO START OF CONSTRUCTION.
- IF CONTRACTOR ENCOUNTERS UNANTICIPATED CONDITIONS DURING CONSTRUCTION WHICH INDICATE THAT THE SYSTEM CANNOT BE INSTALLED IN ACCORDANCE WITH THE APPROVED DESIGN, INSTALLER SHALL STOP CONSTRUCTION AND NOTIFY THE LICENSED DESIGNER RESPONSIBLE FOR WITNESSING AND INSPECTING THE INSTALLATION.
- THE LICENSED DESIGNER SHALL WITNESS AND INSPECT ALL ASPECTS OF THE INSTALLATION, KEEP RECORDS, PREPARE THE CERTIFICATE OF COMPLETION AND PROVIDE O & M INFORMATION AND RECOMMENDATIONS TO THE OWNER.
- THE DESIGNER IS NOT RESPONSIBLE FOR ANY NEGLIGENT ACT OF OMISSION OF A USER OF AN OWT'S, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM, WHICH CAUSES DAMAGE TO THE OWT'S.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- THE FUJICLEAN CEN TANK IS DESIGNED FOR RESIDENTIAL STRENGTH WASTEWATER ONLY. INSTALLATION SHALL BE IN COMPLIANCE WITH THE RIDEM APPROVED FUJICLEAN INSTALLATION MANUAL.
- THE CONTROL PANEL MUST INCORPORATE AN EVENT COUNTER, ELAPSED-TIME METER AND A VISIBLE AND AUDIBLE PUMP/POWER FAILURE WARNING INDICATOR. SINCE CONSTANT AERATION IS KEY TO SYSTEM PERFORMANCE, THE BLOWER MUST BE OPERATIONAL 24 HOURS PER DAY. TO ENSURE OWNER/OPERATOR COMPLIANCE, ALL INSTALLATIONS OF THE SYSTEM SHALL BE EQUIPPED WITH AN HOUR METER AND A VISIBLE AND AUDIBLE BLOWER/PUMP/POWER FAILURE WARNING LIGHT MOUNTED IN A NEMA APPROVED CABINET ON THE EXTERIOR OF THE BUILDING CONNECTIONS.
- SMALL DIAMETER, PRESSURIZED PVC PIPE SHALL BE SCHEDULE 40 OR EQUAL, WITH SOLVENT WELDED CONNECTIONS.
- PUMPS SHALL BE AS MANUFACTURED BY ORENCO SYSTEMS, INC. OR APPROVED EQUAL. PUMP CHAMBER PUMP TO DRAINFIELD - OSI PKP350.
- CONTRACTOR TO NOTIFY ENGINEER DURING DIFFERENT STAGES OF CONSTRUCTION TO ALLOW THE ENGINEER TO OBSERVE COMPLIANCE WITH THE APPROVED PLANS (AS REQUIRED BY RIDEM).
- TRENCHES FOR GEOMAT LEACHING SYSTEM SHALL BE EXCAVATED IN NATIVE SOIL WITH NO STRIP OF SURROUNDING SOILS. DRAINFIELD BOTTOM MUST BE SCARIFIED, CARE SHOULD BE TAKEN TO AVOID STEPPING IN TRENCH AND COMPACTING SOILS.
- THE PUMPS SHALL BE EQUIPPED WITH A HIGH WATER LEVEL VISIBLE AND AUDIBLE ALARM POWERED BY A CIRCUIT SEPARATE FROM THE PUMP POWER. THE ALARM SHALL BE LOCATED IN A NORMALLY OCCUPIED AREA OF THE FACILITY OR SHALL BE INSTALLED AS SHOWN ON THE SITE PLAN.
- ALL TANKS AND APPURTENANCES SHALL BE CONSTRUCTED SUCH THAT ALL ELEMENTS ACT AS A SINGLE WATER-TIGHT UNIT. THE SYSTEM SHALL BE CERTIFIED WATER-TIGHT BY THE MANUFACTURER OR FIELD TESTED AND CERTIFIED WATER-TIGHT USING PROCEDURES SET FORTH IN THE RIDEM OWT'S RULES.
- THE INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE RIDEM APPROVED FUJICLEAN INSTALLATION MANUAL AND SHALL ONLY BE PERFORMED BY A RHODE ISLAND LICENSED INSTALLER WHO HAS RECEIVED TRAINING AND IS AUTHORIZED IN WRITING BY FUJICLEAN USA TO INSTALL THE SYSTEM.
- THE CONTRACTOR SHALL PROVIDE DESIGNER WITH MATERIAL RECEIPTS FOR ALL CONSTRUCTION MATERIALS PRIOR TO DESIGNER ISSUING CERTIFICATE OF CONSTRUCTION.
- ESTIMATED GROUNDWATER TABLE IS BASED ON SOIL DATA COMPLETED UNDER PREVIOUSLY APPROVED RIDEM OWT'S APPLICATION #1722-0340.
- CONTRACTOR TO COMPACT SOIL BENEATH ALL PRESSURE AND GRAVITY LINES.
- CONTRACTOR TO COORDINATE START-UP WITH MAINTENANCE CONTRACTOR, ELECTRICIAN, AND ENGINEER PRIOR TO COMPLETION.
- GROUNDWATER TABLE FLUCTUATES ANNUALLY. NO GUARANTEE OF A DRY BASEMENT IS EXPRESSED OR IMPLIED.
- THE OWT'S IS NOT DESIGNED TO ACCOMMODATE A GARBAGE DISPOSAL.
- ALL APPLICANTS OBTAINING AN OWT'S PERMIT FOR A RIDEM APPROVED ALTERNATIVE OR EXPERIMENTAL TECHNOLOGY REQUIRING SPECIAL OPERATION AND MAINTENANCE PROCEDURES SHALL: (A) FILE A COPY OF THE INITIALLY EXECUTED CONTRACT FOR THE OWT'S OPERATION AND MAINTENANCE, (INCLUDING ALL REQUIRED MAINTENANCE PROCEDURES AND MONITORING SCHEDULES) WITH THE LAND EVIDENCE RECORDS OF THE MUNICIPALITY IN WHICH THE OWT'S IS LOCATED, AND (B) SUBMIT TO THE DEPARTMENT A CERTIFIED COPY OF THE RECORDED PERMIT SETTING FORTH THE DATE OF THE RECORDED AND THE BOOK.



DRAINFIELD SIZE DETERMINATION

5 BEDROOM X 115 GAL = 575 GPD
 575 GPD / 2.3 GPD/SF = 250 SF
 2 ROWS GEOMAT 3900 AT 39 FEET = 253.5 SF

FUJICLEAN CONSTRUCTION NOTES

- TANK**
- IT IS RECOMMENDED TO USE A FOUR-LEG HOISTING SLING OR CHAIN TO LIFT AND SET TANK. THE FOUR LIFTING FITTINGS ON TANK ARE PLACED TO KEEP TANK LEVEL WHEN SETTING.
 - TANK BOTTOM SHOULD BE IN ORIGINAL MATERIAL WITH ALL STONES REMOVED. BOTTOM MUST BE LEVEL. IF VERY STONY OR NET, DIG DOWN MINIMUM OF 6" AND REPLACE UP TO BOTTOM GRADE WITH PEA STONE, SAND OR SCREENED GRAVEL. MAKE SURE BOTTOM IS COMPACTED AND FIRM WITH NO POSSIBILITY OF SETTLING.
 - IF BALLAST BLOCKS NECESSARY, PLACE BLOCKS OUTSIDE OF THE WIDTH OF FLANGES TO AVOID CABLE OR STRAPS FROM CHAFING ON FLANGE. MAKE SURE TO COMPACT SOIL BETWEEN BLOCK AND SIDE OF TANK.
 - TO AVOID TANK MOVEMENT WHILE BACKFILLING, BEGIN FILLING TANK WITH WATER BEFORE BACKFILLING. WATER SHOULD BE BROUGHT UP TO LOW WATER MARKINGS ON INSIDE SIDEWALL OF TANK. IN ORDER TO FILL TANK EVENLY AND COMPLETELY, ALTERNATE FILLING EACH COMPARTMENT.
 - BACK FILL AROUND TANK IN 6" LIFTS, USING FLOWABLE MATERIAL SUCH AS ORIGINAL SOIL WITHOUT STONE, SAND, PROCESSED GRAVEL WITHOUT STONE, ROUNDED 3/4 TO 1/2 STONE, OR PEA STONE.
 - DO NOT MECHANICALLY COMPACT BACKFILL; COMPACT WITH SHOVEL HANDLE OR TAMPER, ESPECIALLY AROUND THE SIDE RADIUS.
 - IN ORDER TO AVOID SETTLING AND POSSIBLE DAMAGE TO FITTING AND TANK, HAND COMPACT NEAR TANK ALL MATERIAL UNDER AIR CONDUIT AND FITTING WHERE IT ENTERS TANK.
 - AIR CONDUIT FROM BLOWER TO UNIT SHOULD BE PLACED ON ORIGINAL SOIL WHERE POSSIBLE AND ON COMPACTED SOIL OTHERWISE.
 - IF HIGH WATER ALARM CONDUIT IS GOING TO TANK, MAKE SURE CONDUIT IS SET ON FIRM GROUND AND ENTERS TANK THROUGH A WATER-TIGHT GROMMET TO BE PLACED IN SECOND COMPARTMENT. FLOAT SHOULD BE SECURELY MOUNTED WITH CLAMP TO LENGTHWISE RECIRCULATION PIPE. CORD TETHER LENGTH SHOULD BE 3" FROM CLAMP.
 - TO AVOID DAMAGE TO TANK AND ASSURE PROPER WATER FLOW THROUGH UNIT, MAKE SURE INLET AND OUTLET PIPE ARE SECURELY GLUED INTO TANK FITTINGS AND SIT ON COMPACTED SOIL WHEREVER SOIL WAS DISTURBED FOR TANK HOLE TO AVOID SETTLING.
 - ALL RISERS AND LIDS MUST BE WATER-TIGHT.
 - FINISH HEIGHT OF LIDS SHOULD ALLOW LOWER GRADING TO DRAIN WATER AWAY FROM TANK.
- BLOWER**
- BLOWER SHOULD BE LOCATED WITHIN 100' OF TREATMENT UNIT. CONDUIT CAN BE 3/4" PVC CONDUIT OR FLEXIBLE IRRIGATION LINE (100LB MAX PRESSURE). THERE SHOULD BE NO MORE THAN FIVE (5) 90-DEGREE FITTINGS IN THE LINE. ALL BLOWERS MUST BE LOCATED IN AREAS WHERE EXCESSIVE RUN OFF OR POTENTIAL FLOODING DO NOT OCCUR. THE BLOWER MUST BE LOCATED WHERE THEY CAN BE EASILY INSPECTED AND SERVICED AND SHOULD BE AS CLOSE TO CONTROL PANELS AS POSSIBLE.
 - IF ABOVE GRADE, BLOWER SHOULD BE IN PROTECTIVE ENCLOSURE WITH ADEQUATE VENTILATION AWAY FROM EXHAUST FANS. TO AVOID POSSIBLE NOISE COMPLAINTS, TRY NOT TO LOCATE UNDER BEDROOM WINDOWS. THE ENCLOSURE SHOULD BE PLACED ON POURED CONCRETE OR BLOCK PAD TO AVOID VIBRATION.
 - IF THE BLOWER IS PLACED BELOW GRADE, THE ENCLOSURE AND ANY THROUGH FITTINGS MUST BE WATER-TIGHT WITH A 2" PVC AIR SUPPLY PIPE BROUGHT UP ABOVE POSSIBLE SNOW LINE. A GOOSENECK AT TOP OF PIPE IS NECESSARY TO PREVENT WATER FROM ENTERING BASIN. SUPPLY PIPE SHOULD NOT BE PLACED NEAR EXHAUST VENTS. TOP OF BLOWER SHOULD BE SLIGHTLY ABOVE SURROUNDING GRADE TO SHED WATER.
- CONTROL PANEL**
- THE CONTROL PANEL SHOULD BE SECURELY MOUNTED TO A POST OR PEDESTAL AND NOT DIRECTLY ON SIDEWALL OF HOUSE. IT SHOULD BE PLACED HIGH ENOUGH TO AVOID ACCUMULATED SNOW AND TO ALLOW EASE OF SERVICING. IF THERE IS A PUMP STATION FOLLOWING FUJI UNIT, CONTROL PANEL SHOULD BE IN LINE OF SIGHT OF BASIN.
 - ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL REGULATIONS.

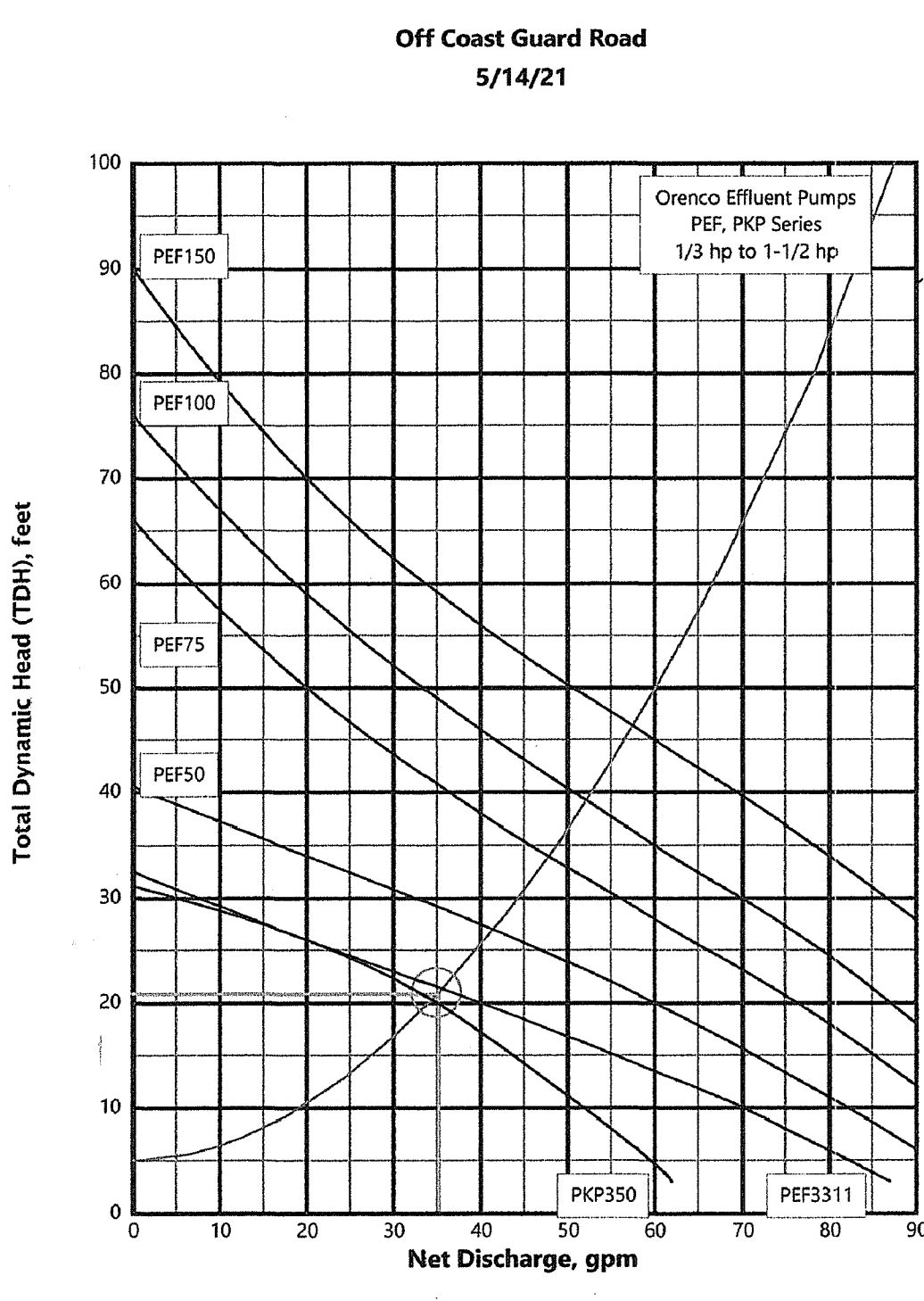
Pump Selection for a GeoMat System

Calculations for a GeoMat System

Orifice Size	1/8 inches
Residual Head at Last Orifice	5.0 feet
Orifice Spacing	2.0 feet
Number of Laterals (all zones)	4
Perforated Lateral Length	39.0 feet
Non-Perforated Lateral Length	0 feet
Lateral Line Size	1.00 inches
Lateral Pipe Class/Schedule	40
Distributing Valve Model	None
Manifold Length	8.0 feet
Manifold Line Size	1.50 inches
Manifold Pipe Class/Schedule	40
Lift to Manifold	5 feet
Transport Length	90.0 feet
Transport Line Size	1.50 inches
Transport Pipe Class/Schedule	40 inches
Discharge Assembly Size	1.50 inches
Flow Meter	None inches

Calculations

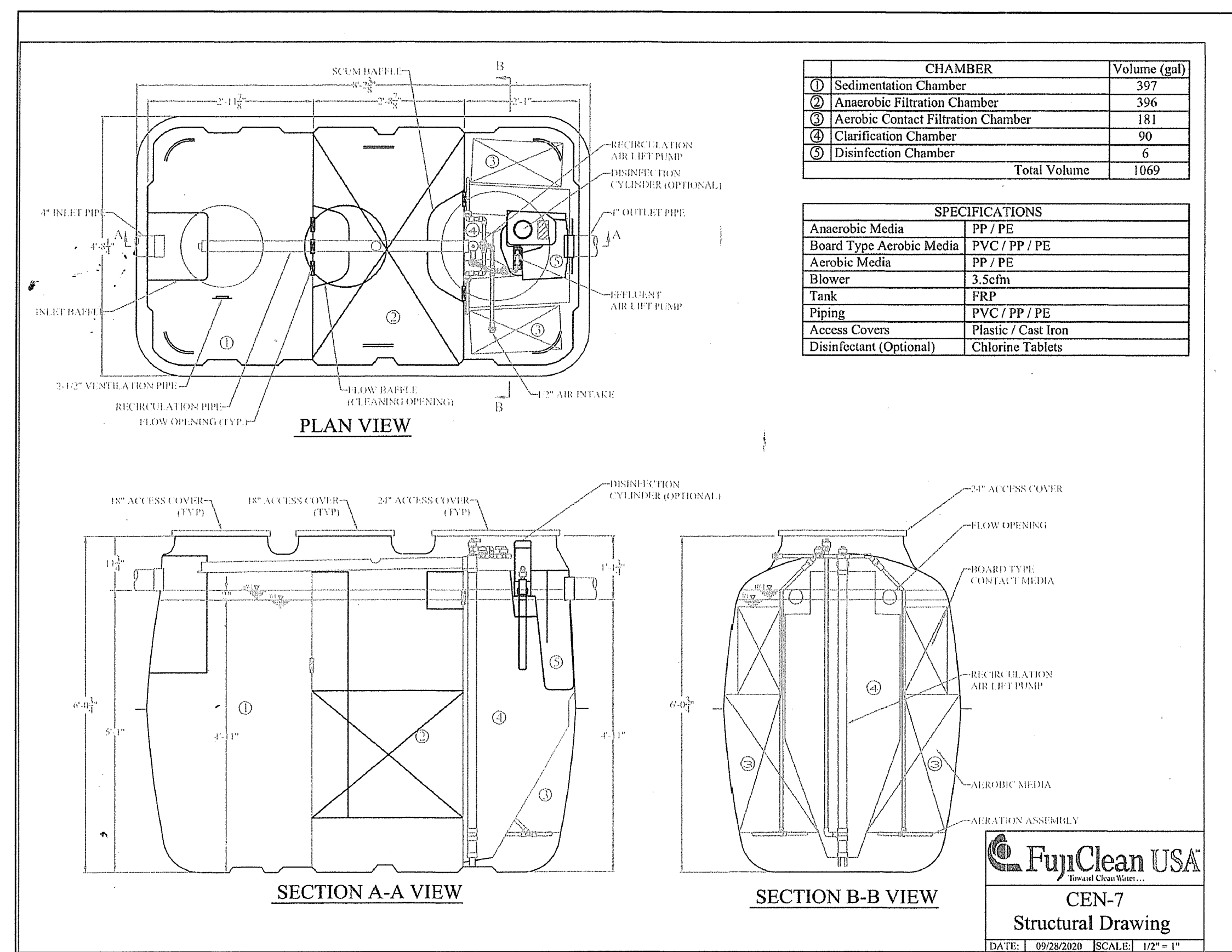
Minimum Flow Rate per Orifice	0.43 gpm
Number of Orifices per Zone	80
Total Actual Flow Rate	35.1 gpm
Number of Lines per Zone	4
% Flow Differential 1st and Last Orifice	5.5 %
Lift to Manifold	5 feet
Residual Head at Last Orifice	5.0 feet
Head Loss in Perforated Laterals	0.7 feet
Head Loss in Non-Perforated Laterals	0 feet
Head Loss Through Distributing Valve	0.0 feet
Head Loss in Manifold	0.2 feet
Head Loss in Transport Pipe	6.4 feet
Head Loss Through Discharge	3.7 feet
Head Loss Through Flow Meter	0.0 feet
Total Flow Rate	35.1 gpm
TDH	20.9 feet



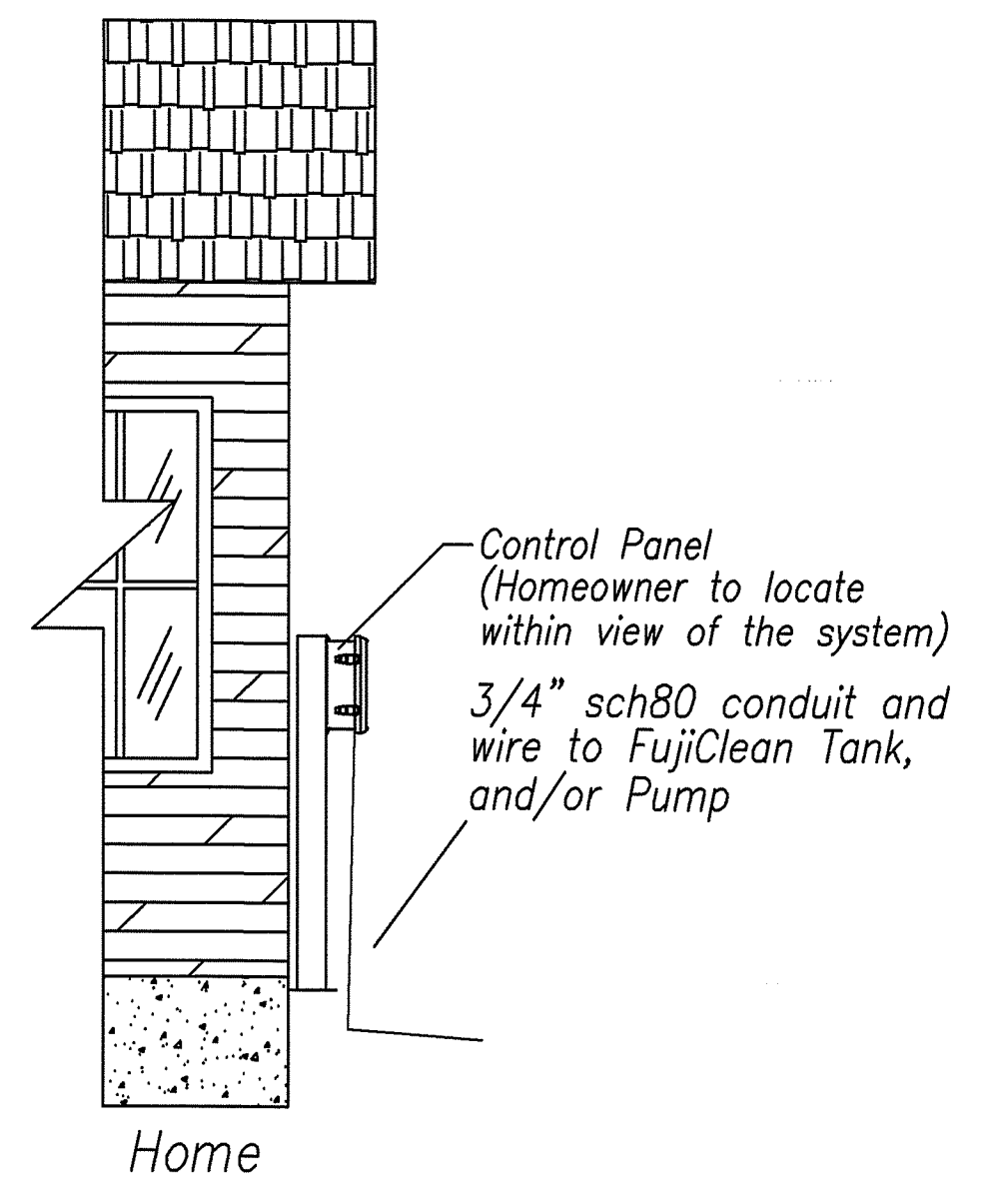
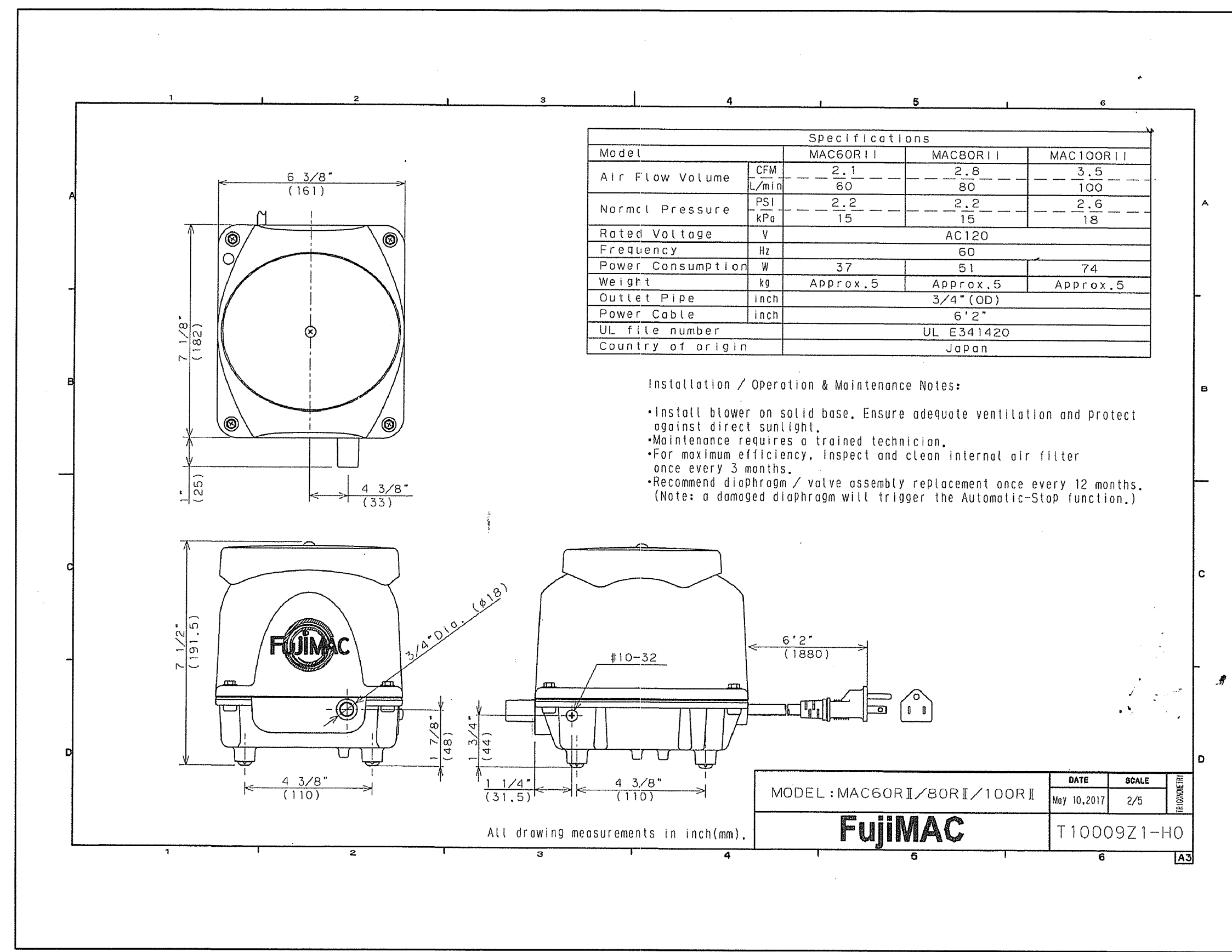
GEOMATRIX

114 Mill Rock Road East
 Old Saybrook, CT 06475
 Ph: 860-510-0739
 Fax: 860-510-0735
 www.geomatrixsystems.com

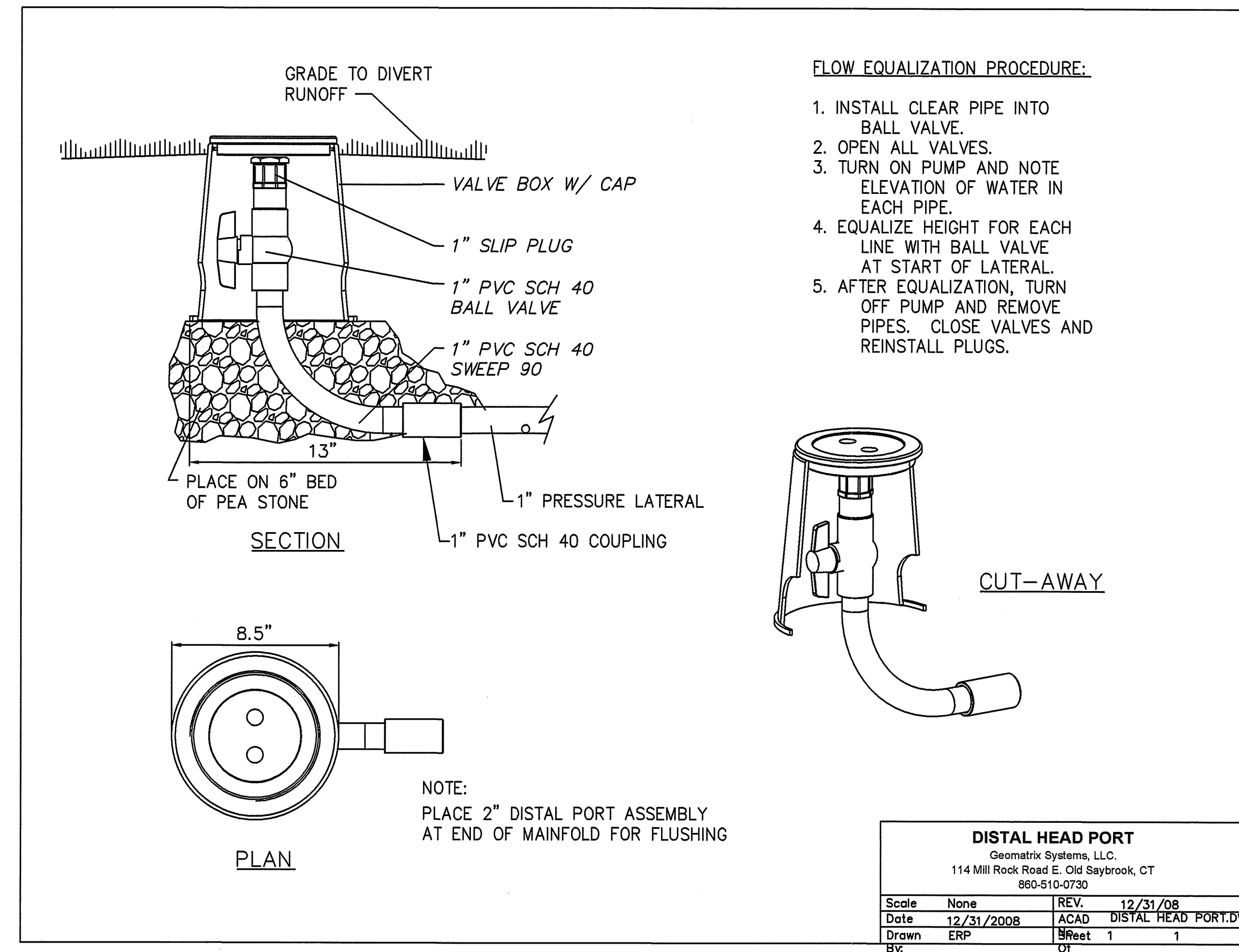
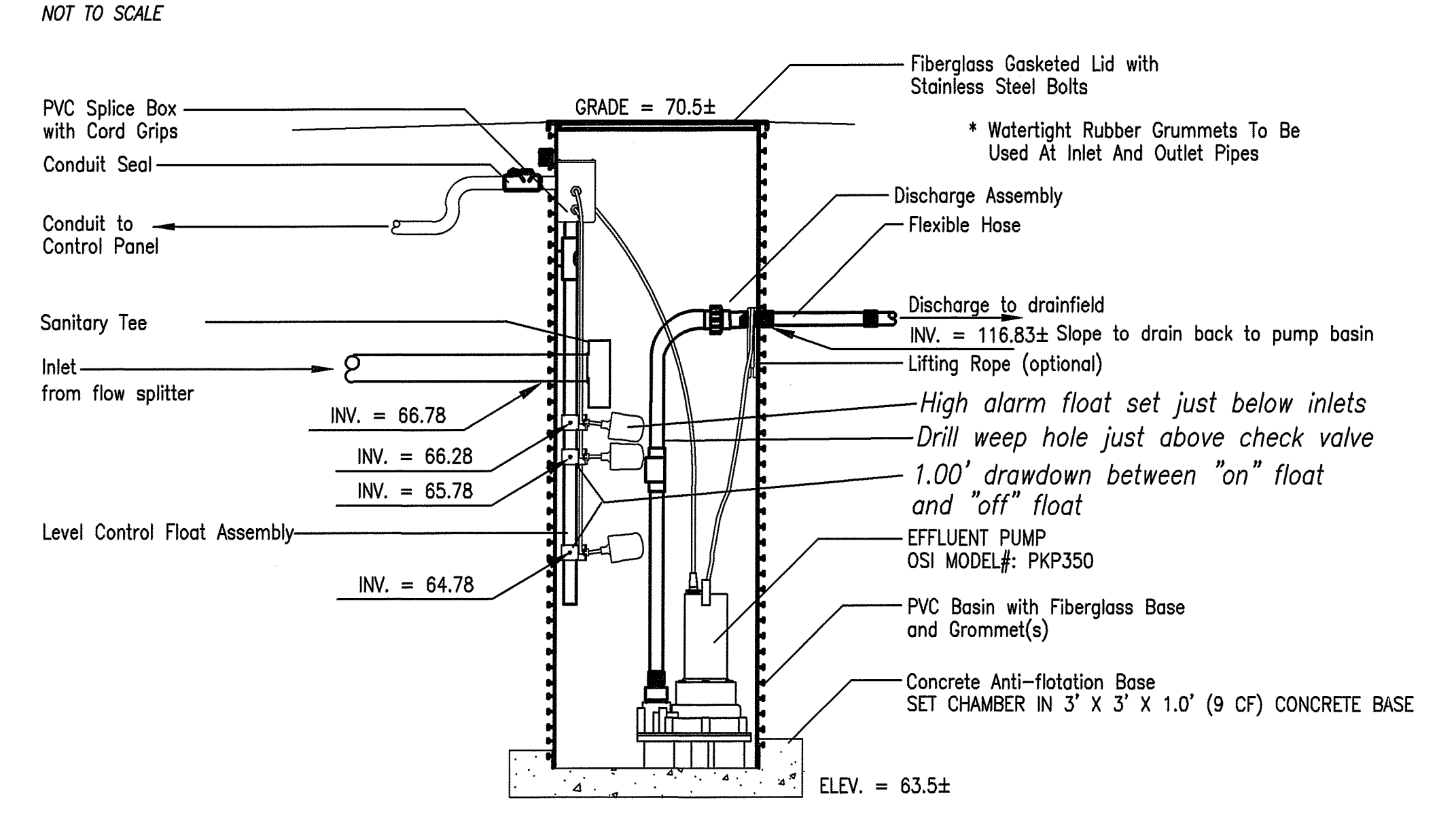
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	PROJECT: A.P. 19 LOT 43 OFF COAST GUARD ROAD NEW SHOREHAM, RHODE ISLAND	DATE: 5/13/2021
CLIENT: JAMES SOCAS GARY C. LAMOND, PE, LLC 194 HATCHERY ROAD NORTH KINGSTOWN, RI 02852	2/4	REV: 05/27/2021
DRN BY: GCL ESDN BY: GCL SCALE: AS SHOWN	CHD BY: GCL APP BY: GCL	



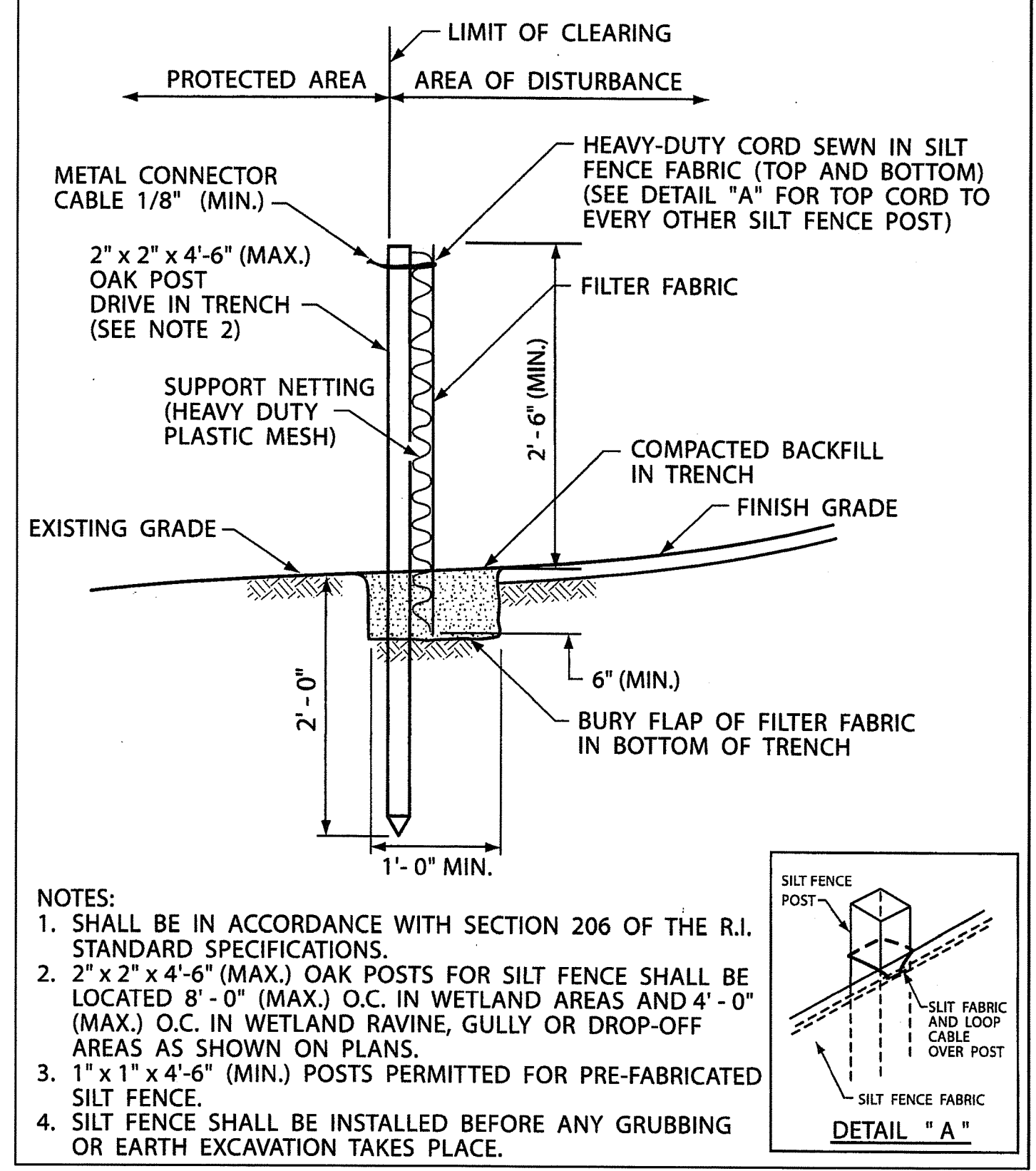
FUJICLEAN CEN-7



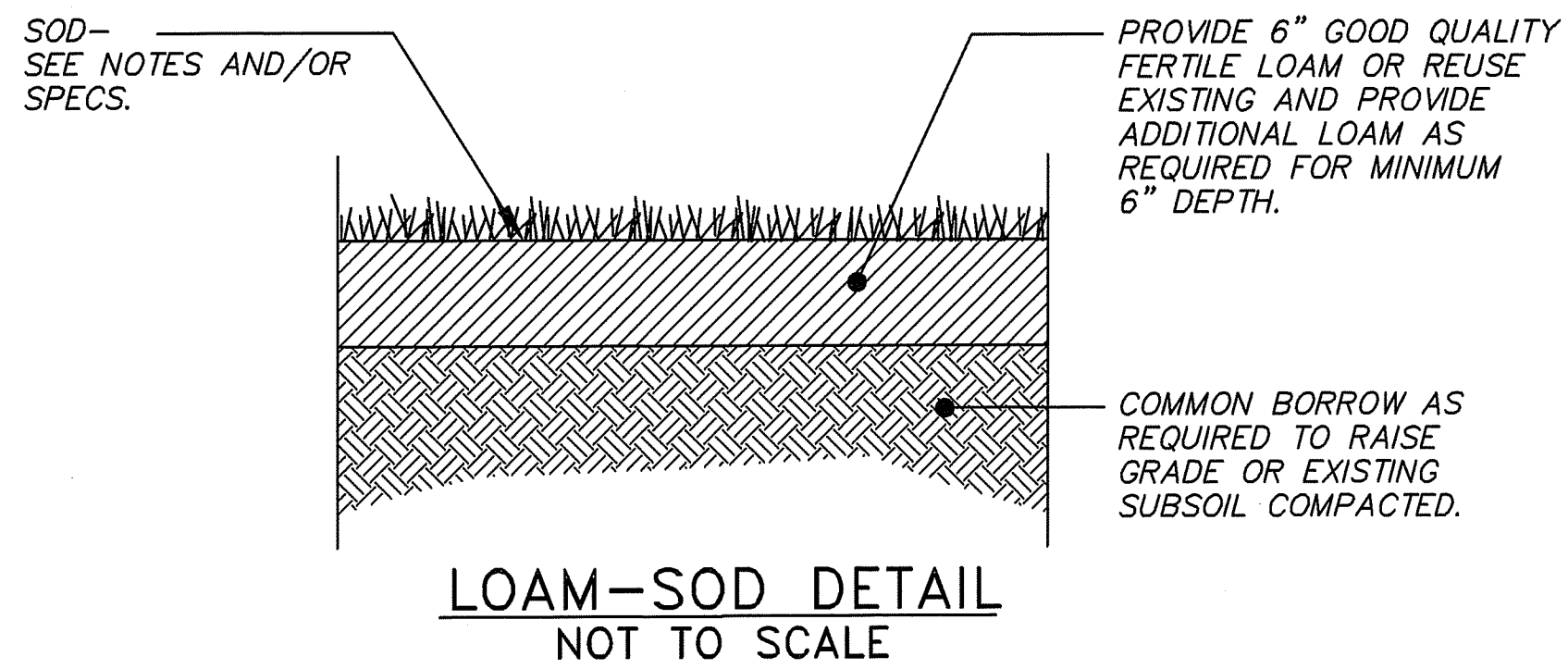
24" Diameter Drainfield Pump Basin with Effluent Pumping Assembly



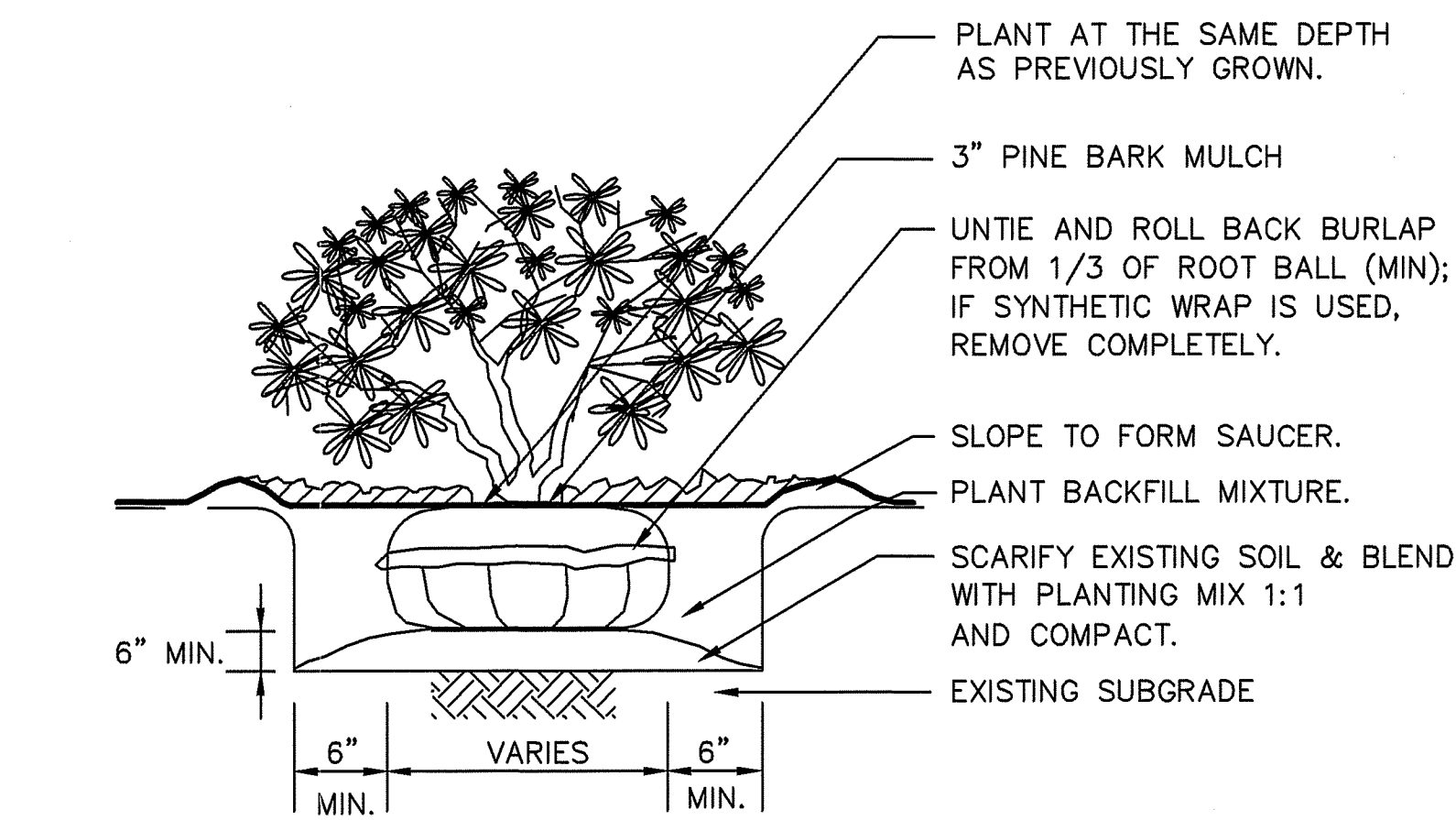
Installation of Silt Fence



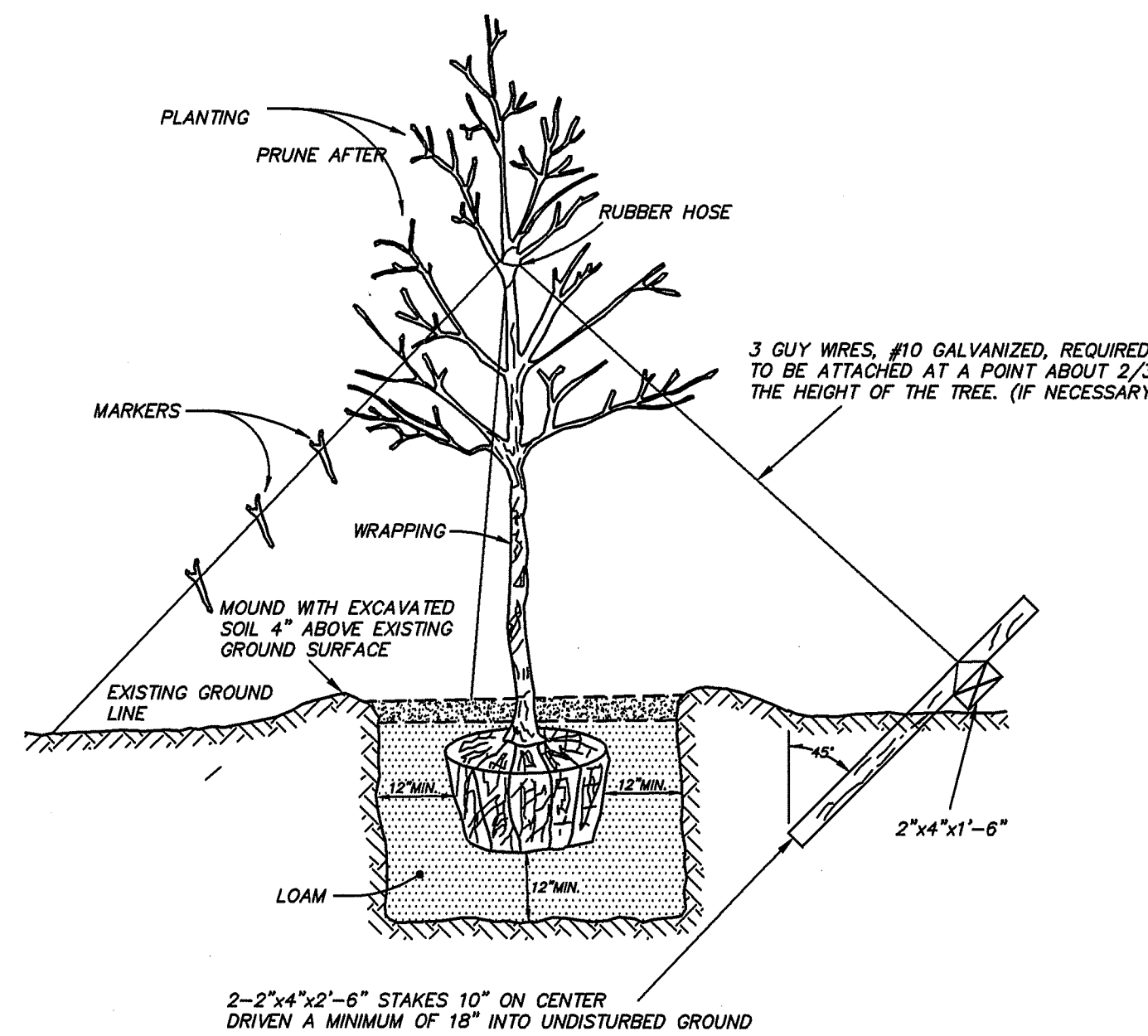
	TITLE: OWTS DESIGN PLAN	PROJ. NO: 2021025
	PROJECT: A.P. 19 LOT 43 OFF COAST GUARD ROAD NEW SHOREHAM, RHODE ISLAND	DATE: 5/13/2021
CLIENT: JAMES SOCAS	GARY C. LAMOND, PE, LLC	3/4
SCALE: AS SHOWN	194 HATCHERY ROAD NORTH KINGSTOWN, RI 02882	REV: 05/27/2021



LOAM-SOD DETAIL
NOT TO SCALE



TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE



TYPICAL TREE PLANTING DETAIL
NOT TO SCALE

EROSION CONTROL PROGRAM

PRIOR TO START OF CONSTRUCTION, HAYBALES, SILT FENCES AND ALL OTHER SPECIFIED EROSION CONTROL FENCES SHALL BE IN PLACE.
CRITICAL AREAS SUCH AS WETLAND AREAS, SLOPES AND STREAMS SHALL BE PROTECTED AS PER PLAN AND, IN THE PRESENCE OF WETLANDS, THE CONDITIONS OF ANY ISSUED PERMIT SHALL BE ADHERED TO.
THE CONTRACTOR SHALL BE REQUIRED TO ESTABLISH AND FULLY MAINTAIN ALL REQUIRED EROSION AND SEDIMENTATION CONTROLS.

SEDIMENTATION CONTROL PROGRAM

ALL EXPOSED SLOPES, INCLUDING STOCKPILES OF MATERIAL, SHALL RECEIVE TEMPORARY SEDIMENTATION AND EROSION CONTROLS. THIS WILL INCLUDE LOAMING AND SEEDING, MULCHING, HAYMATS, ETC., TO STABILIZE THE AREA.
ALL DRAINAGE STRUCTURES SHALL BE SURROUNDED BY HAYBALES TO PREVENT INFILTRATION OF SEDIMENTS.
DRYWELLS, GALLEYS, RAIN GARDENS, AND OTHER LEACHING FACILITIES SHALL BE THOROUGHLY PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION. IF SEDIMENTS ENTER FACILITIES DURING CONSTRUCTION, THE STRUCTURES SHALL BE CLEARED AND, IF NECESSARY, REMOVED AND REINSTALLED WITH ALL EXPENSE TO BE BORNE BY CONTRACTOR.
SHOULD SEDIMENTS ENTER A CRITICAL AREA, (WETLAND, BUFFER ZONE, ABUTTING PROPERTY) THE CONTRACTOR SHALL IMMEDIATELY CLEAN AND RESTORE THE EFFECTED AREA.

SLOPE PROTECTION TO BE INSTALLED ON ANY DISTURBED AREAS SUBJECT TO EROSION.

EXTREME CARE SHALL BE TAKEN TO PREVENT SEDIMENT OR UNSUITABLE MATERIAL FROM ENTERING WETLANDS, ROADWAYS AND/OR DRAINAGE STRUCTURES.

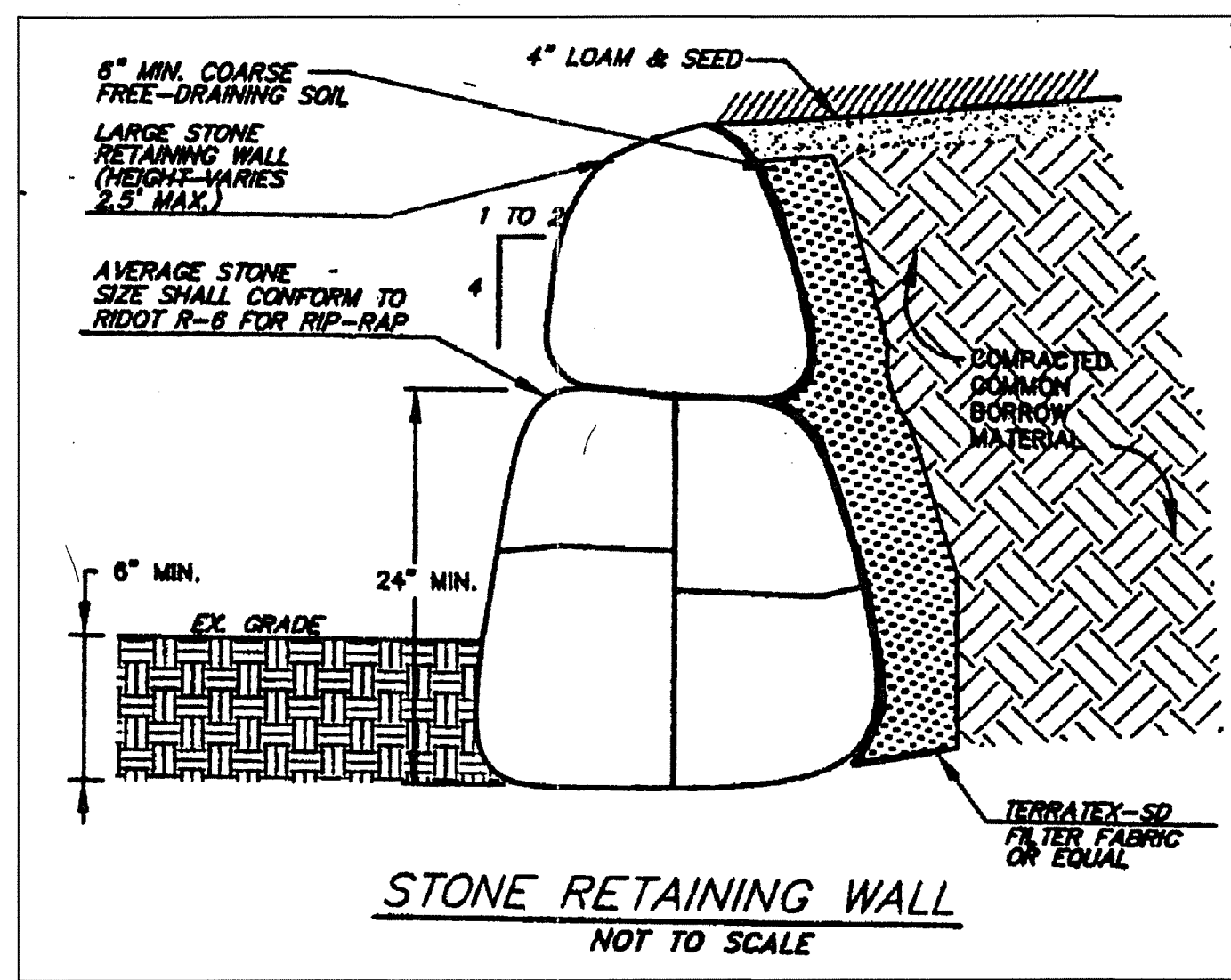
THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES PROMPTLY AFTER EACH RAINFALL AND TO ENSURE THAT RUNOFF FLOW PATTERNS ARE NOT INHIBITED DURING RAINFALL AND/OR SNOWMELT.

REMOVED SEDIMENTS SHALL NOT BE STOCKPILED IN AREAS WHERE POTENTIAL EXISTS FOR TRANSPORT OF THESE SEDIMENTS VIA STORM FLOW TO WETLANDS OR OTHER UNDESIRABLE LOCATIONS.

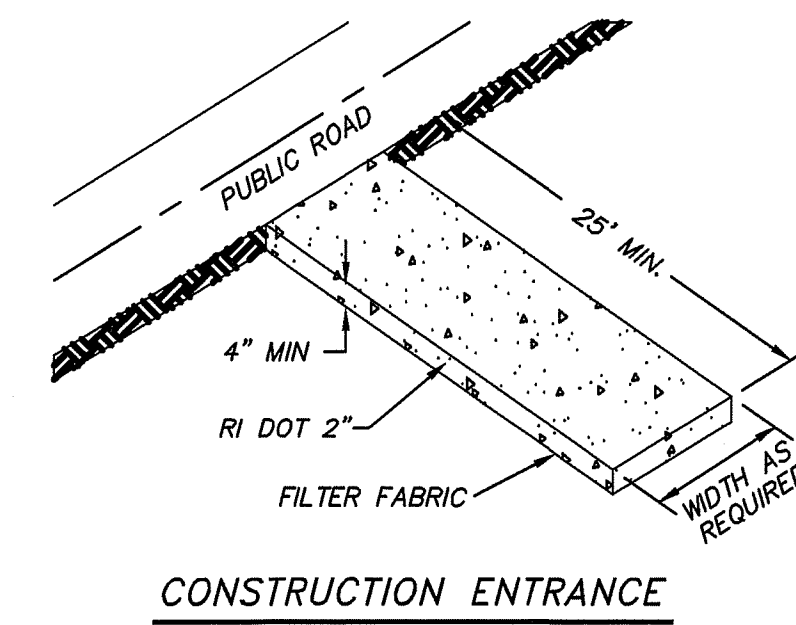
SILT FENCE SHALL BE PLACED AS DESIGNATED ON PLAN AS WELL AS ANY AREAS WHERE CONDITIONS WARRANT DURING CONSTRUCTION.

ACCUMULATED SEDIMENTS SHALL BE REMOVED AS DIRECTED BY THE OWNER, ENGINEER, BIOLOGIST, APPLICANT, LOCAL OR STATE OFFICIALS.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION ENTRANCE. AT A MINIMUM THE ENTRANCE SHALL BE SWEEPED FREE OF SEDIMENT AND DEBRIS AT THE END OF EACH WORK DAY.



STONE RETAINING WALL
NOT TO SCALE



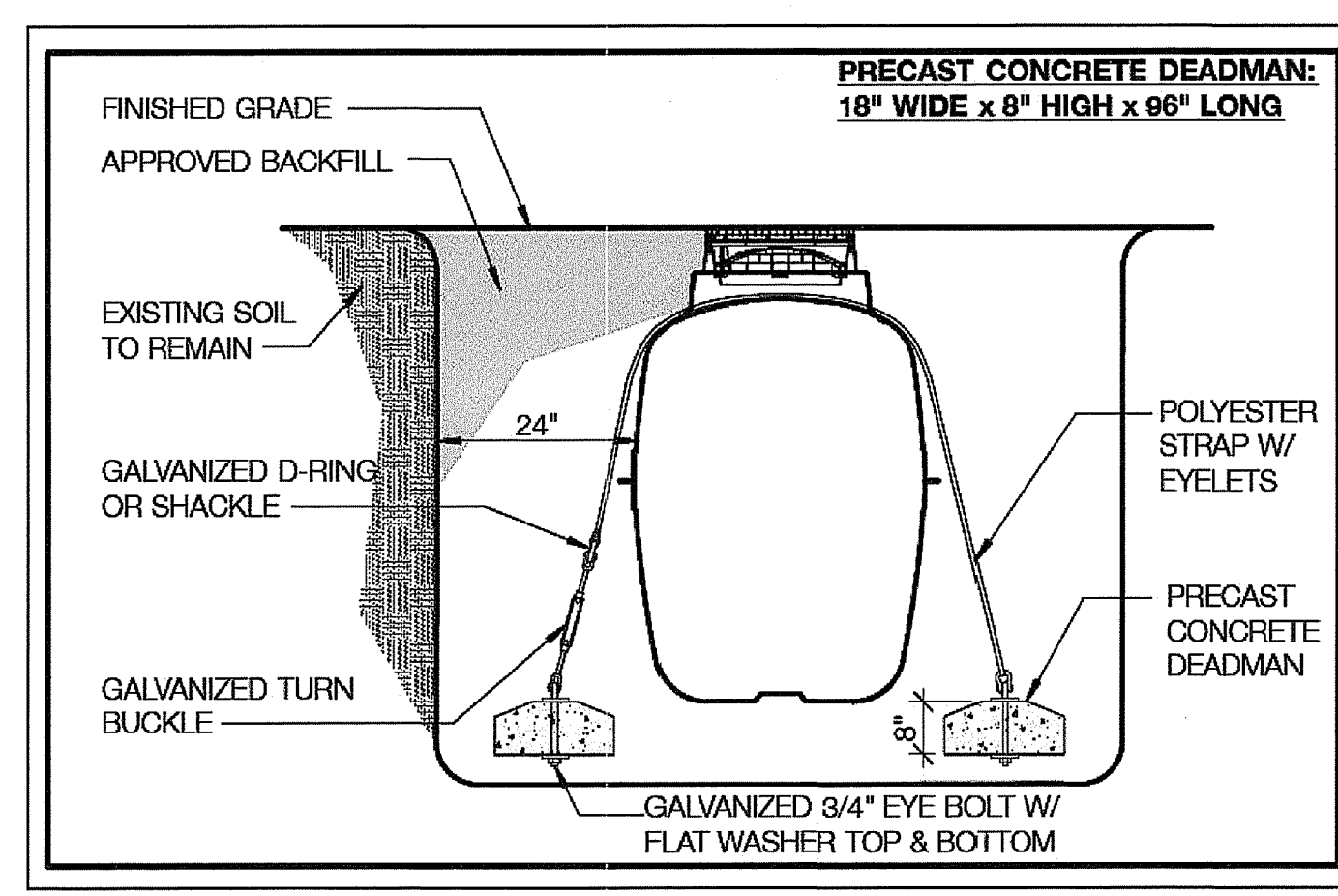
CONSTRUCTION ENTRANCE

MATERIALS SIZE			
SQUARE MESH SIEVES (INCHES)	RI DOT 2" CRUSHED STONE OR GRAVEL % FINER	ASTM C-33 NO. 2 % FINER	ASTM C-33 NO. 3 % FINER
2-1/2	100	90-100	100
2	95-100	35-70	90-100
1-1/2	30-55	0-15	35-70
1-1/4	0-25	0-25	—
1	0-5	—	0-15
3/4	—	0-5	—
1/2	—	—	0-5
3/8	—	—	—

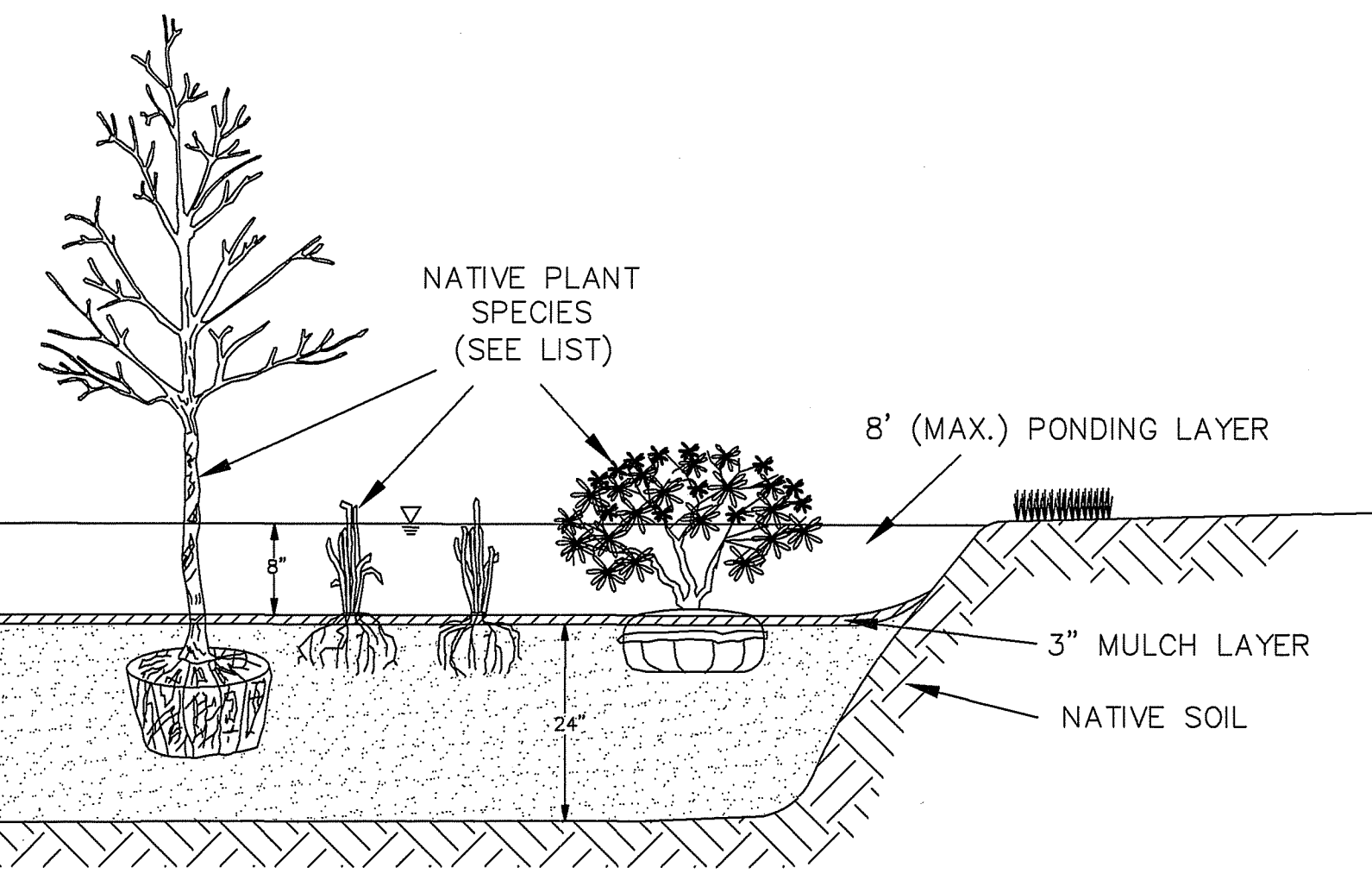
INSTALLATION REQUIREMENTS
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. A STABILIZATION FILTER CLOTH CAN BE PLACED ON THE SUBGRADE PRIOR TO THE GRAVEL PLACEMENT TO PREVENT PUMPING. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



PRECAST CONCRETE DEADMAN:
18" WIDE x 8" HIGH x 96" LONG



RAIN GARDEN AREA-TYPICAL CROSS-SECTION
NOT TO SCALE

SOIL STABILIZATION & PLANTING PROGRAM

ACCEPTABLE PLANTING MATERIALS:
LOAM - THE MATERIAL TO BE FURNISHED SHALL CONSIST OF LOOSE, FRIABLE, SANDY LOAM OR LOAM TOPSOIL FREE OF A MIXTURE OF SUBSOIL, REFUSE, STUMPS, ROOTS, ROCKS, BRUSH, WEEDS AND OTHER MATERIAL WHICH WILL PREVENT THE FORMATION OF A SUITABLE SEED BED.

SEED MIXTURES - ALL LEGUME SEED SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING WITH THE APPROPRIATE INOCULUM FOR EACH VARIETY. ALL INOCULA SHALL BE FRESH AND SHALL BE USED WITHIN THE DATE LIMIT PRESCRIBED BY THE MANUFACTURER.

FOR RELATIVELY FLAT SLOPES:
MIX
RED FESCUE - CHEWING'S PENNLAWN OR CREEPING 70
KENTUCKY BLUEGRASS 15
COLONIAL BENTGRASS - ASTORIA OR EXETER 5
PERENNIAL RYEGRASS 10
- SEEDING RATE = 100 LBS. PER ACRE

FOR STEEP SLOPES 3:1 OR GREATER
MIX
RED FESCUE - PENNLAWN OR CREEPING 75
PERENNIAL RYEGRASS 5
COLONIAL BENTGRASS - ASTORIA OR EXETER 5
BIRDSFOOT TREFLOIL - EMPIRE 15
- SEEDING RATE: 100 LBS. PER ACRE

THE ACCEPTED PLANTING SEASON SHALL BE BETWEEN APRIL 1ST AND OCTOBER 15TH. CONTRACTOR SHOULD COORDINATE ON ALL DISTURBED AREAS. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF FOUR (4) INCHES OF LOAM ON AREAS UP TO 10% IN GRADE. ALL AREAS OVER 10% SHALL RECEIVE A MINIMUM OF SIX (6) INCHES.

SUGGESTED RAIN GARDEN AREA PLANT LIST

SPECIES	COMMON NAME	PLANT TYPE
Amelanchier arborea	SERVICEBERRY	TREE
Amelanchier canadensis	SHADBUSH	SHRUB
Amelanchier laevis	ALLEGHENY SERVICEBERRY	TREE
Arctostaphylos uva-ursi	BEARBERRY	SHRUB
Asclepias tuberosa	BUTTERFLY MILKWEEED	PERENNIAL
Carex stricta	TUSsock SEDGE	GRASS
Clethra alnifolia	SWEET PEPPERBUSH	SHRUB
Comptonia peregrina	SWEET FERN	SHRUB
Cornus amomum	SILKY DOGWOOD	SHRUB
Cornus racemosa	GRAY DOGWOOD	SHRUB
Cornus sericea	REDOSIER DOGWOOD	SHRUB
Eupatorium purpureum	JOE PYE WEED	PERENNIAL
Ilex glabra	INKBERRY HOLLY	SHRUB
Ilex opaca	AMERICAN HOLLY	TREE
Ilex verticillata	WINTERBERRY HOLLY	SHRUB
Morella (Myrica) pensylvanica	BAYBERRY	SHRUB
Panicum virgatum	SWITHGRASS	GRASS
Photinia melanocarpa	BLACK CHOKEBERRY	SHRUB
Photinia pyrifolia	RED CHOKEBERRY	SHRUB
Symphytotrichum novae-angliae	NEW ENGLAND ASTER	PERENNIAL
Vaccinium corymbosum	HIGHBUSH BLUEBERRY	SHRUB
Vernonia noveboracensis	NEW YORK IRONWEED	PERENNIAL
Viburnum dentatum	ARROWOOD	SHRUB

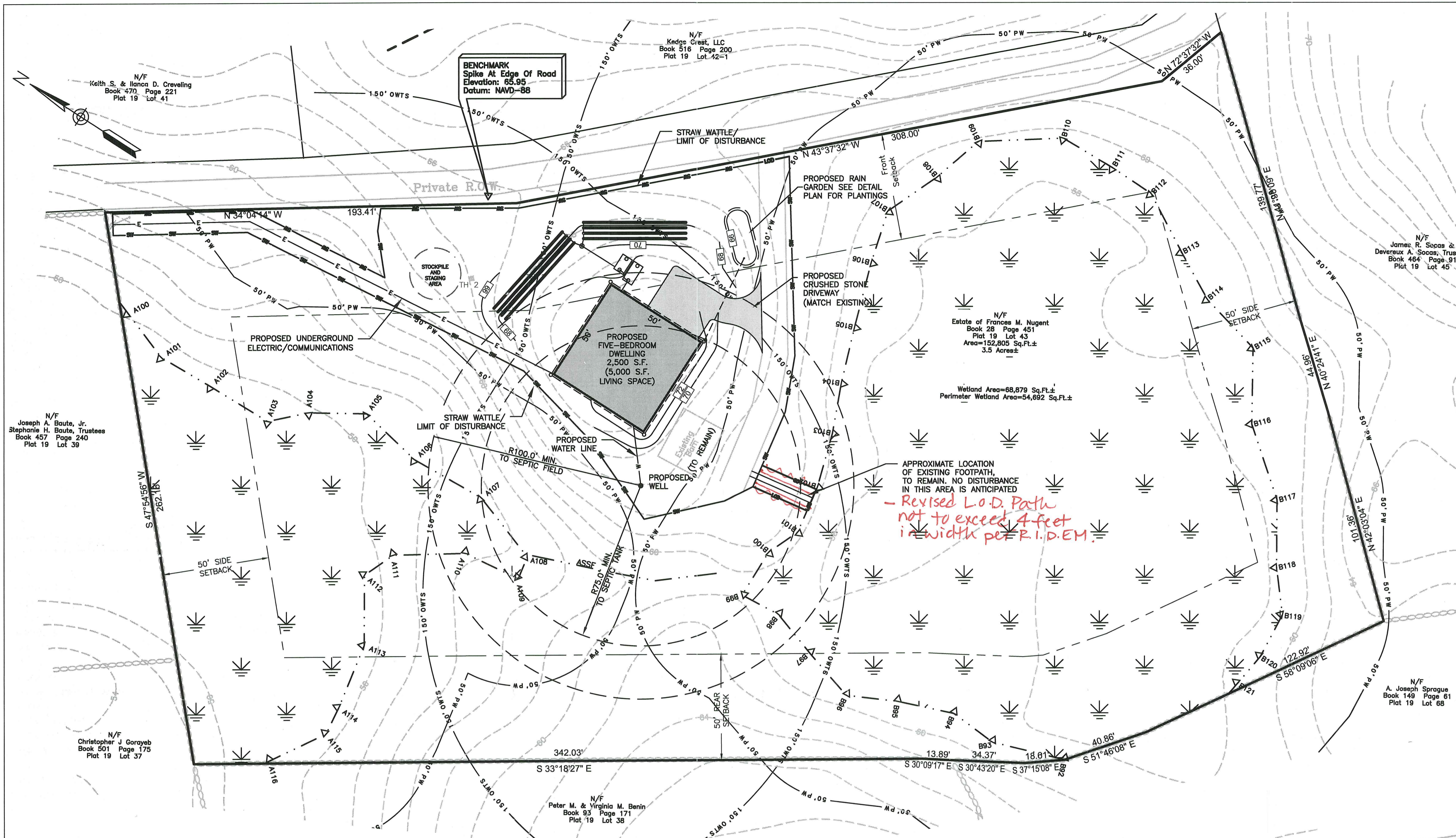
PLANT SPECIES WERE SELECTED FROM THE RHODE ISLAND COASTAL PLANT GUIDE PREPARED BY THE URI CELS AND RI CRMC. ONLY THOSE NATIVE PLANTS THAT ARE SUITABLE FOR RAIN GARDENS AND ARE TOLERANT OF FULL SUN AND DROUGHT ARE SHOWN HERE.

TREES SHALL BE PLANTED WITH A DENSITY OF NO MORE THAN ONE PER 250 SF, SPACED 15 FT ON CENTER. SHRUBS SHALL BE PLANTED 5-10 FT ON CENTER AND HERBACEOUS VEGETATION PLANTED 2.5 FT ON-CENTER.

NOTE: RAIN GARDEN AREA LOCATED AT LEAST 15 FT FROM OWTS AND 25 FT FROM ANY WELL OR WATER SUPPLY.

ROOF GUTTER DOWNSPOUTS SHALL DIRECT WATER TO BIORETENTION VIA UNDERGROUND PIPING OR OVERLAND WHERE UNDERGROUND PIPING IS UNFEASIBLE OR NOT PERMISSIBLE.

	TITLE: OWTS DESIGN PLAN	PROJ. No: 2021025
	PROJECT: A.P. 19 LOT 43 OFF COAST GUARD ROAD NEW SHOREHAM, RHODE ISLAND	DATE: 5/13/2021
	CLIENT: JAMES SOCAS	4/4
	GARY C. LAMOND, PE, LLC 194 HATCHERY ROAD NORTH KINGSTOWN, RI 02852	REV: 05/27/2021



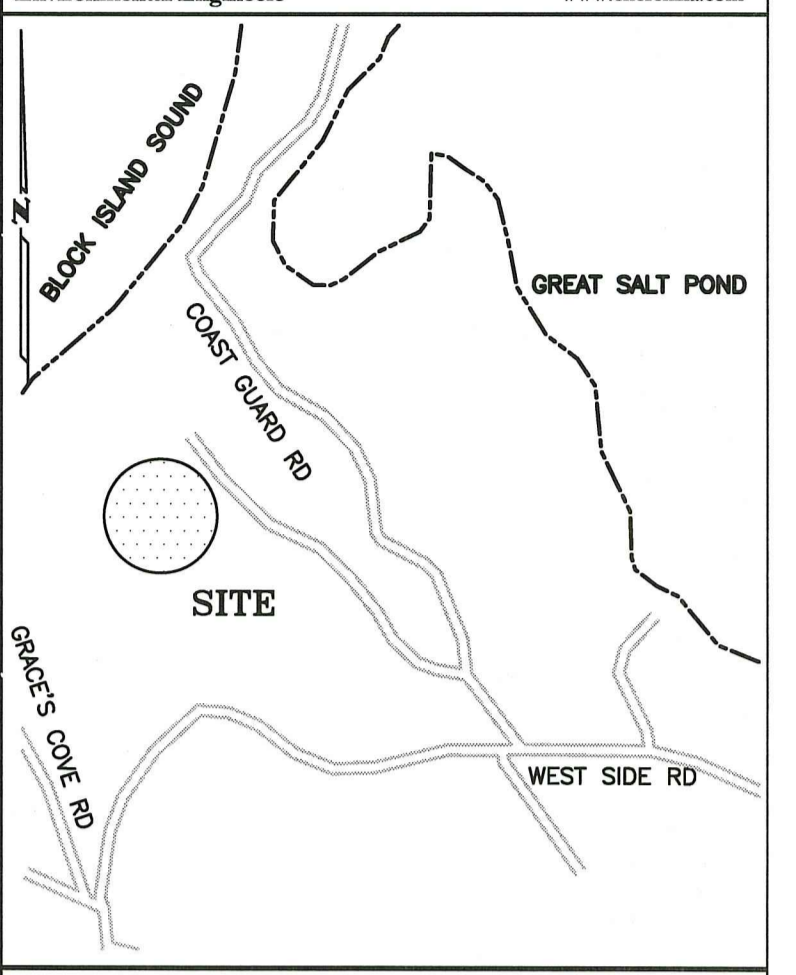
MINIMUM DIMENSIONAL REGULATIONS

ZONING DISTRICT - RA (Residential)	PROPOSED
Min. Lot Area	120,000 S.F. 152,805 S.F.
Min. Lot Frontage	200 Ft. 537.41 Ft.
Max. % Lot Coverage	10% 1.2%
Max. Prin. Building Height	35 Ft. 35 Ft.
Min. Front Yard	50 Ft. 50.0 Ft.
Min. Side Yard	50 Ft. 200.8 Ft.
Min. Rear Yard	50 Ft. 150.7 Ft.
Developable Lot Area	70,000 S.F. 83,925* S.F.

*Wetland buffer not included in calculation.

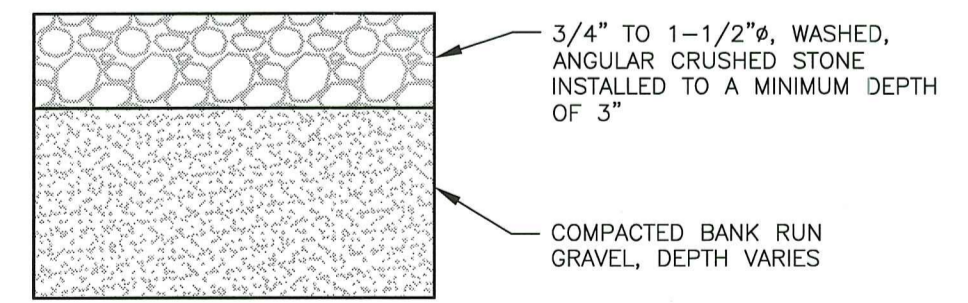
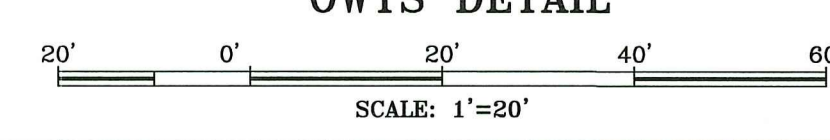
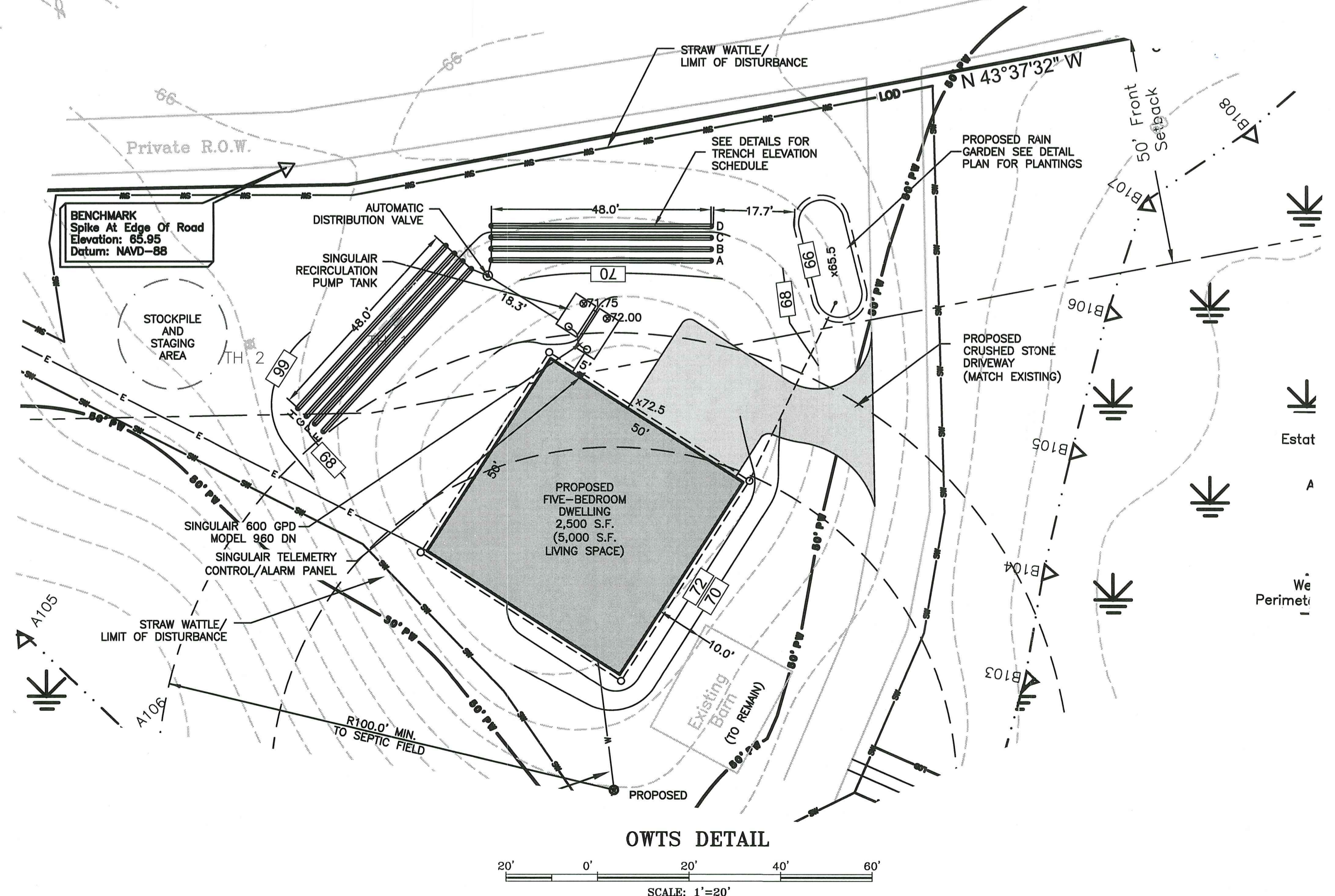
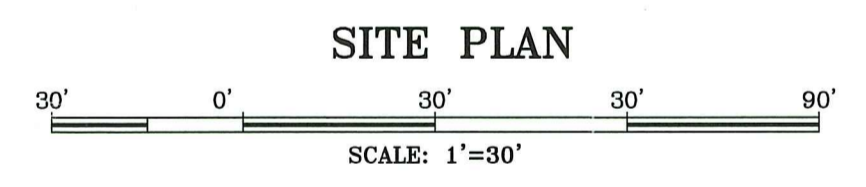
- Survey Notes:
- Reference is made to a plan titled:
 - Comprehensive & Topographic Survey Existing Conditions Plan Property of Estate of Frances M. Nugent Assessor Plat 19, Lot 43 Off Coast Guard Road New Shoreham, Rhode Island April 20, 2017 Scale: 1" = 30' Cherenzia & Assoc., Ltd. Pawcatuck, CT
 - The underlying existing conditions and boundary information shown hereon is based on a field survey conducted by Cherenzia & Associates in March and June of 2017. Please see reference note 1. A.)
 - Bearings and north arrow orientation are referenced to the Rhode Island State Plane Grid - NAD-83 based upon a GPS observation taken March 2017.
 - The locus parcels lies within an RA Zoning District and is subject to the restrictions thereof.
 - Contours shown are from RIGIS database and are derived from the 2011 LIDAR project, referenced to the NAVD-88 vertical datum.
 - The edge of the freshwater wetlands was delineated with flagging set by Ecotones, Inc. on February 2017 and field located by Cherenzia & Associates, Ltd. in March, 2017.

CHERENZIA & ASSOCIATES, LTD.
 99 Mechanic St. P.O. Box 513
 Pawcatuck, CT 06379 Westerly, RI 02891
 Tel: 860.220.6500 Tel: 401.596.7747
 Fax: 860.599.6090
 Civil Engineers
 Land Surveyors
 Land Use Planners
 Environmental Engineers
 www.cherenzia.com



LOCATION MAP

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 OWTS & FRESHWATER WETLANDS
 JOINT PERMIT APPROVAL
 1722-0310_PWW/18-0109
 APPROVED DATE 7/19/18
 No Changes Allowed Without RIDEM Approval
 Approval/Permit Must Be Kept at Construction Site



NOTES:
 1. THE GRADE OF THE FINISHED DRIVEWAY SHALL NOT BE HIGHER THAN THE ADJACENT GROUND ELEVATION.
 2. CRUSHED STONE SHALL BE REPLACED OR RE-GRADED AS NECESSARY TO MAINTAIN A MINIMUM 3 INCH DEPTH OF STONE AND A LEVEL SURFACE.
 3. STRUCTURAL STRENGTH OF THE DRIVE HAS NOT BEEN DESIGNED. STRUCTURAL STRENGTH OF THE DRIVE TO SUPPORT VEHICLES SHALL BE VERIFIED BY OTHERS.

CRUSHED STONE DRIVEWAY
 NTS CA-20-027

LEGEND

DESCRIPTION	EXISTING	PROPOSED
UTILITY SERVICE	—	—
WETLAND FLAG	WF A-102	—
NOW OR FORMERLY	N/F	—
STONEWALL	—	—
CONTOURS	—	—
SPOT GRADE	+ 200.0	X 200.1
FENCE	—	—
WATERLINE	—	—
PRECAST CONCRETE CURB	PCC	—
BUILDING	—	—
WATER MAIN/SERVICE	—	—
WATER GATE VALVE	—	—
PROPERTY LINE	—	—
TEST HOLE	SE-2	—
DECIDUOUS TREE	—	—
CONIFEROUS TREE	—	—

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/11/18	REVISED PER TOWN COMMENTS	JF	SFC
2	5/30/18	NO CHANGE THIS SHEET	JF	SFC
3	7/13/18	REVISED PER DEM COMMENTS	TMT	SFC

SCALE: 1"=20'
 CA JOB # 217007
 FEBRUARY 21, 2018

DRAWN BY: JF
 CHECK BY: SFC

ISSUED FOR PERMITTING
 JUL 17 2018

OWTS PLAN
 OFF COAST GUARD ROAD
 PLAT 19, LOT 43
 NEW SHOREHAM, RHODE ISLAND

PREPARED FOR
ESTATE OF FRANCES M. NUGENT

SERGIO F. CHERENZIA
 No. 9238
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

C-1

SHEET 1 OF 2
CHERENZIA & ASSOCIATES, LTD.

GENERAL NOTES:

1. THERE ARE NO SUBSURFACE DRAINS, FOUNDATION DRAINS, OR STORM DRAINS EXISTING OR PROPOSED WITHIN 25' UP GRADIENT OR 50' DOWN GRADIENT OF THE PROPOSED OWTS.
2. CLEAR ALL BRUSH AND TREES WITHIN 10' OF OWTS.
3. NO PARKING OVER SYSTEM, UNLESS H20 WHEEL LOAD IS SPECIFIED.
4. ALL SEPTIC TANK FILTERS SHALL BE CLEANED ON A YEARLY BASIS.
5. THE SEPTIC TANK SHALL BE PUMPED OF CONTENTS WHEN THE SLUDGE DEPTH BECOMES GREATER THAN 1/4 THE LIQUID DEPTH. THE TIME BETWEEN PUMPING WILL VARY, BUT IT IS SUGGESTED THAT THE TANK BE PUMPED OF CONTENT AND INSPECTED AT LEAST EVERY TWO YEARS AND MORE FREQUENTLY WHEN EXTENDED PERIODS OF HIGH FLOW RATES ARE EXPERIENCED.
6. CONSTRUCTION SUPERVISION OF THE INSTALLATION OF THIS SEPTIC SYSTEM BY THE SYSTEM DESIGNER IS REQUIRED. CHERENZIA AND ASSOCIATES, LTD. MUST BE CONTACTED 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ASSURE COMPLIANCE WITH RIDEM OWTS REGULATIONS.
7. ANY AREAS CLEARED WITHIN PERIMETER WETLAND BEYOND THE LIMIT OF DISTURBANCE ARE TO CONTINUE TO REVEGETATE TO A NATURAL STATE.

OWTS PLAN REQUIREMENTS:

1. WELL OR DRAINS, EXISTING AND PROPOSED WITHIN 200' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
2. PUBLIC WELLS, EXISTING AND PROPOSED WITHIN 500' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
3. OWTS WITHIN 100' OF ANY PROPOSED WELL ARE SHOWN ON PLAN.
4. A BENCHMARK SHALL BE SET WITHIN 100' OF PROPOSED OWTS.
5. EFFLUENT PIPE SHALL BE CONSTRUCTED OF PVC PIPE SDR 35 MINIMUM OR EQUIVALENT. EFFLUENT PIPE THAT WILL BE SUBJECT TO VEHICULAR TRAFFIC SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC OR EQUIVALENT.
6. MINIMUM ELEVATION OF 66.17/66.67 TO BE MAINTAINED AT LEAST 10' BEYOND SYSTEM.
7. SEPTIC TANK TO HAVE OUTLET TEE AND PROVIDE MANHOLE ACCESS AT GRADE.

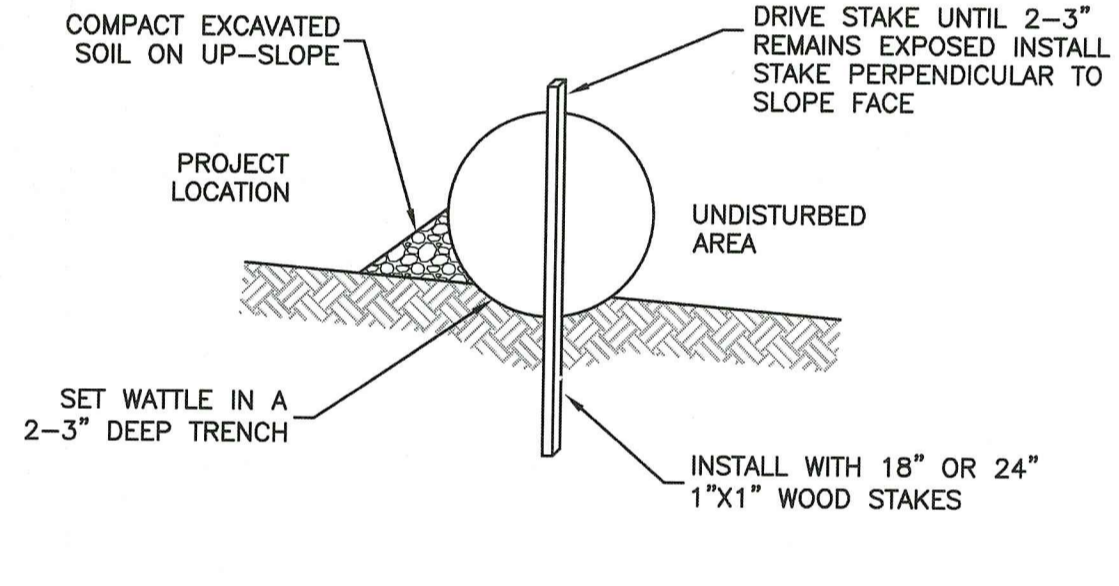
SOIL EROSION & SEDIMENT CONTROL NOTES:

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. FOLLOWING FINAL GRADING, ALL DISTURBED AREAS WILL BE COVERED WITH 4" LOAM AND SEED AS DESCRIBED BELOW. IF ANY SEED AREAS ARE DISTURBED OR DAMAGED, RESEEDING WILL OCCUR AS SOON AS POSSIBLE.

SEED MIXTURE SEEDING RATE

SEED MIXTURE	SEEDING RATE % BY WT.	LBS./AC.
RED FESCUE	75	100
COLONIAL BENTGRASS-EXETER	5	
PERENNIAL RYEGRASS	5	
BIRDSFOOT TREFOIL-EMPIRE	15	

IF FINAL GRADING OCCURS AFTER OCTOBER 15, DISTURBED AREAS WILL BE SEED WITH WINTER RYE-GRASS AND MULCHED WITH HAY OR STRAW AT A RATE OF 1.5-2 TONS PER ACRE. ANY PROPOSED VEGETATION WHICH HAS NOT SURVIVED ONE GROWING SEASON WILL BE REPLACED. UNSUITABLE MATERIAL WILL BE REMOVED FROM THE SITE AND DEPOSITED IN A SUITABLE LOCATION.



STRAW WATTLE DETAIL

NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT THE SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UP HILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" STAKES EVERY 4-5' WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLES LEAVING AT LEAST 2-3" OF STAKE EXTENDING ABOVE. THE WATTLE STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

DESIGN CALCULATIONS:

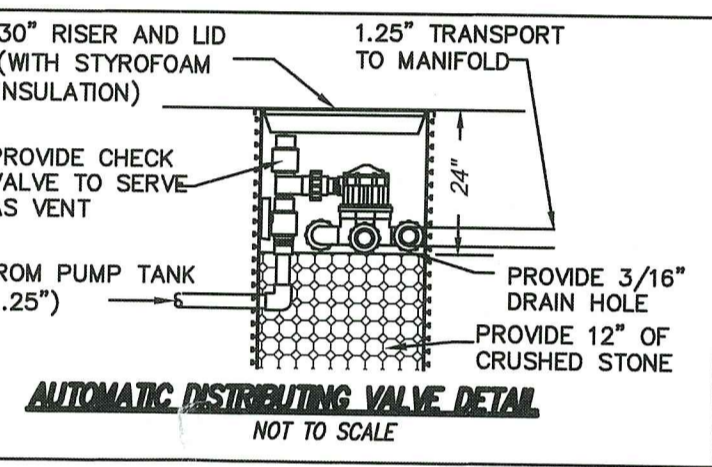
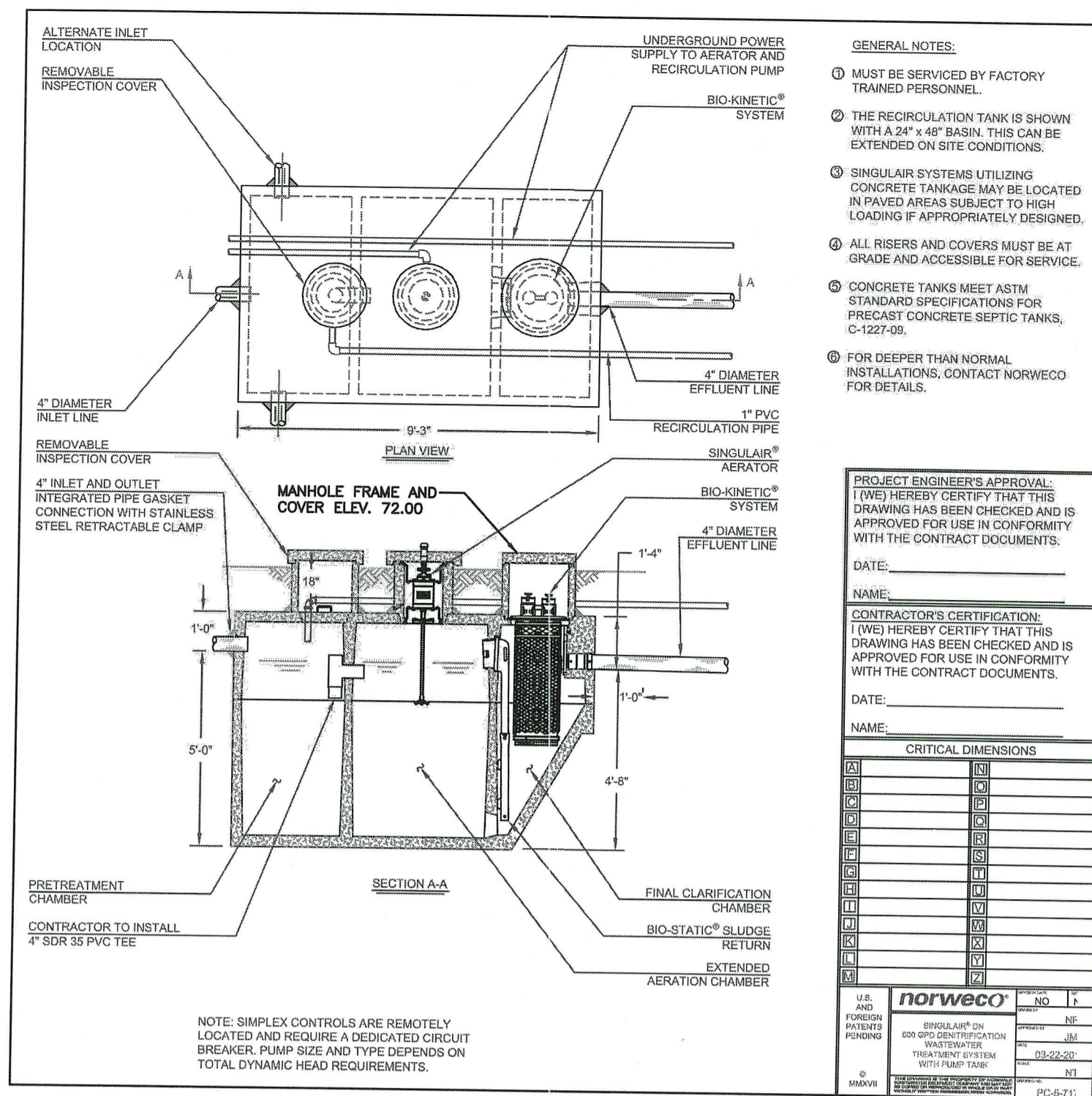
115 GALLONS PER DAY DESIGN FLOW X 5 BEDROOMS = 575 GALLONS PER DAY
LOADING RATE: 1.5 GAL./S.F./DAY, SOIL CATEGORY 1 FOR A CATEGORY II SYSTEM.
575 GALLONS PER DAY/1.5 GAL. PER SF PER DAY = 383.3 SF REQUIRED.
FOR PSND-ONE LINEAR FOOT = ONE SQUARE FOOT.
383.3 LINEAR FEET REQUIRED.

TOTAL LEACHING AREA = 384 S.F. PROVIDED

8 ROWS OF 48' PSND = 384 LINEAR FEET

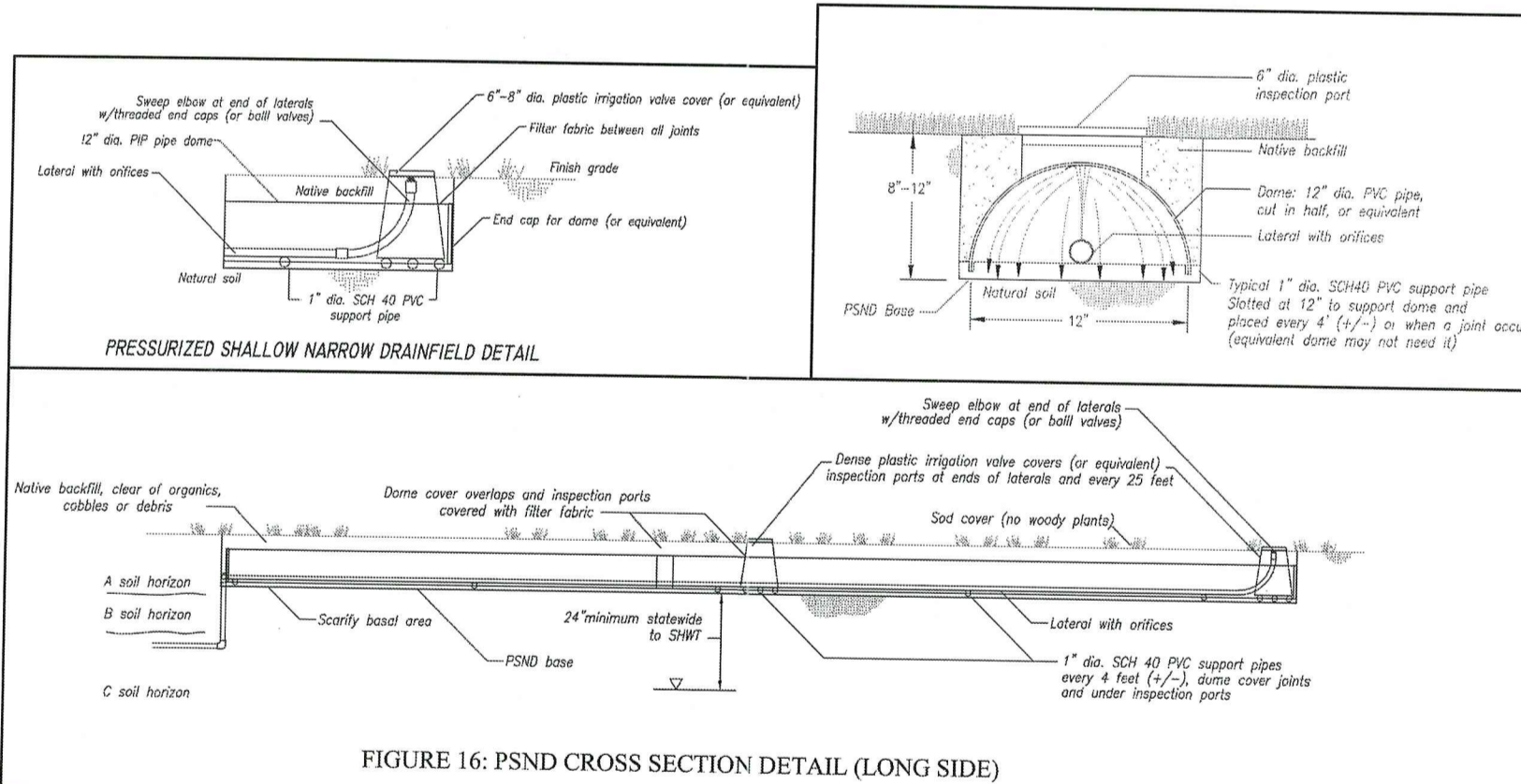
PUMP CALCULATIONS:

1. DESIGN FLOW FROM PUMP CHAMBER TO 'PSND' IS 11.97 GALLONS EACH DOSE (575 GAL/48 DOSES=11.97 GAL/DOSE).
2. 1,000 GAL PUMP CHAMBER=38.13 SQ. FT. X 1 FT.= 38.13 CU. FT. X 7.48 GAL/CU. FT.= 285.21 GAL/FT. IN PUMP CHAMBER. PUMP CHAMBER TO BE TIMED DOSED TO PSND AT A RATE OF 13.9 GPM. PUMP IS ON FOR 0.86 MINUTES AND OFF FOR 59.14 MINUTES.
3. 11.97 GAL/92 ORIFICES (EACH ZONE, 184 TOTAL) =0.13 GAL PER ORIFICE.
4. ALL PUMPS SHALL BE EQUIPPED WITH A HIGH WATER LEVEL VISIBLE AND AUDIBLE ALARM POWERED BY A CIRCUIT SEPARATE FROM THE PUMP POWER. THE ALARM SHALL BE LOCATED IN A NORMALLY OCCUPIED AREA OF THE FACILITY.
5. DISCHARGE ASSEMBLY DRAWN TO SHOW KEY COMPONENTS - ALL PIPING AND FITTINGS SHALL BE INSTALLED TO ENSURE DRAIN-BACK INTO THE PUMP BASIN TO AVOID FREEZING OF SHALLOW BURY DISCHARGE PIPING (WHERE APPLICABLE).



INVERT ELEVATIONS

BUILDING INVERT	= 68.70
SINGULAR TANK (IN)	= 68.60
SINGULAR TANK (OUT)	= 68.35
SINGULAR RECIRCULATING PUMP TANK (IN)	= 68.25
SINGULAR RECIRCULATING PUMP TANK (OUT)	= 68.52



SOIL NOTES:

APPLICATION #1722-0340
AUGUST 14, 2017
TEST HOLE #1 (ELEV. 64.00) TEST HOLE #2 (ELEV. 68.18)
DEPTH TO GWT = 84" DEPTH TO GWT = 84"
GROUNDWATER ELEV. = 57.00 GROUNDWATER ELEV. = 61.18

TH	Horizon	Depth	Horizon Boundaries		Soil Colors	Re-Des. Description	Texture	Structure	Consistence	Soil Category
			Dist	Topo						
Ap	a	0-7	s	s	10YR 3/3	sl	1stk.f	fr	3	
		7-28	c	s	10YR 4/6	sl	1stk.f	fr	3	
		28-32	a	s	2.5Y 5/4	sl	1stk.f	fr	3	
C	c	32-108			10YR 5/4	gcos	O-sg	loose	1m	
		Ap	0-8	a	s	10YR 3/3	sl	1stk.f	fr	3
		Bw1	8-16	a	w	10YR 4/6	sl	1stk.f	fr	3
Bw2	a	18-32	s	s	2.5Y 5/4	sl	1stk.f	fr	3	
		32-108			10YR 5/4	gcos	O-sg	loose	1m	

RAIN GARDEN NOTES:

1. RAIN GARDENS WERE SIZED BASED ON THE FOLLOWING HOUSE ROOF AREA = 2,500 SF
2. WATER QUALITY VOLUME IS BASED ON THE FIRST ONE INCH OF RAIN. 2,500 X 0.083 = 207.5 CU FT REQUIRED
3. RAIN GARDEN TOTAL VOLUME PROVIDED IS 310.9 SF (207.5 CF / 8" DEEP = 309.7 SF REQUIRED) WITH A THREE TO ONE BANK AND A TOTAL DEPTH OF 8 INCHES.
4. ALL ROOF LEADERS TO DISCHARGE TOWARDS THE WEST SIDE OF HOUSE. CONTRACTOR TO DETERMINE INVERTS TO MEET DISCHARGE ELEVATION OF 65.5 IN RAIN GARDEN.
5. ROOF RUNOFF TO BE DISCHARGED INTO RAIN GARDEN.

RAIN GARDEN CONSTRUCTION:

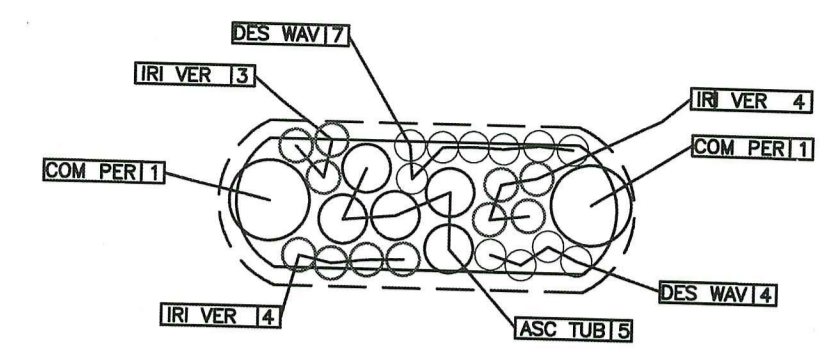
1. A CRUSHED STONE ENTRANCE SHOULD BE INSTALLED AT THE INFLOW TO PREVENT CHANNELING.
2. A BERM TO DETAIN STORMWATER SHOULD BE CONSTRUCTED ALONG THE DOWNHILL SIDE OF THE RAIN GARDEN, PERPENDICULAR TO THE SLOPE OF THE LAWN.
3. BE SURE THAT THE SOIL WITHIN THE RAIN GARDEN AREA DOES NOT BECOME COMPACTED BY CONSTRUCTION ACTIVITIES (I.E. HEAVY MACHINERY). IF SOIL BECOMES SEVERELY COMPACTED IT MAY NEED TO BE TILLED AND AMENDED TO MAINTAIN PROPER DRAINAGE.

RAIN GARDEN TREATMENT:

1. THE BOTTOM OF A RAIN GARDEN SHOULD BE LEVEL TO ENCOURAGE THE EVEN DISTRIBUTION OF STORMWATER AND INCREASE INFILTRATION CAPACITY.
2. RAIN GARDENS SHOULD BE 4 TO 8 INCHES IN DEPTH WITH A 2 - 4 INCH AMENDED SOIL LAYER AND A 2 - 3 INCH LAYER OF NON-DYED AGED SHREDDED HARDWOOD MULCH.
3. THE AMENDED SOIL LAYER OF A RAIN GARDEN SHOULD BE 50/50 MIXTURE OF THE EXCAVATED NATIVE SOILS AND MATURE ORGANIC COMPOST.

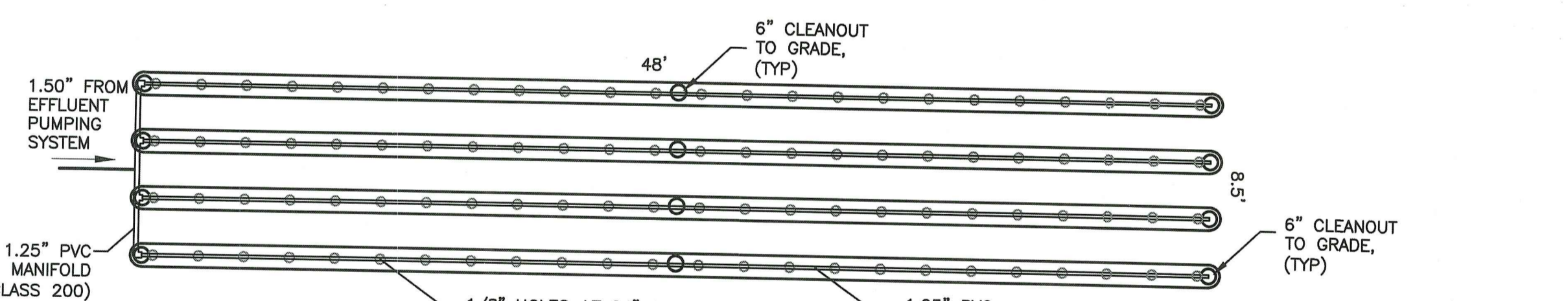
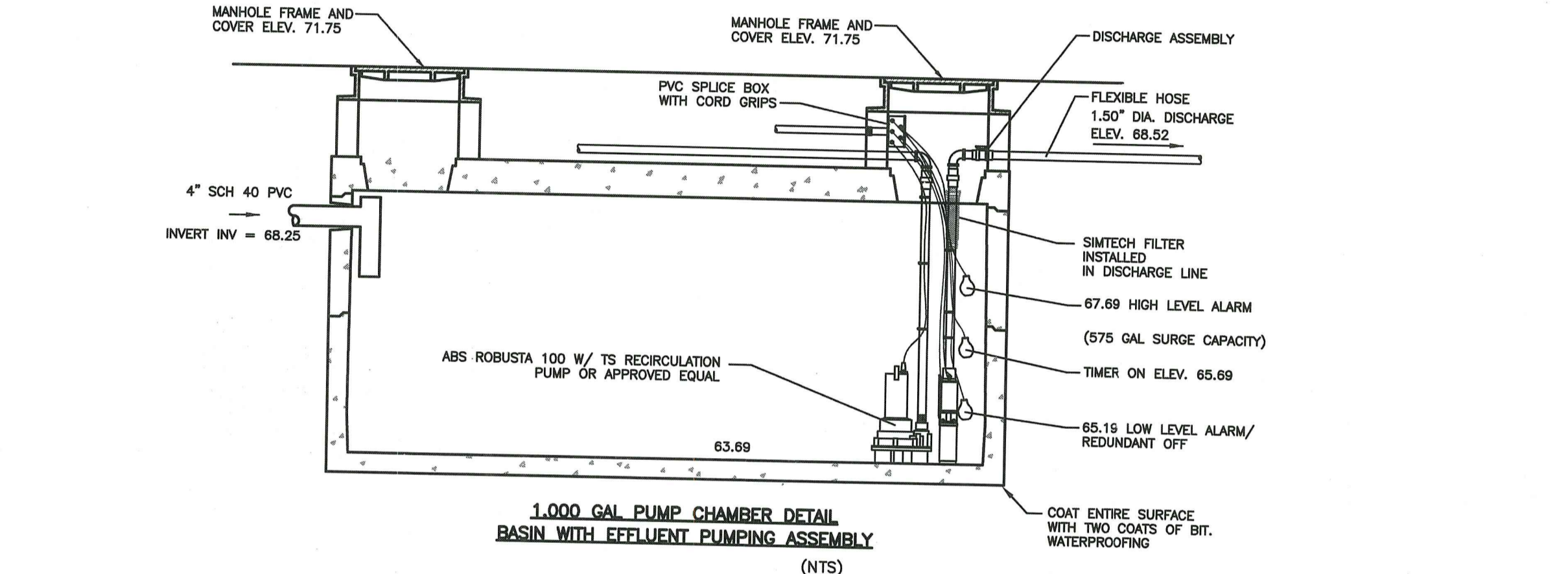
RAIN GARDEN MAINTENANCE NOTES:

1. RAIN GARDENS SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, THE RAIN GARDEN SHALL BE MONITORED AND MAINTAINED TO ASSURE PROPER FUNCTIONING, PLANT GROWTH AND SURVIVAL. PLANTS SHALL BE REPLACED ON AN AS-NEEDED BASIS DURING THE GROWING SEASON.
2. SILT/SEDIMENT SHALL BE REMOVED FROM THE RAIN GARDEN WHEN THE ACCUMULATION EXCEEDS ONE INCH, OR WHEN WATER PONDS ON THE SURFACE OF THE RAIN GARDEN FOR MORE THAN 48 HOURS. THE TOP FEW INCHES OF MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH SOIL MIXTURE AND MULCH.
3. PRUNING OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
4. SOIL EROSION GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
5. FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN RAIN GARDENS.
6. PERENNIAL PLANTS AND GROUND COVERS SHALL BE REPLACED AS NECESSARY TO MAINTAIN AN ADEQUATE VEGETATED GROUND COVER. ANNUAL PLANTS MAY ALSO BE USED TO MAINTAIN GROUND COVER.



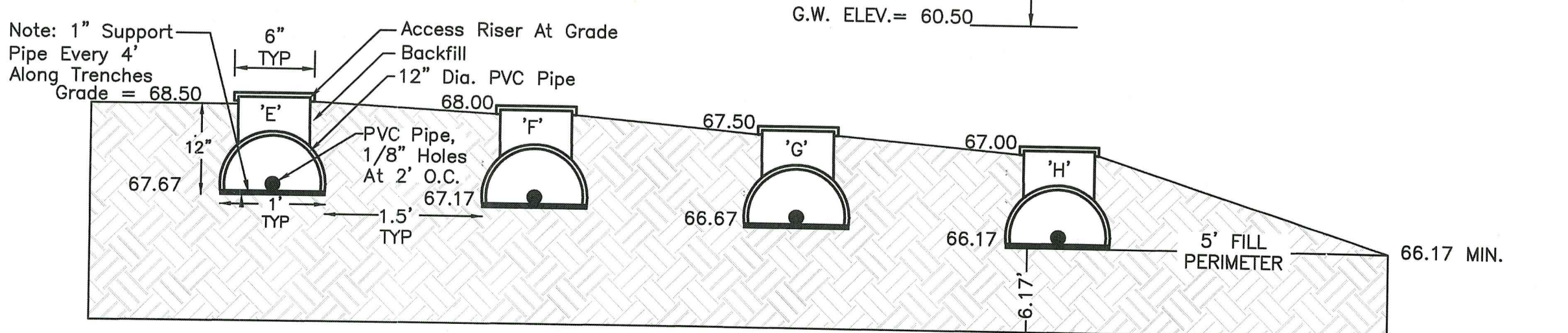
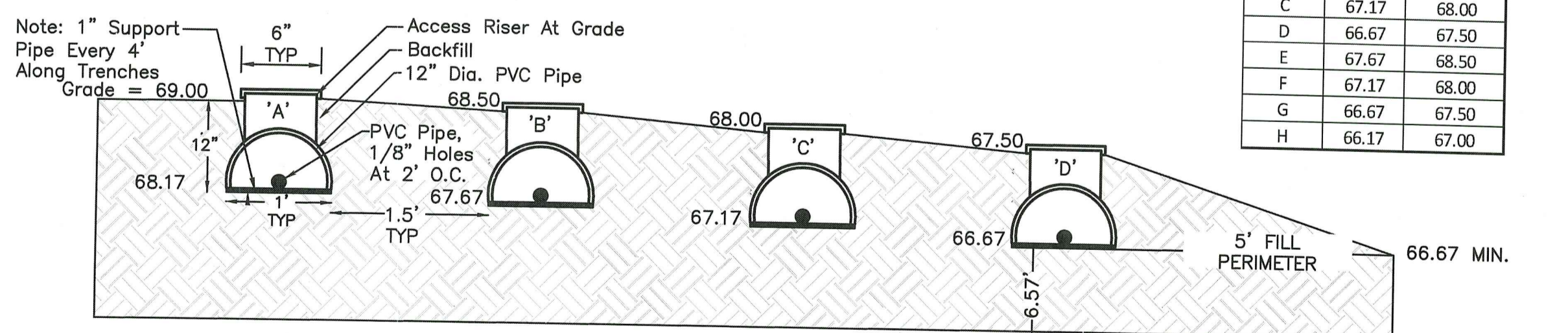
RAIN GARDEN PLANTING SCHEDULE

RAIN GARDEN	QTY	BOTANICAL NAME/COMMON NAME	CONT
ASC TUB	5	Asclepias Tuberosa/Butterfly Milkweed	1 Gal
DES WAVE	11	Deschampsia Flexuosa/Wavy Hair Grass	1 Gal
IRI VER	11	Iris Versicolor/Blue Flag	1 Gal
COM PER	2	Comptonia Pergrina/Sweet Fern	3 Gal



PSND Trench Elevation Schedule

Trench	Base	Grade
A	68.17	69.00
B	67.67	68.50
C	67.17	68.00
D	66.67	67.50
E	67.67	68.50
F	67.17	68.00
G	66.67	67.50
H	66.17	67.00



END VIEW- PRESSURE DISPOSAL TRENCH DETAIL

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	OWN	CHK
1	5/11/18	REVISED PER TOWN COMMENTS	JF	SFC
2	5/30/18	REVISED PER DEM COMMENTS	JF	SFC
3	7/2/18	REVISED PER DEM COMMENTS	TMT	SFC

SCALE: AS NOTED CA JOB # 217007
FEBRUARY 21, 2018
DRAWN BY: JF
CHECK BY: SFC

ISSUED FOR PERMITTING

OWTS DETAIL SHEET

OWTS PLAN
OFF COAST GUARD ROAD
PLAT 19, LOT 43
NEW SHOREHAM, RHODE ISLAND

PREPARED FOR
ESTATE OF FRANCES M. NUGENT

