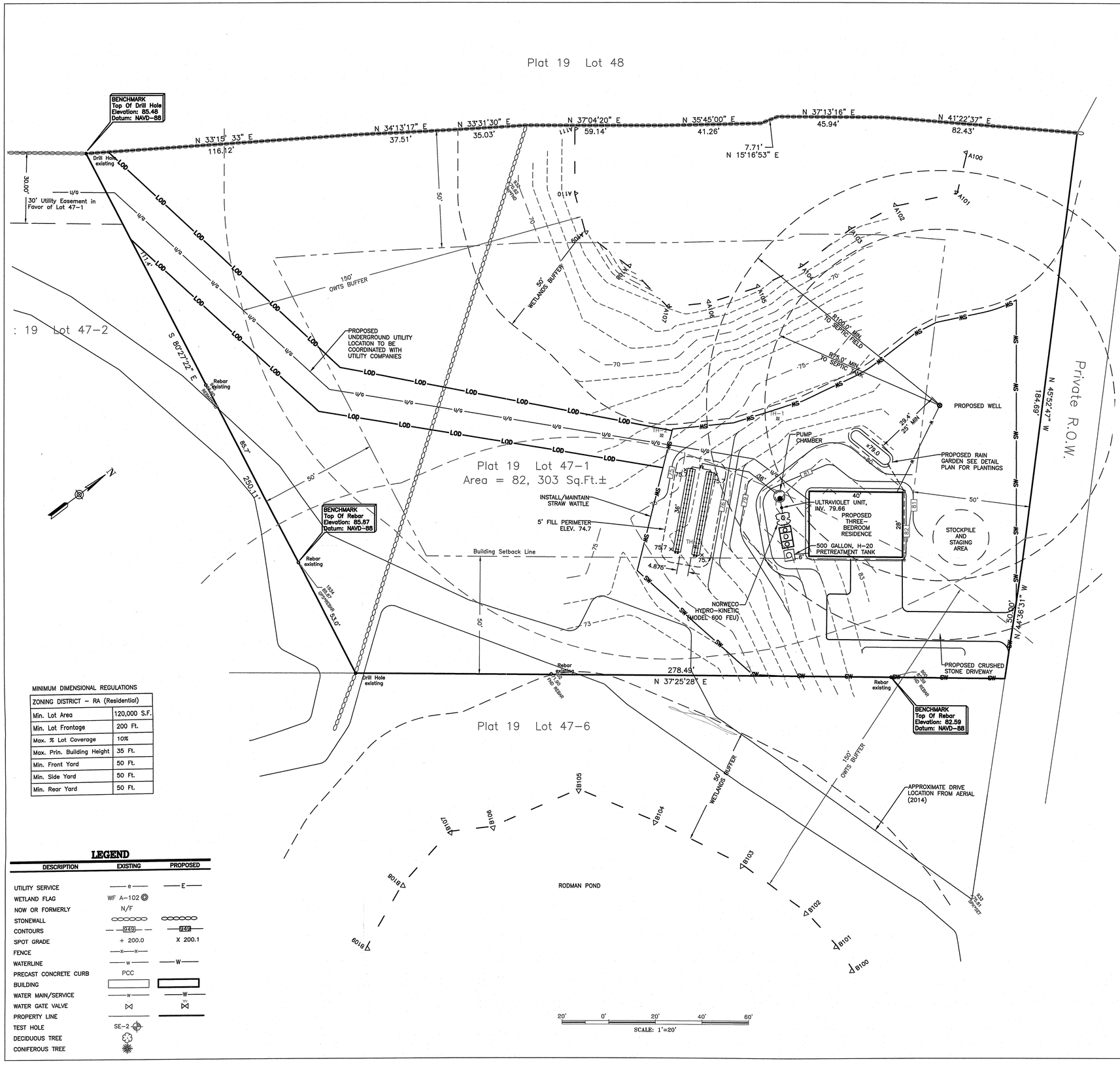
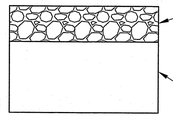
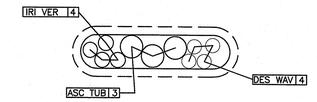




NOTES:
1. THE GRADE OF THE FINISHED DRIVEWAY SHALL NOT BE HIGHER THAN THE ADJACENT GROUND ELEVATION.
2. CRUSHED STONE SHALL BE REPLACED OR RE-GRADED AS NECESSARY TO MAINTAIN A MINIMUM 3 INCH DEPTH OF STONE AND A LEVEL SURFACE.
3. STRUCTURAL STRENGTH OF THE DRIVE HAS NOT BEEN DESIGNED. STRUCTURAL STRENGTH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

CRUSHED STONE DRIVEWAY

NTS CA-RD-027



RAIN GARDEN PLANTING SCHEDULE			
RAIN GARDEN	QTY	BOTANICAL NAME/COMMON NAME	CONT
ASC TUB	3	Asclepias Tuberosa/Butterfly Milkweed	1 Gal
DES WAVE	4	Deschampsia Flexuosa/Wavy Hair Grass	1 Gal
IRI VER	4	Iris Versicolor/Blue Flag	1 Gal

RAIN GARDEN NOTES:
1. RAIN GARDENS WERE SIZED BASED ON THE FOLLOWING HOUSE ROOF AREA = 1,120 SF
2. WATER QUALITY VOLUME IS BASED ON THE FIRST ONE INCH OF RAIN. 1,120 X 0.083 = 92.96 CU FT REQUIRED
3. RAIN GARDEN TOTAL VOLUME PROVIDED IS 142 SF (93.3 CF / 8" DEEP = 140 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 79.0 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.

BOUNDARY AND EXISTING TOPOGRAPHIC NOTES:
1. IS BASED ON A PLAN ENTITLED "LIMITED CONTENT BOUNDARY & DATA ACCUMULATION PLAN" FOR DAVID ETZEL ASSESSOR PLAT 19, LOT 47-1 OFF COAST GUARD ROAD, BLOCK ISLAND NEW SHOREHAM, RHODE ISLAND JUNE 26, 2017 SCALE 1" = 20' CHERENZIA & ASSOC. LTD. PAWCATUCK, CT, REVISED OCTOBER 5, 2018.
2. BEARINGS AND NORTH ARROW ORIENTATION ARE REFERENCED TO THE RHODE ISLAND STATE PLANE GRID – NAD-83 BASED UPON A GPS OBSERVATION TAKEN MARCH 2017.
3. THE LOCUS PARCELS LIES WITHIN AN RA ZONING DISTRICT AND IS SUBJECT TO THE RESTRICTIONS THEREOF.
4. THE EDGE OF THE WETLANDS WAS DELINEATED WITH FLAGGING SET BY ECOTONES, INC. ON JUNE 9, 2017 AND FIELD LOCATED BY CHERENZIA & ASSOCIATES, LTD. ON JUNE 20, 2017.
5. EASEMENT REFERENCES.

MINIMUM DIMENSIONAL REGULATIONS

ZONING DISTRICT – RA (Residential)	
Min. Lot Area	120,000 S.F.
Min. Lot Frontage	200 Ft.
Max. % Lot Coverage	10%
Max. Prin. Building Height	35 Ft.
Min. Front Yard	50 Ft.
Min. Side Yard	50 Ft.
Min. Rear Yard	50 Ft.

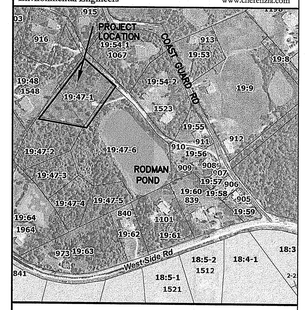
LEGEND

DESCRIPTION	EXISTING	PROPOSED
UTILITY SERVICE	e	E
WETLAND FLAG	WF A-102	
NOW OR FORMERLY	N/F	
STONEWALL		
CONTOURS	949	949
SPOT GRADE	+ 200.0	X 200.1
FENCE	x	
WATERLINE	w	W
PRECAST CONCRETE CURB	PCC	
BUILDING		
WATER MAIN/SERVICE	w	W
WATER GATE VALVE		w
PROPERTY LINE		
TEST HOLE	SE-2	
DECIDUOUS TREE		
CONIFEROUS TREE		

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
REVIEWED SITE PLAN APPLICATION #: 22-0328
DATED: AUG 2 4 2022
SEE LETTER OF SAME DATE

RI Environmental Management
JUN 3 0 2022
Office of Water Resources

CHERENZIA & ASSOCIATES, LTD.
Civil Engineers
Land Surveyors
Land Use Planners
Environmental Engineers
99 Mechanic St. Pawcatuck, CT 06379 Tel: 860.629.6500 Fax: 860.599.6090
P.O. Box 513 Westerly, RI 02891 Tel: 401.596.7747
www.cherenzia.com



LOCATION MAP

NOTES:
REFERENCE IS MADE TO EXISTING CONDITIONS PLAN PREPARED BY CHERENZIA & ASSOCIATES, DATED JUNE 26, 2017

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/21/18	REVISED SOIL AND EROSION	JF	SFC
2	10/5/18	OWTS AND WETLAND COMMENTS	RMA	SFC
3	6/29/22	CHANGE OF OWNERSHIP	HIM	SFC

SCALE: 1"=20'
CA JOB # 221072
NOVEMBER 20, 2017
DRAWN BY: JF
CHECK BY: SFC

ISSUED FOR PERMITTING

OWTS PLAN
OFF COAST GUARD ROAD
PLAT 19, LOT 47-1
NEW SHOREHAM, RHODE ISLAND

PREPARED FOR
ROBIN LANGSDORF

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

C-1

SHEET 1 OF 2

CHERENZIA & ASSOCIATES, LTD.

#22-0328

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P.O. Box 513 Westerly, RI 02891 Tel: 401.596.7747 www.cherenzia.com

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.

OWTS PLAN REQUIREMENTS:

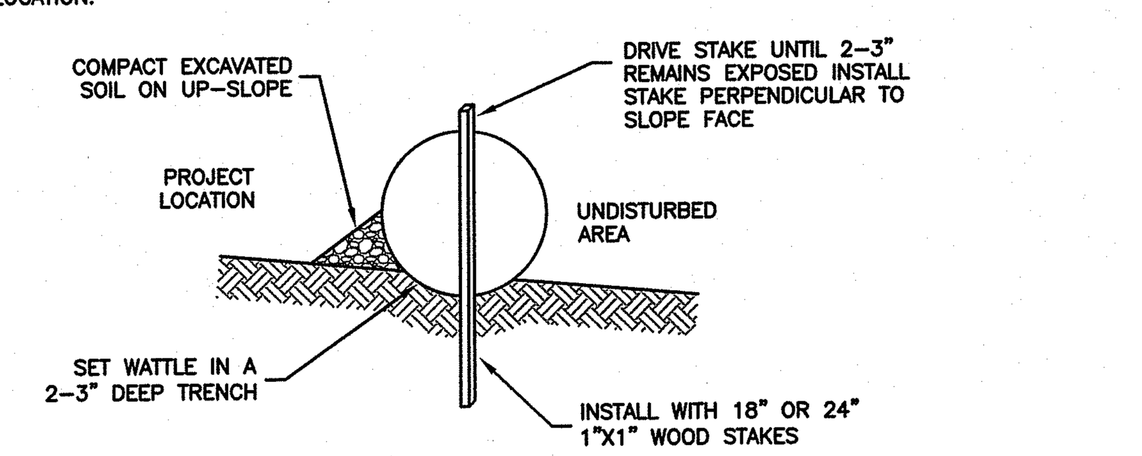
1. WELL OR DRAINS, EXISTING AND PROPOSED WITHIN 200' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
2. PUBLIC WELLS, EXISTING AND PROPOSED WITHIN 500' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
3. OWTS WITHIN 100' OF ANY PROPOSED WELL ARE SHOWN ON PLAN.
4. A BENCHMARK SHALL BE SET WITHIN 100' OF PROPOSED 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 74.7 TO BE MAINTAINED AT LEAST 5' 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 SEEDED AS DESCRIBED BELOW. IF ANY SEEDED AREAS ARE DISTURBED OR DAMAGED, RESEEDING WILL OCCUR AS SOON AS POSSIBLE.

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 SEEDED 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 BEDROOM DESIGN FLOW X 3 BEDROOMS = 345 GPD
LOADING RATE: 1.5 GAL./S.F./DAY, SOIL CATEGORY 6 FOR A CATEGORY ii SYSTEM
345 GALLONS PER DAY/1.5 GAL. PER S.F. PER DAY = 230 S.F. REQUIRED
NO PLANS FOR GARBAGE DISPOSAL OR LARGE TUBE IN PROPOSED DEVELOPMENT

GEOMAT 3900=3.25 SF/LF
230 SF/ 3.25 SF/LF = 70.8 LF
2 ROWS OF 36 LF X 3.25 SF/LF = 234 SF PROVIDED

PUMP CALCULATIONS:

1. DESIGN FLOW FROM PUMP CHAMBER TO GEOMAT IS 14.38 GALLONS EACH DOSE (345 GAL/24 DOSES = 14.38 GAL/DOSE).
2. 5' DIAMETER PUMP CHAMBER = 19.63 SQ. FT. X 1 FT. = 19.63 CU. FT. 19.63 CU. FT. X 7.48 GAL/CU. FT. = 147.00 GAL/FT IN PUMP CHAMBER. PUMP CHAMBER TO BE TIMED DOSE TO GEOMAT AT THE RATE OF 35.3 GPM. PUMP IS ON FOR 0.41 MINUTES AND OFF FOR 59.59 MINUTES.
3. 14.38 GAL/72 ORIFICES = 0.20 GAL PER ORIFICE
4. ALL PUMPS SHALL BE EQUIPPED WITH A HIGH WATER LEVEL VISIBLE AND AUDIBLE ALARM POWERED BY A CIRCUIR 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 SHALLLOW BURY DISCHARGE PIPING (WHERE APPLICABLE).

SOIL NOTES:

APPLICATION #1722–0341
AUGUST 14, 2017

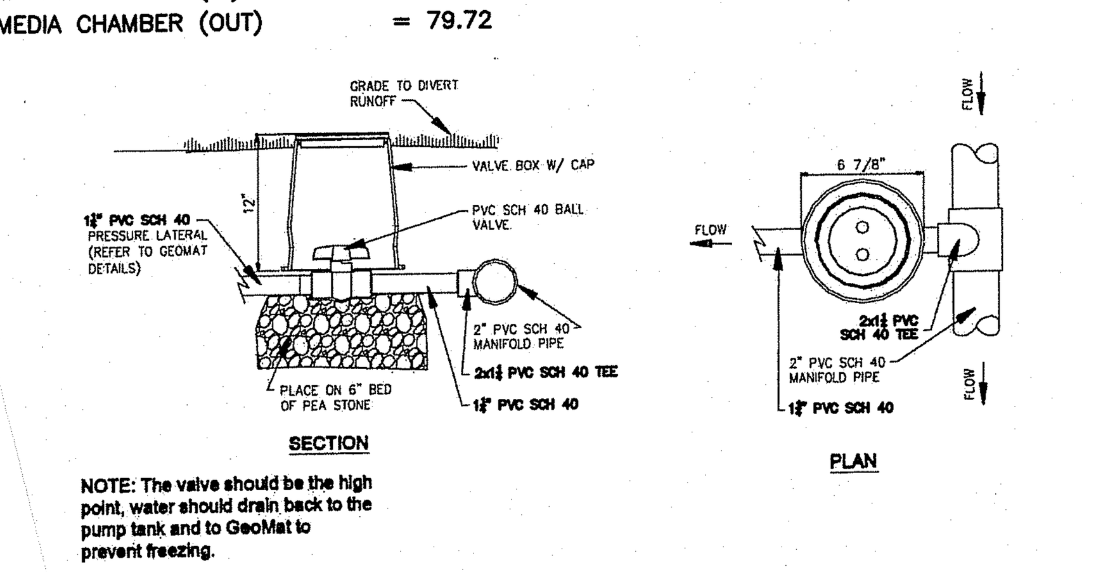
TEST HOLE #1 (ELEV. 76.67)
DEPTH TO GWT = 36"
GROUNDWATER ELEV. = 73.67
NO LEDGE ENCOUNTERED

TEST HOLE #2 (ELEV. 73.47)
DEPTH TO GWT = 42"
GROUNDWATER ELEV. = 69.97
NO LEDGE ENCOUNTERED

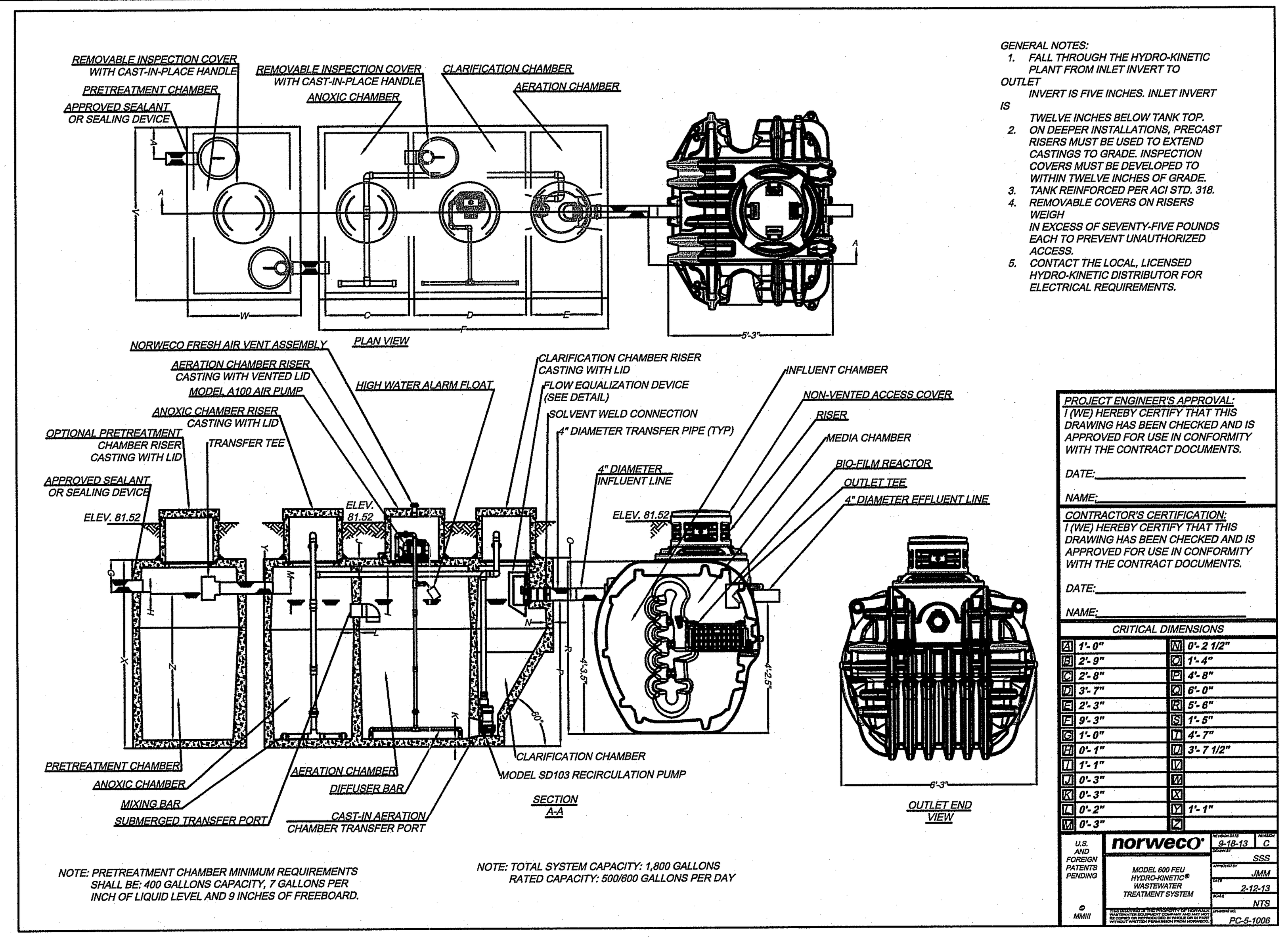
TEST HOLE #3 (ELEV. 76.66)
DEPTH TO GWT = 48"
GROUNDWATER ELEV. = 72.66
NO LEDGE ENCOUNTERED

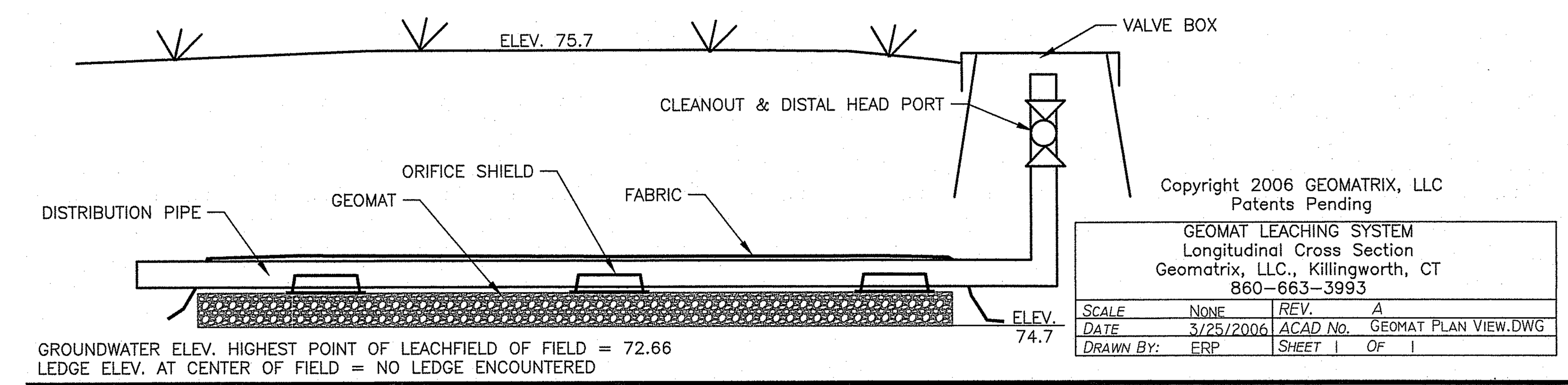
INVERT ELEVATIONS

HOUSE INVERT	= 80.12
PRETREATMENT CHAMBER (IN)	= 80.02
PRETREATMENT CHAMBER (OUT)	= 79.97
HYDRO–KINETIC CHAMBER (IN)	= 79.87
HYDRO–KINETIC SYSTEM (OUT)	= 79.82
MEDIA CHAMBER (IN)	= 79.80
MEDIA CHAMBER (OUT)	= 79.72

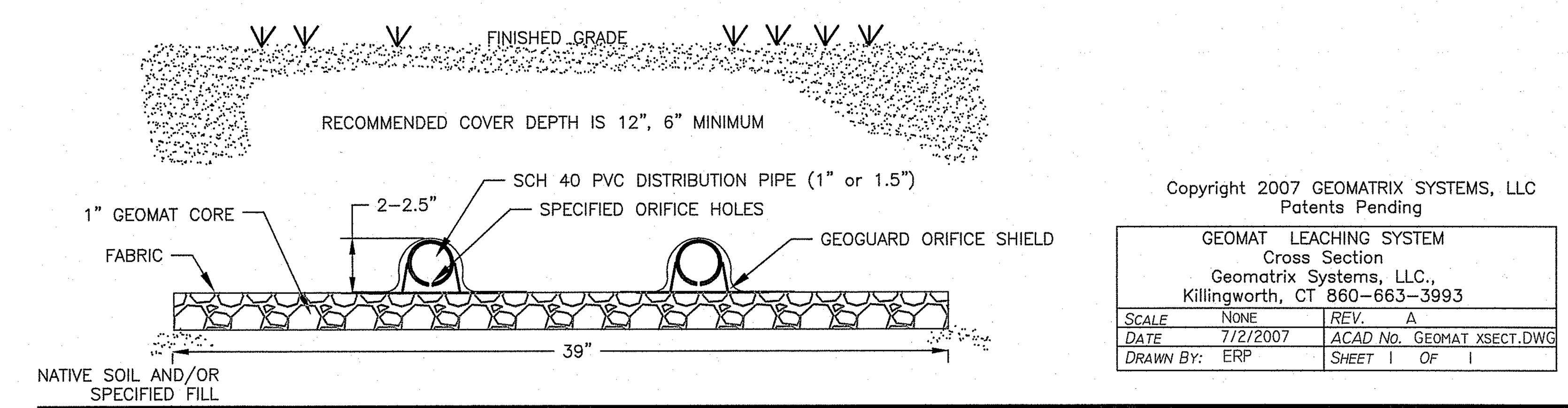


FLOW EQUALIZATION VALVE
CA–0–020

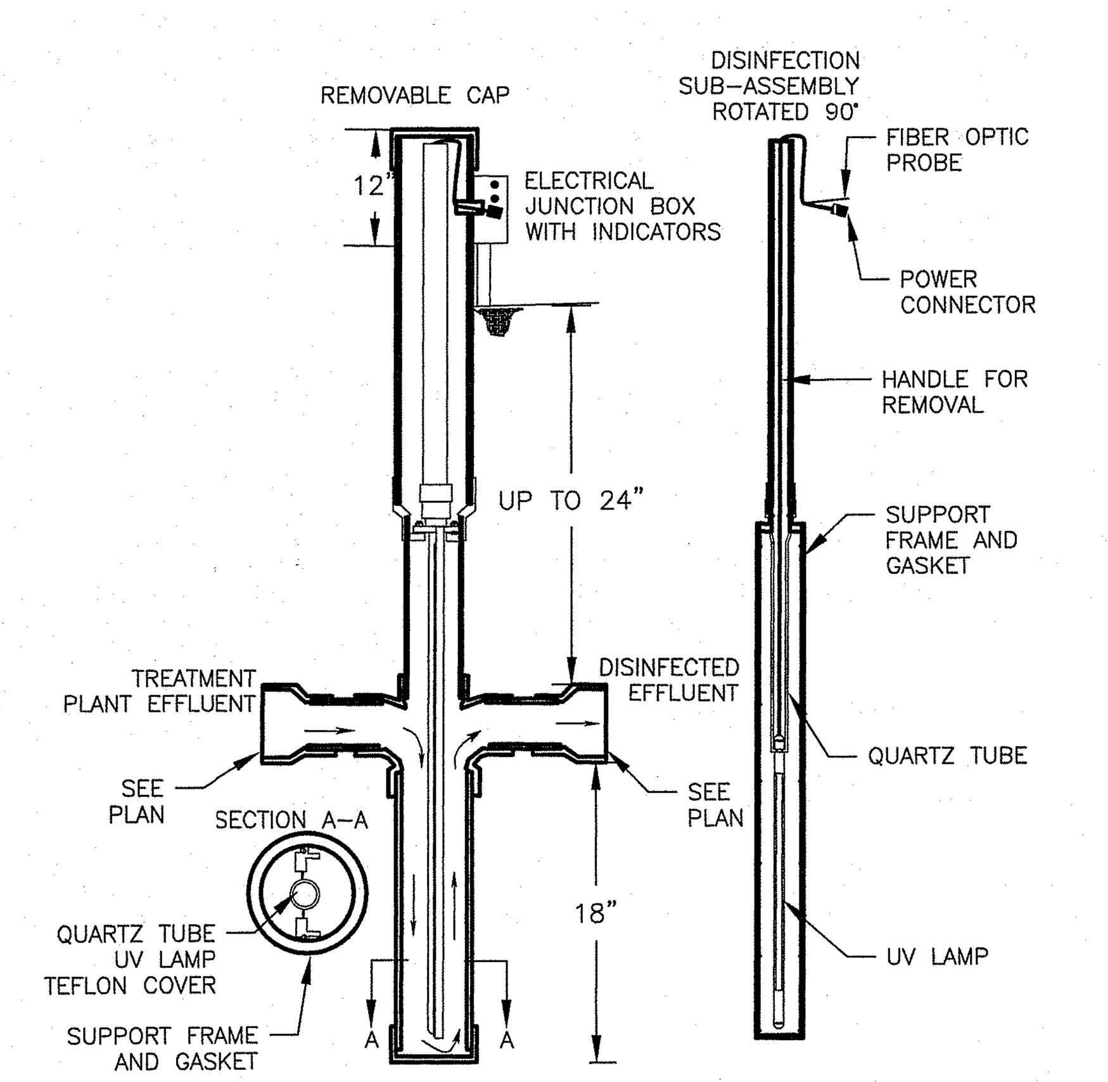




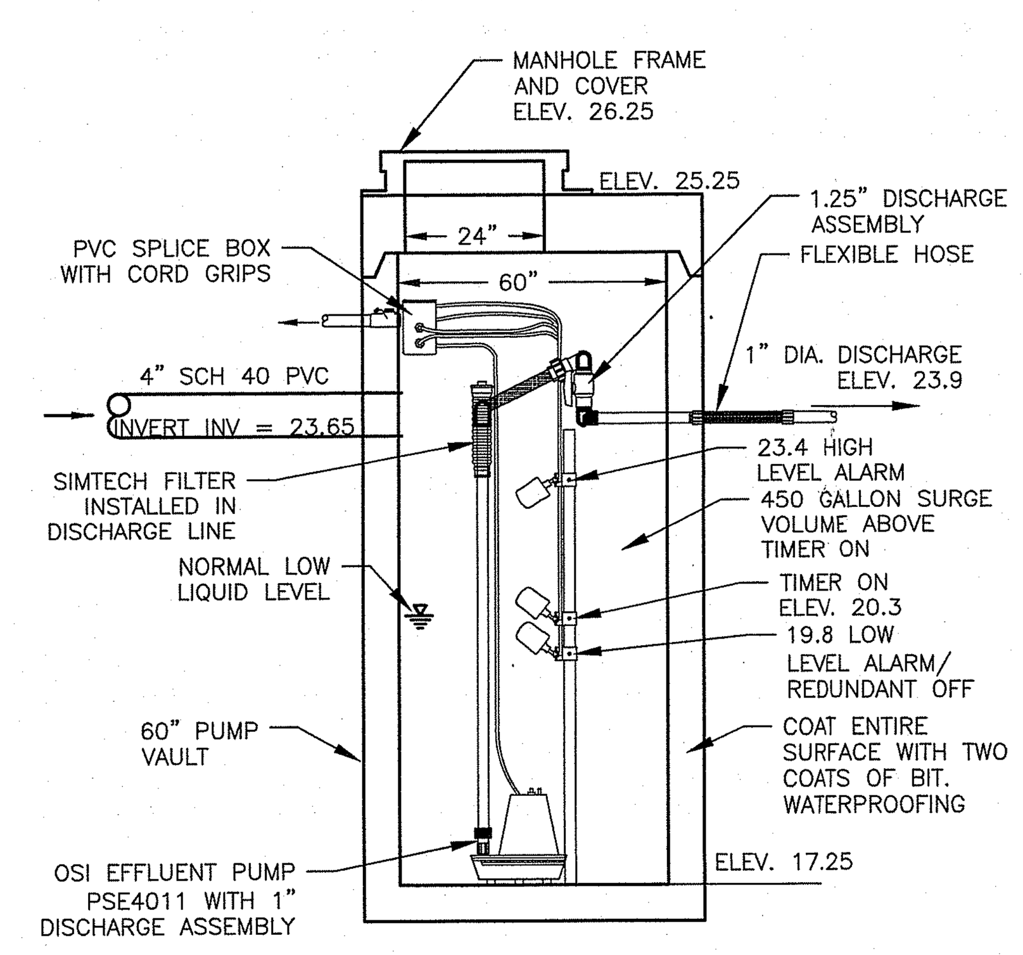
GEOMAT LEACHING SYSTEM - LONGITUDINAL CROSS SECITON
NTS
CA–0–014



GEOMAT 3900 LEACHING SYSTEM - CROSS SECTION
NTS
CA–0–018

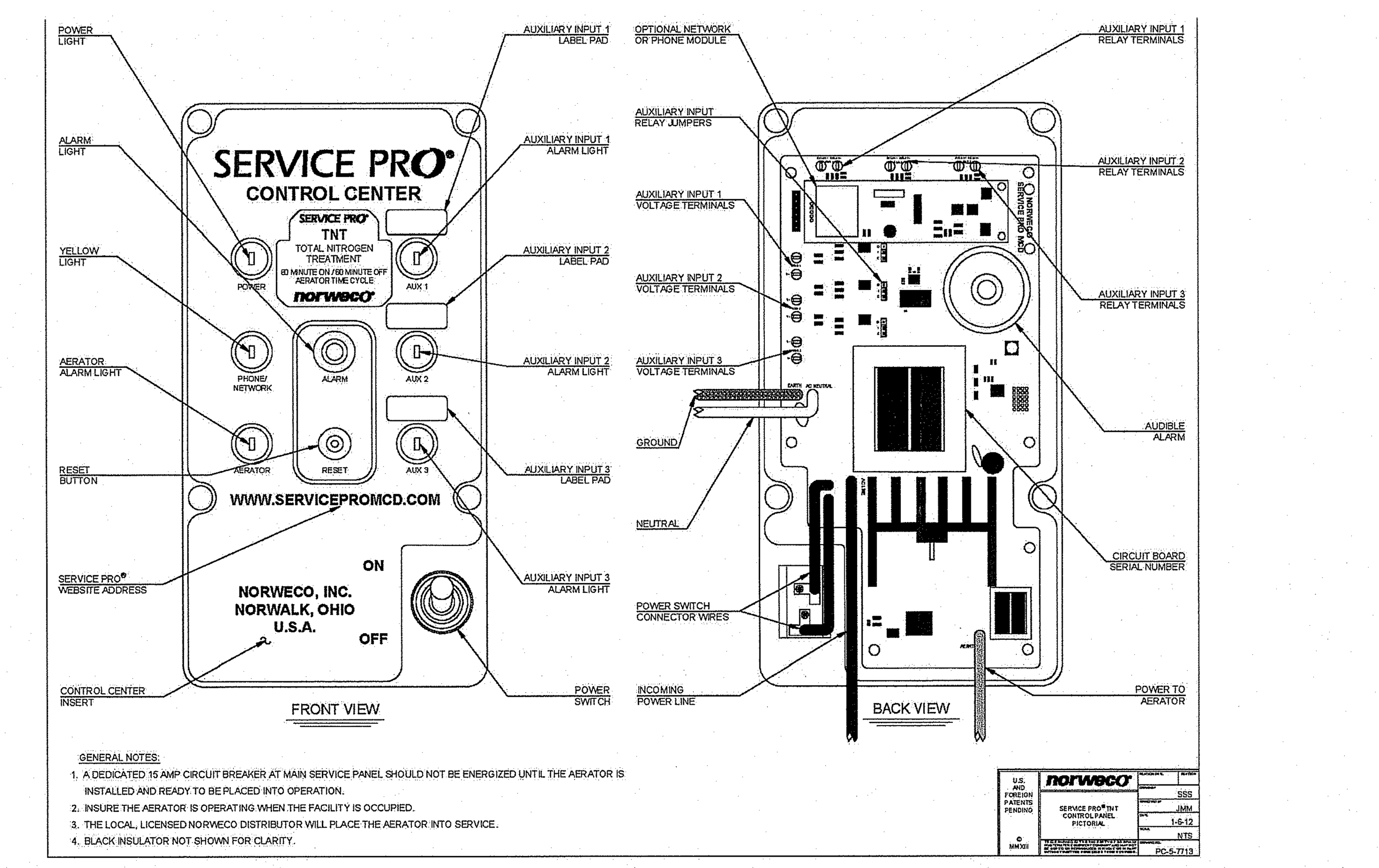


ULTRAVIOLET DISINFECTION UNIT REV
NTS
CA–0–002



NOTE: PUMP SHALL CONSIST OF 60" DIAMETER, 60" BASE AND 12" FLAT TOP.

PUMP CHAMBER DETAIL
NTS
CA–0–005

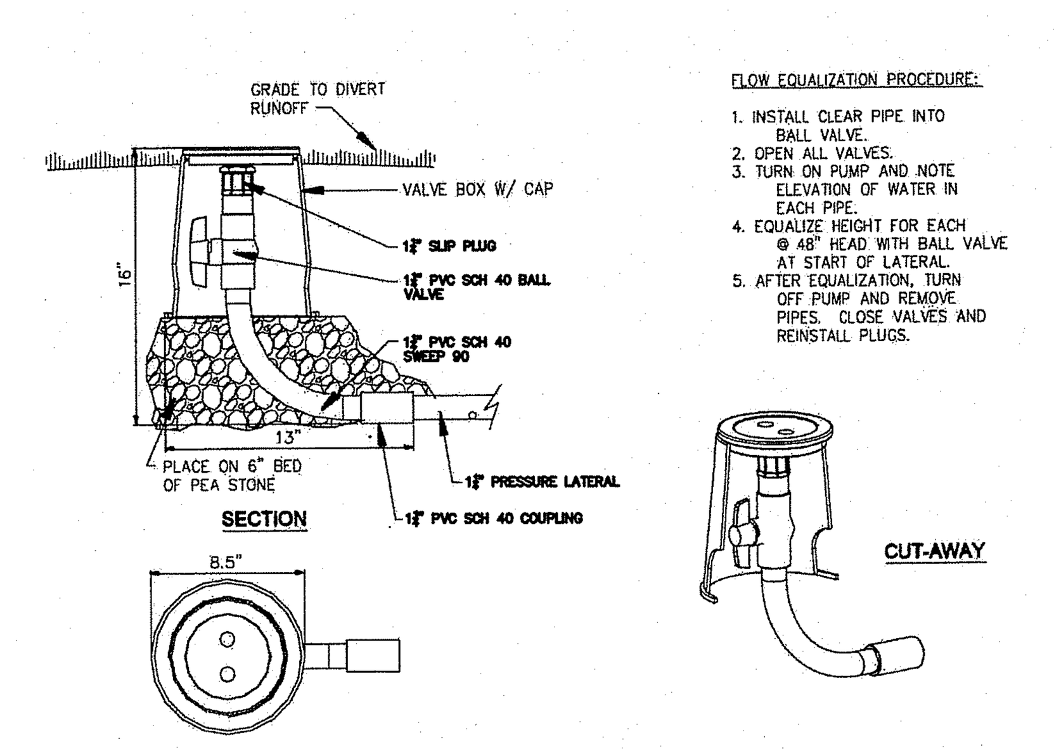


SERVICE PRO TNT CONTROL PANEL
NTS
CA–0–019

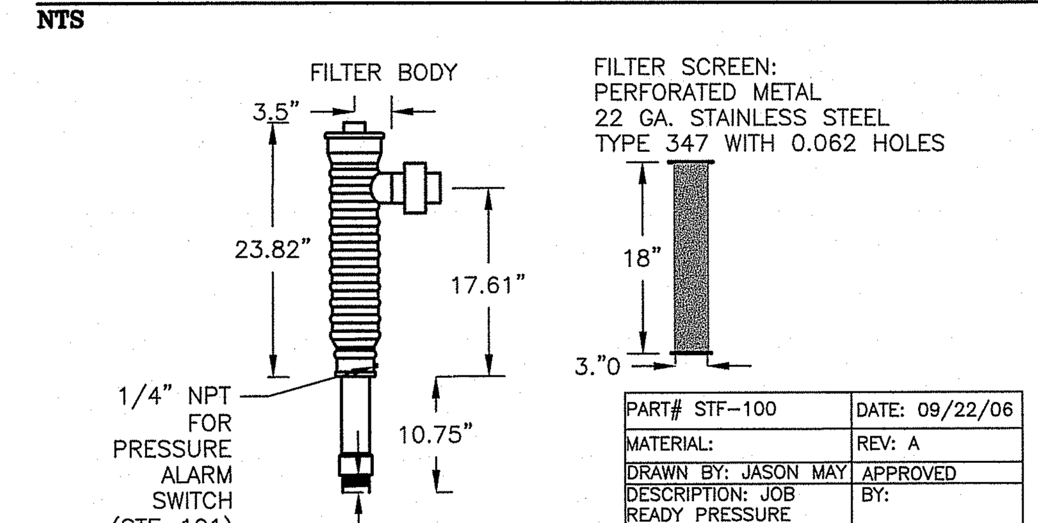
TH 1 Horizon	Depth	Horizon Boundaries Dist	Topo	Soil Colors Matrix	Re-Dox Features	Re-Dox Description Ab. S. Con.	Texture	Structure	Consistence	Soil Category
Ap	0 - 8	a	s	10YR 3/3			fsl	1 sbk f	fr	4
Bw_1	8 - 15	c	s	2.5Y 5/4			fsl	1 sbk f	fr	4
Bw_2	8 - 36	a	s	10YR 5/4			fsl	1 sbk f	fr	4
Bw_3	36 - 52	a	s	7.5YR 4/6	2.5Y 5/2	c - m - p	fsl	1 sbk f	fr	4
2C	52-96			2.5Y 4/3	7.5YR 5/6	c - m - p	sl	O - m	fr	6

TH 2 Horizon	Depth	Horizon Boundaries Dist	Topo	Soil Colors Matrix	Re-Dox Features	Re-Dox Description Ab. S. Con.	Texture	Structure	Consistence	Soil Category
A	0 - 6	a	s	10YR 3/3			fsl	1 sbk f	fr	4
Bw_1	6 - 21	c	s	10YR 4/6			fsl	1 sbk f	fr	4
Bw_2	21 - 42	a	s	2.5Y 3/3			sil	1 sbk f	fr	5
Cg	42 - 54	a	s	10YR 5/2	7.5YR5/6	m - c - p	lfs	O -m	fr	6
2C	54-108			10YR 5/4	7.5YR5/6	c - m - d	s	O - sg	loose	1

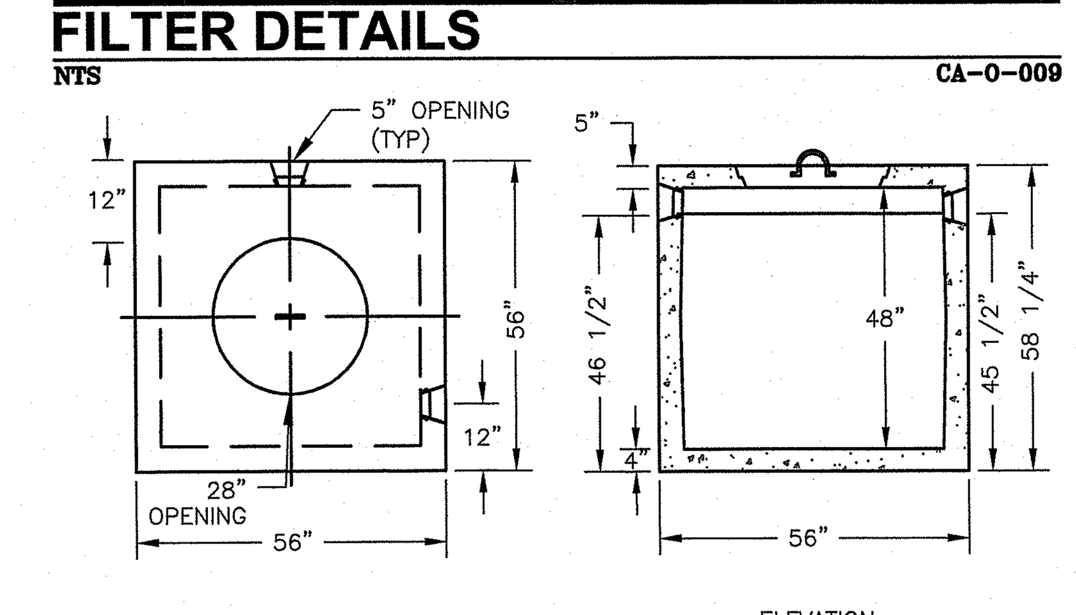
TH 3 Horizon	Depth	Horizon Boundaries Dist	Topo	Soil Colors Matrix	Re-Dox Features	Re-Dox Description Ab. S. Con.	Texture	Structure	Consistence	Soil Category
Ap	0 - 7	a	s	10YR 3/3			fsl	1 sbk f	fr	4
Bw_1	7 - 20	c	w	2.5Y 5/6			fsl	1 sbk f	fr	4
Bw_2	20-28	a	s	2.5Y 5/3	7.5YR 5/6	c - m - p	fsl	1 sbk f	fr	4
C	32-48	a	s	10YR 5/3	7.5YR 5/6	m - c - d	lfs	0 - m	fr	6
2C	48-108			10YR 5/4			s	O - sg	loose	1



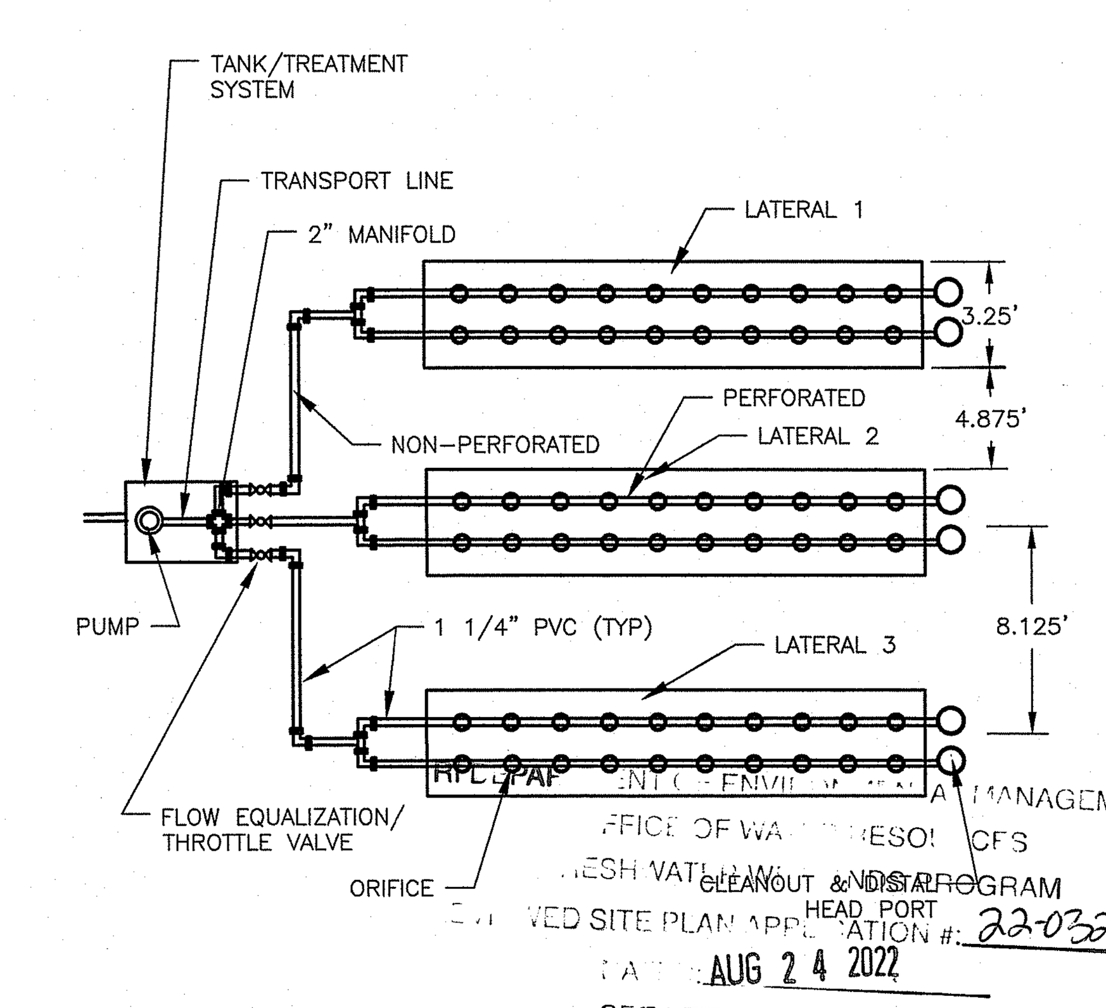
DISTAL HEAD SCHEMATIC
NTS
CA–0–022



FILTER DETAILS
NTS
CA–0–009



500 GALLON PRETREATMENT TANK
NTS
CA–0–017



RI ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES ... PROGRAM APPROVED SITE PLAN APPLICATION #: 22-0328 ... AUG 24 2022 SEE LETTER OF SAME DATE

GEOMAT 3900 LEACHING SYSTEM
NTS
CA–0–016

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/21/18	REVISED SOIL AND EROSION	JF	SFC
2	10/5/18	OWTS AND WETLAND COMMENTS	RMA	SFC
2	6/29/22	CHANGE OF OWNERSHIP	HIM	SFC

SCALE: AS NOTED
CA JOB # 221072
AUGUST 17, 2018

DRAWN BY: JF
CHECK BY: SFC

ISSUED FOR PERMITTING

OWTS DETAIL SHEET

RI Environmental Management
JUN 30 2022
Office of Water Resources

OWTS PLAN
OFF COAST GUARD ROAD
PLAT 19, LOT 47–1
NEW SHOREHAM, RHODE ISLAND

PREPARED FOR
ROBIN LANGSDORF

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

C–2

CHERENZIA & ASSOCIATES, LTD.