

ZONING CRITERIA	
ZONING DISTRICT	RE120
MINIMUM LOT AREA	120,000 SQ. FT.
MINIMUM LOT FRONTAGE	300'
MINIMUM FRONT YARD SETBACK	40'
MINIMUM SIDE YARD SETBACK	25'
MINIMUM REAR YARD SETBACK	40'
MAXIMUM BUILDING COVERAGE	20%
MAXIMUM BUILDING HEIGHT	35'

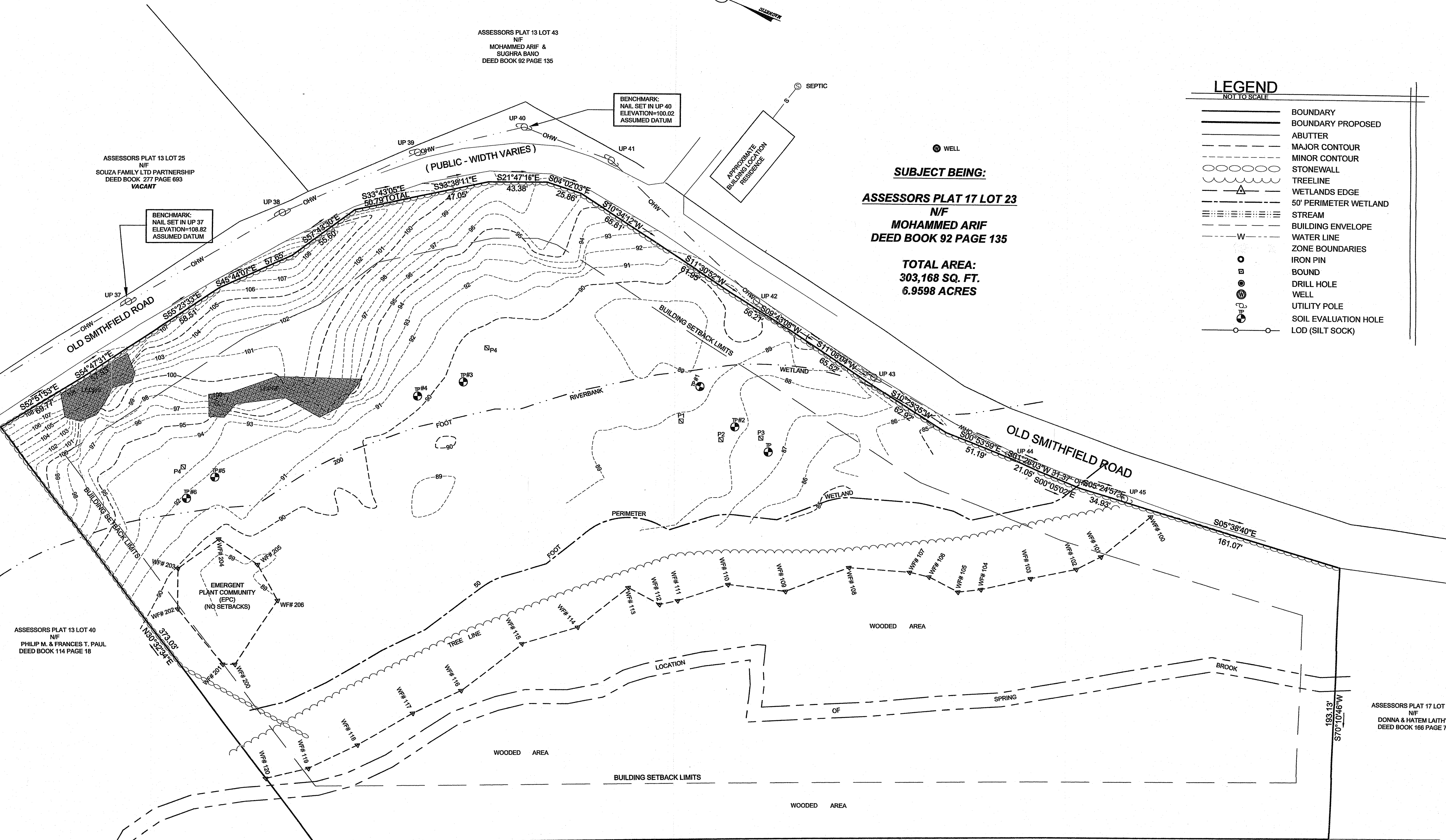
NO.	DATE	DESCRIPTION
2	1/11/22	WETLANDS REVISIONS
1	11/3/21	WETLANDS REVISIONS

GENERAL NOTES:

- THIS SITE DOES NOT LIE WITHIN ANY KNOWN AGRICULTURAL USE, SILVICULTURAL USE, NATURAL HERITAGE OR FARMLAND CONSERVATION AREAS.
- THERE ARE NO KNOWN EASEMENTS OR RIGHTS OF WAY WITHIN OR ADJACENT TO THIS PARCEL.
- CONTOURS SHOWN ON SAID PLAN ARE ON ASSUMED DATUM.
- THERE ARE NO KNOWN HISTORIC CEMETERIES WITHIN OR IMMEDIATELY ADJACENT TO THIS PARCEL.
- WETLAND FLAGGING DONE BY MASON & ASSOCIATES 777 PLAINFIELD PIKE NORTH SCITUATE RHODE ISLAND 02857 ON FEBRUARY 1, 2018.
- SITE EVALUATION TEST HOLES APPLICATION NUMBER 1725-1774 DUG ON JANUARY 3, 2018.

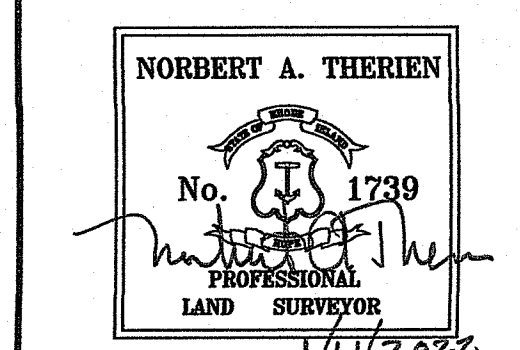
REFERENCES:

- PLAN ENTITLED: PLAN PREPARED FOR MOHAMMED ARIF 1034 OLD SMITHFIELD ROAD NORTH SMITHFIELD RHODE ISLAND DIVISION OF LAND PLAN FOR AP 13 LOT 42 & AP 17 LOT 23 ON OLD SMITHFIELD ROAD IN NORTH SMITHFIELD RI SCALE 1"=60' DATED JANUARY 18 1995 BY SEVEN TWENTY ONE ASSOCIATES AND FILED IN THE NORTH SMITHFIELD REGISTRY OF DEEDS UNDER PLAT CARD 274



LEGEND
NOT TO SCALE

- BOUNDARY
- BOUNDARY PROPOSED
- ABUTTER
- MAJOR CONTOUR
- MINOR CONTOUR
- STONEWALL
- TREELINE
- WETLANDS EDGE
- 50' PERIMETER WETLAND
- STREAM
- BUILDING ENVELOPE
- WATER LINE
- ZONE BOUNDARIES
- IRON PIN
- BOUND
- DRILL HOLE
- WELL
- UTILITY POLE
- SOIL EVALUATION HOLE
- LOD (SILT SOCK)



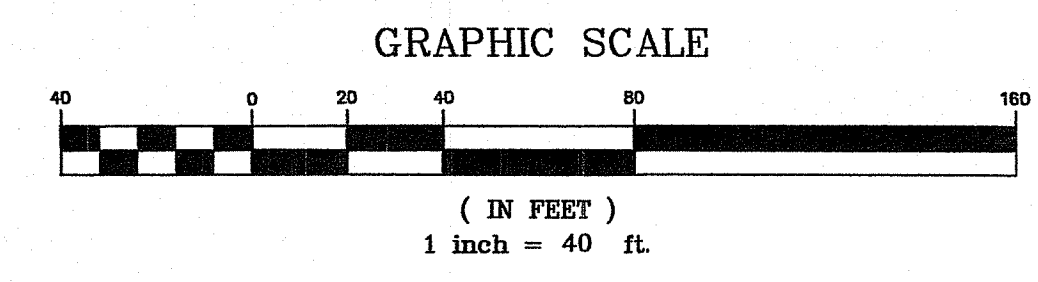
NATIONAL
Surveyors-Developers
Inc.
42 Hamlet Ave., Woonsocket, R.I.
(401) 769-7779

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATIONS FOR PROFESSIONAL LAND SURVEYORS NOVEMBER 25, 2015 AS FOLLOWS:

TYPE OF SURVEY: COMPREHENSIVE BOUNDARY SURVEY
MEASUREMENT SPECIFICATION: CLASS STANDARD

PURPOSE OF SURVEY: WETLANDS JOINT APPLICATION

BY: *Norbert A. Therien* DATE: 1/11/2022
NORBERT A. THERIEN, PLS NO. 1739



ASSESSORS PLAT 17 LOT 22
N/F
MOHAMMED ARIF &
BAND SUGRA
DEED BOOK 92 PAGE 135

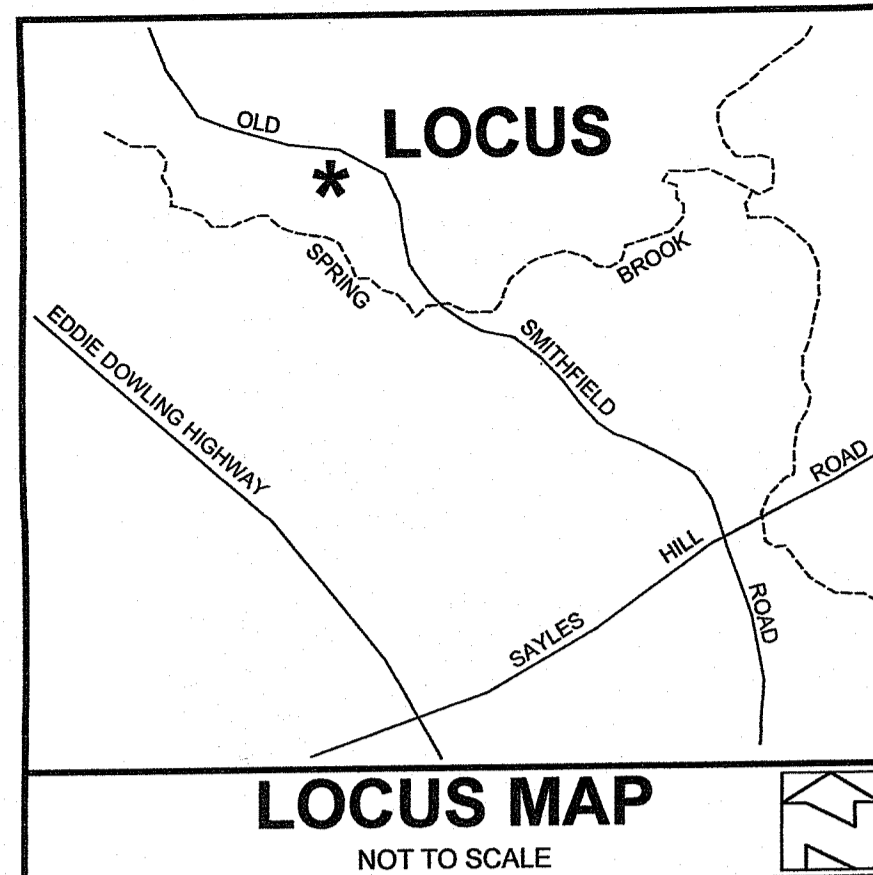
APPLICANT / OWNER
MOHAMMED ARIF
1034 OLD SMITHFIELD ROAD
NORTH SMITHFIELD, R.I. 02886
1-401-769-5806

WETLANDS
JOINT APPLICATION-LOT "B"

MOHAMMED ARIF
ASSESSORS PLAT 17 LOT 23
OLD SMITHFIELD ROAD
NORTH SMITHFIELD, RHODE ISLAND

EXISTING CONDITIONS
PRELIMINARY MINOR SUBDIVISION

DRAWN BY: W.C.R. CHECKED BY: N.A.T. FIELD BY: J.N.,
SEPTEMBER 2021 JOB No. 2017-258 SHEET 1 OF 1



ZONING CRITERIA	
ZONING DISTRICT	RE120
MINIMUM LOT AREA	120,000 SQ. FT.
MINIMUM LOT FRONTAGE	300'
MINIMUM FRONT YARD SETBACK	40'
MINIMUM SIDE YARD SETBACK	25'
MINIMUM REAR YARD SETBACK	40'
MAXIMUM BUILDING COVERAGE	20%
MAXIMUM BUILDING HEIGHT	35'

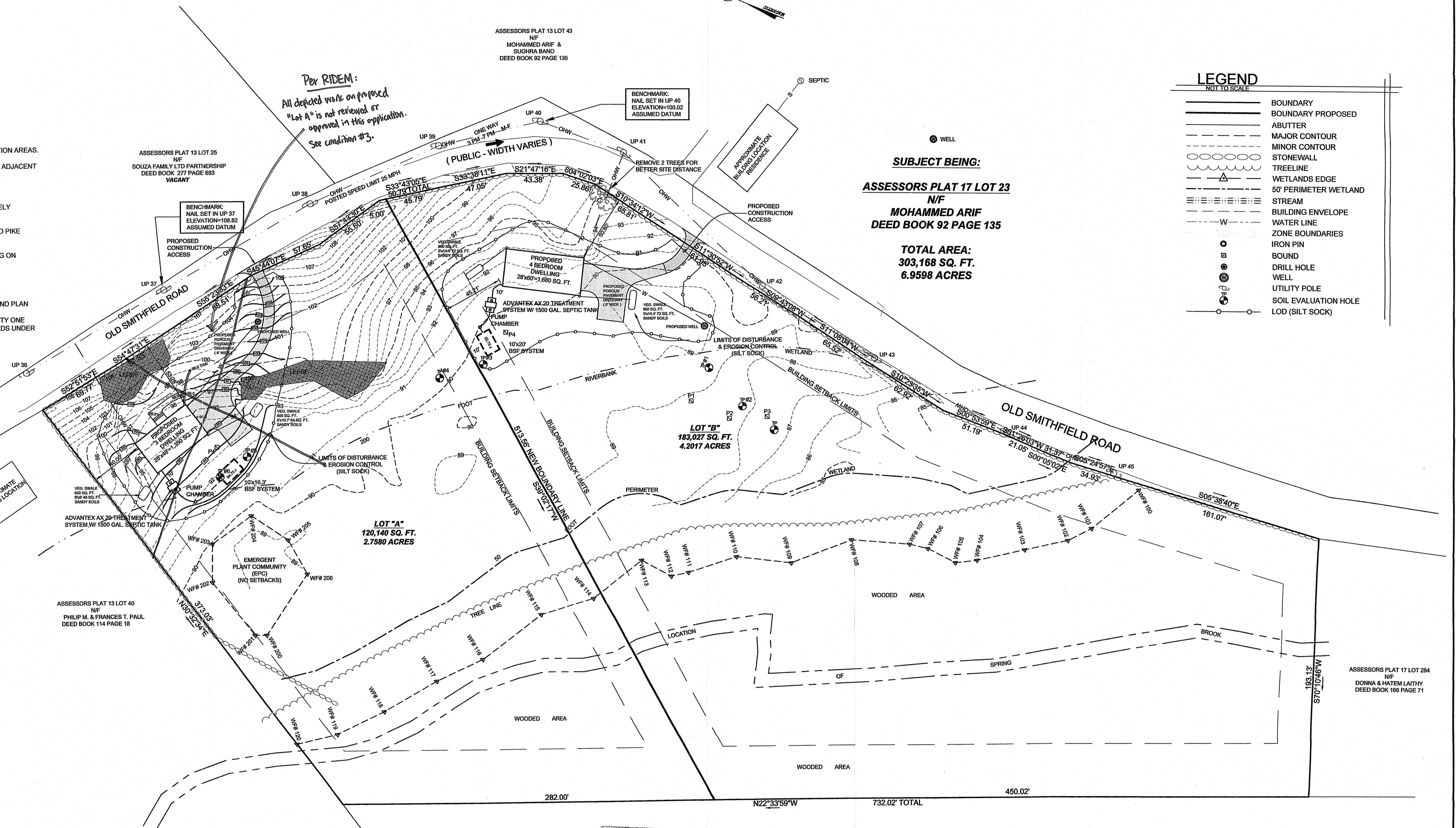
NO.	DATE	DESCRIPTION	BY
2	1/11/22	WETLANDS REVISIONS	R.A.W.
1	11/3/21	WETLANDS REVISIONS	R.A.W.

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- WETLAND FLAGGING DONE BY MASON & ASSOCIATES 777 PLAINFIELD PIKE NORTH SCITUATE RHODE ISLAND 02857 ON FEBRUARY 1, 2018.
- SITE EVALUATION TEST HOLES APPLICATION NUMBER 1725-1774 DUG ON JANUARY 3, 2018.

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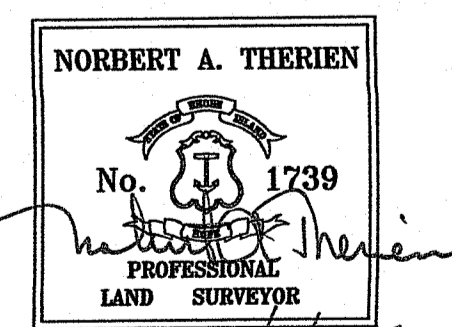


LEGEND
NOT TO SCALE

—	BOUNDARY
- - -	BOUNDARY PROPOSED
- - -	ABUTTER
- - -	MAJOR CONTOUR
- - -	MINOR CONTOUR
○ ○ ○ ○	STONEWALL
—	TREELINE
—	WETLANDS EDGE
—	50' PERIMETER WETLAND
—	STREAM
—	BUILDING ENVELOPE
—	WATER LINE
—	ZONE BOUNDARIES
○	IRON PIN
□	BOUND
○	DRILL HOLE
○	WELL
○	UTILITY POLE
○	SOIL EVALUATION HOLE
○	LOD (SILT SOCK)

SUBJECT BEING:
ASSESSORS PLAT 17 LOT 23
N/F
MOHAMMED ARIF
DEED BOOK 92 PAGE 135

TOTAL AREA:
303,168 SQ. FT.
6.9598 ACRES



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(401) 769-7779

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TYPE OF SURVEY: LIMITED CONTENT BOUNDARY SURVEY
MEASUREMENT SPECIFICATION: CLASS __ STANDARD
PURPOSE OF SURVEY: WETLANDS JOINT APPLICATION

BY: *Norbert A. Therien* DATE: 1/11/2022
NORBERT A. THERIEN, PLS NO. 1739

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
CWTS & FRESHWATER WETLANDS
JOINT PERMIT APPROVAL

CWTS# 2125-1499 RWMA 21-0259
APPROVED: *[Signature]* DATE 2/1/22
No Changes Allowed Without RIDEM Approval
Approved Plans/Permit Must Be Kept at Construction Site

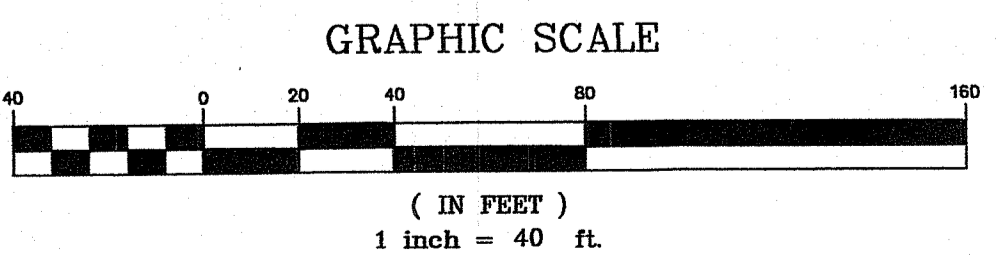
ASSESSORS PLAT 17 LOT 22
N/F
MOHAMMED ARIF &
BANO SUGHRA
DEED BOOK 92 PAGE 135

WETLANDS
JOINT APPLICATION-LOT "B"

MOHAMMED ARIF
ASSESSORS PLAT 17 LOT 23
OLD SMITHFIELD ROAD
NORTH SMITHFIELD, RHODE ISLAND

PROPOSED CONDITIONS
PRELIMINARY MINOR SUBDIVISION

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: J.N.,S.K.
SEPTEMBER 2021	JOB No. 2017-258	SHEET 2 OF 5



LEGEND
NOT TO SCALE

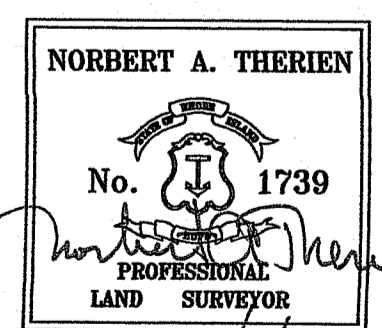
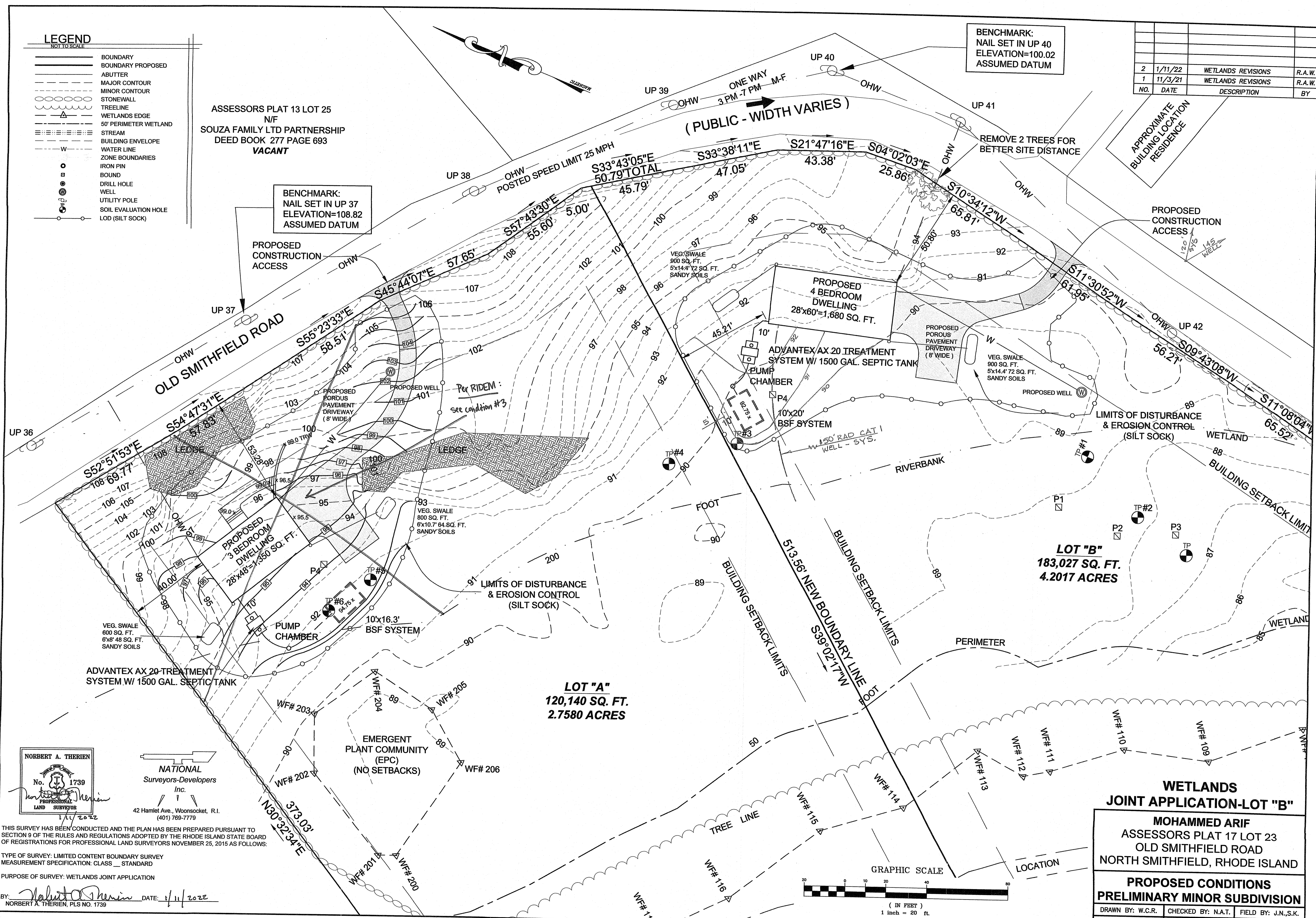
- BOUNDARY
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- BOUND
- DRILL HOLE
- WELL
- UTILITY POLE
- SOIL EVALUATION HOLE
- LOD (SILT SOCK)

ASSESSORS PLAT 13 LOT 25
N/F
SOUZA FAMILY LTD PARTNERSHIP
DEED BOOK 277 PAGE 693
VACANT

BENCHMARK:
NAIL SET IN UP 37
ELEVATION=108.82
ASSUMED DATUM

BENCHMARK:
NAIL SET IN UP 40
ELEVATION=100.02
ASSUMED DATUM

NO.	DATE	DESCRIPTION	BY
2	1/11/22	WETLANDS REVISIONS	R.A.W.
1	11/3/21	WETLANDS REVISIONS	R.A.W.



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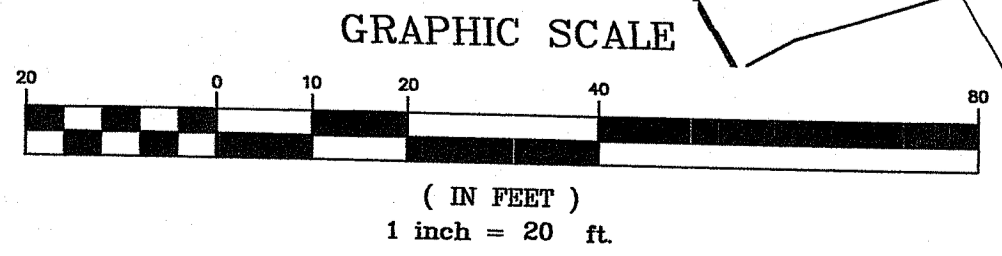
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PURPOSE OF SURVEY: WETLANDS JOINT APPLICATION
BY: *Norbert A. Therien* DATE: 1/11/2022
NORBERT A. THERIEN, PLS NO. 1739

WETLANDS
JOINT APPLICATION-LOT "B"

MOHAMMED ARIF
ASSESSORS PLAT 17 LOT 23
OLD SMITHFIELD ROAD
NORTH SMITHFIELD, RHODE ISLAND

PROPOSED CONDITIONS
PRELIMINARY MINOR SUBDIVISION

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: J.N.,S.K.
SEPTEMBER 2021	JOB No. 2017-258	SHEET 3 OF 5



DESIGN INFO FOR LOT "A"

SYSTEM ELEVATIONS

INV. OUT BLDG. 88.20
 INV. IN 1500 GAL. SEPTIC TANK 88.00
 INV. IN DOSING CHAMBER 88.78
 HIGH WATER ALARM 87.0
 PUMP ON 86.15
 PUMP OFF 87.75

DISCHARGE PUMP BASIN

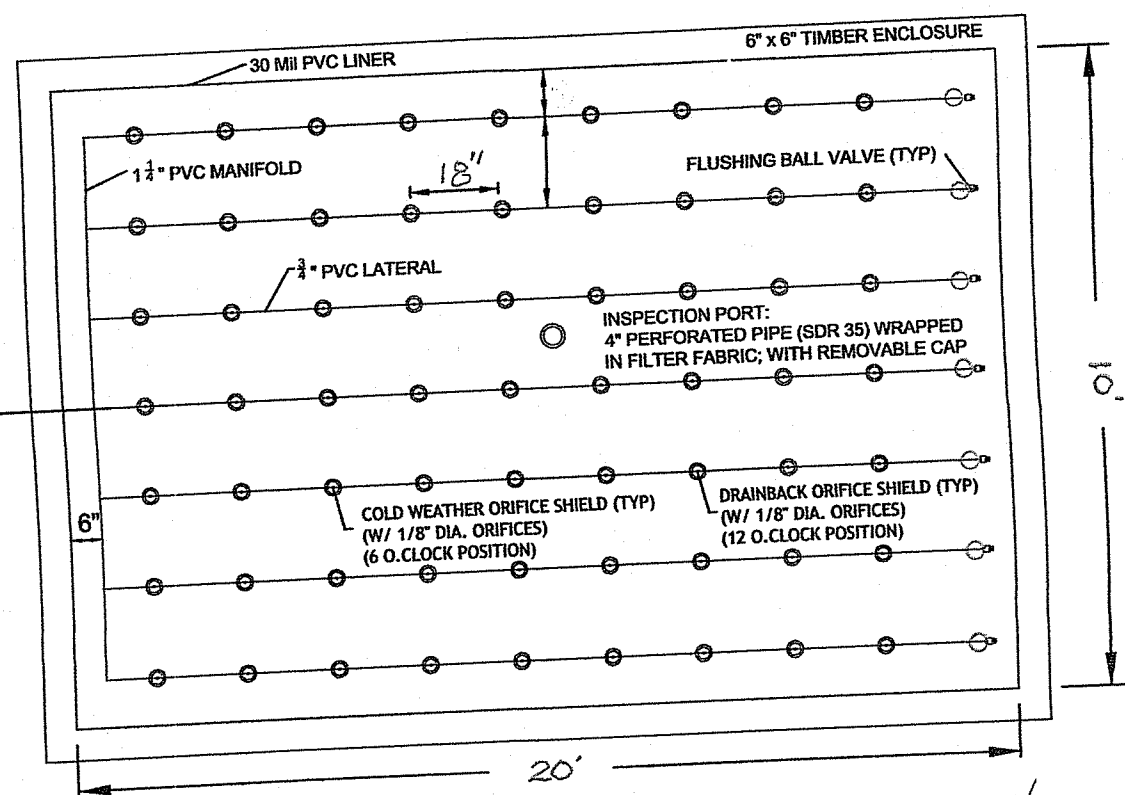
FINISH GRADE OVER UNIT 91.75
 HIGH WATER ALARM/OVERRIDE TIMER 87.83
 LOW WATER ALARM/REDUNDANT OFF 86.85

ADVANTEK TREATMENT SYSTEM

FINISH GRADE OVER UNIT 91.75
 HIGH WATER ALARM/OVERRIDE TIMER 87.83
 LOW WATER ALARM/REDUNDANT OFF 86.85

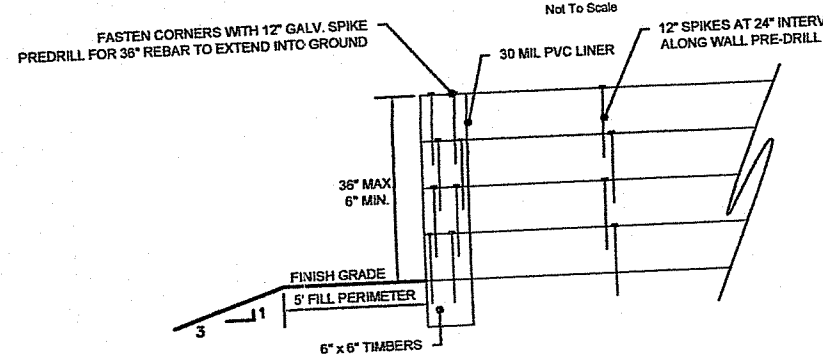
BOTTOMLESS SAND FILTER

TOP OF FIELD 92.75
 5' FILL PERIMETER MINIMUM 92.0
 LAERAL OF BSF 92.25
 PEA STONE / SAND FILTER MEDIA INTERFACE 90.0
 SOIL / SAND INTERFACE 89.0
 WATER TABLE 88.0



7 LATERALS w/ 13 ORIFICES EACH
 SYS. DOSE 19.1 GAL
 19.1 ÷ 91 = 0.21 GAL/ORIFICE

BSF Retaining Wall



TEST HOLE RESULTS

TEST HOLE # 3
 DATE OF TEST 1-3-18
 W.C. CARD # 1725-1774
 SEE SITE INSPECTION REPORT
 SOIL DESCRIPTION BY STRATA
 WATER TABLE 24'
 LEDGE AT > 103'

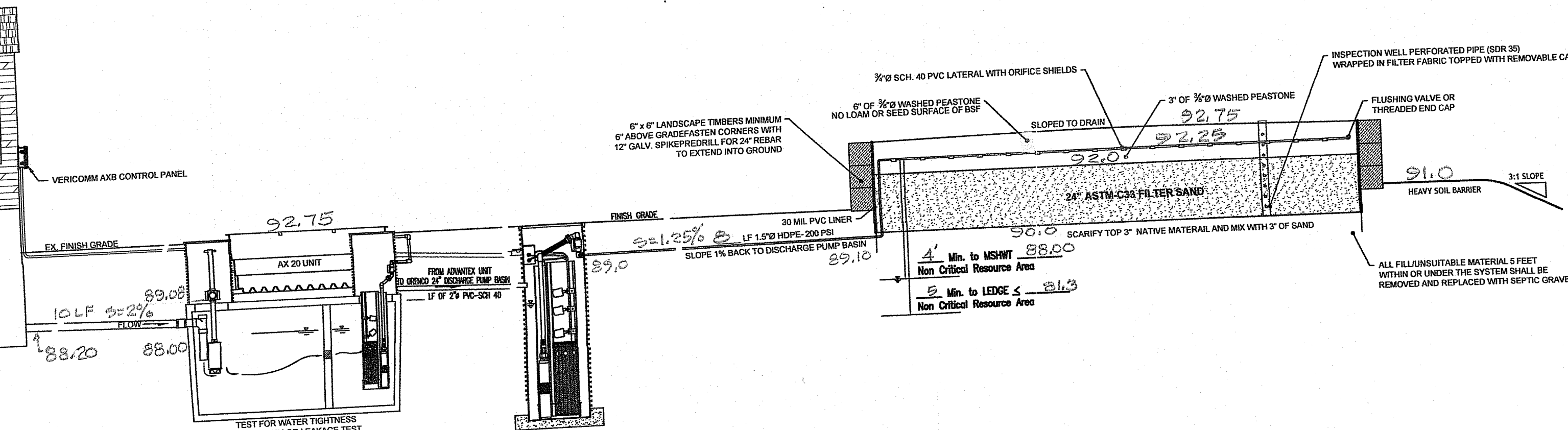
TEST HOLE # 4
 DATE OF TEST 1-3-18
 W.C. CARD # 1725-1774
 SEE SITE INSPECTION REPORT
 SOIL DESCRIPTION BY STRATA
 WATER TABLE 24'
 LEDGE AT > 100'

DESIGN DATA

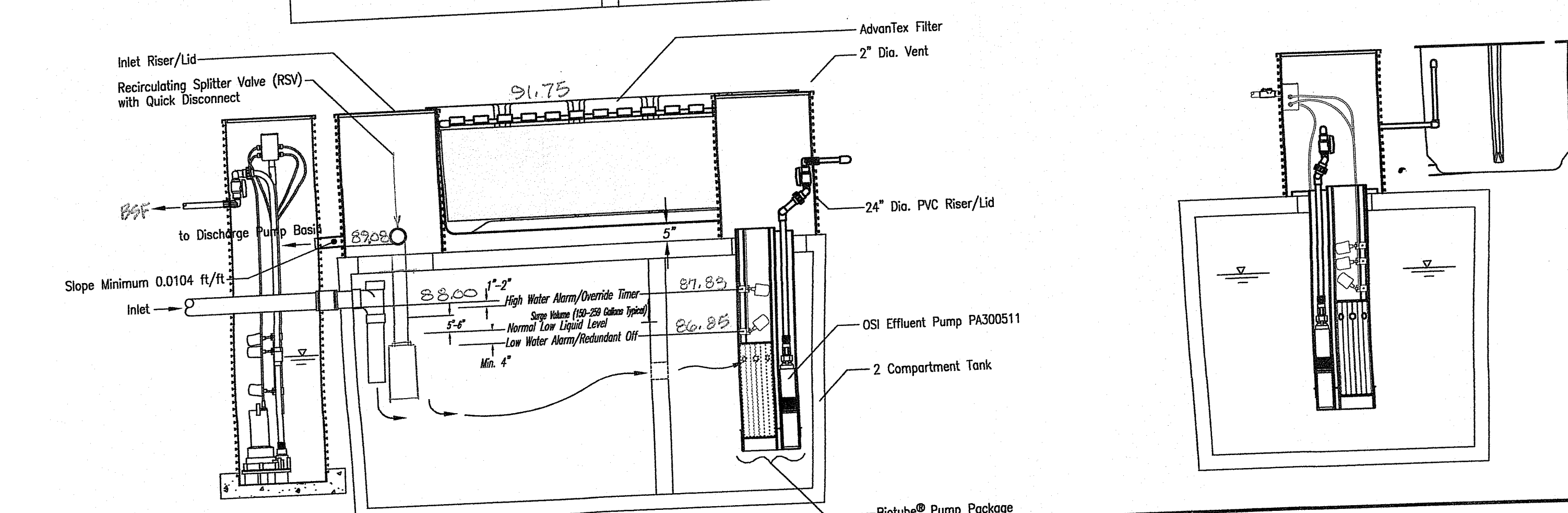
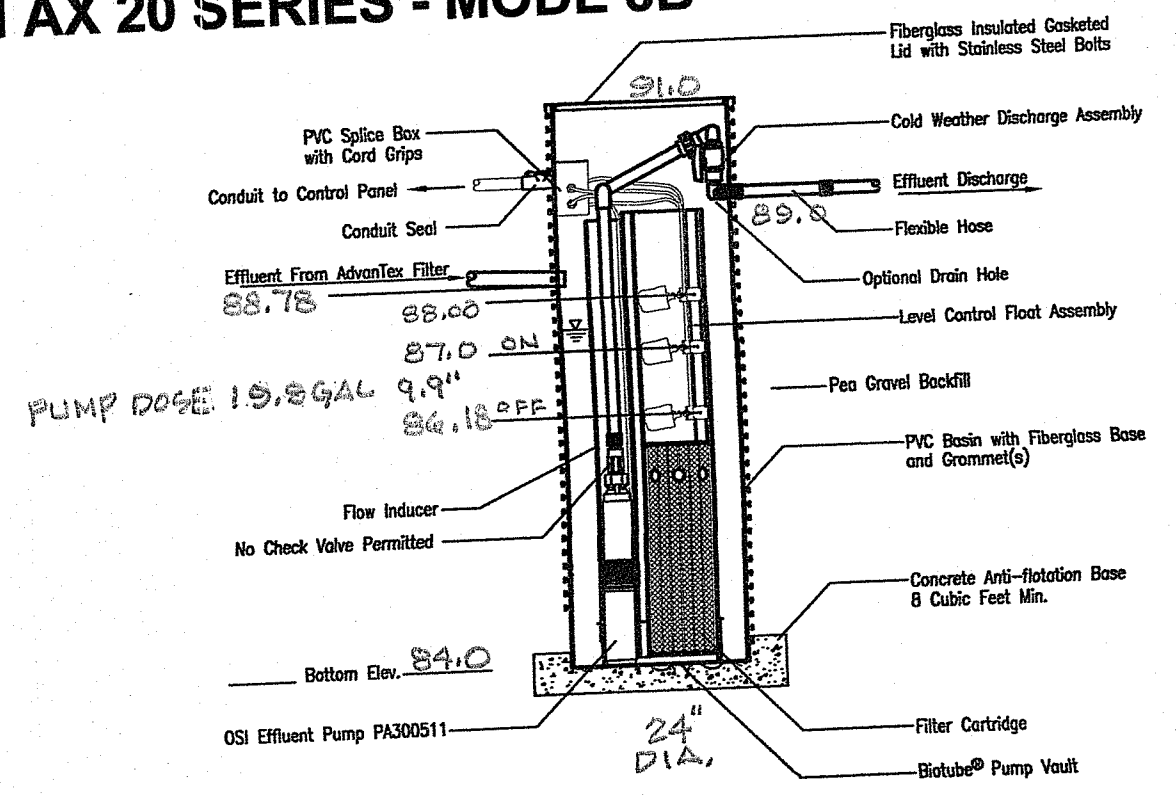
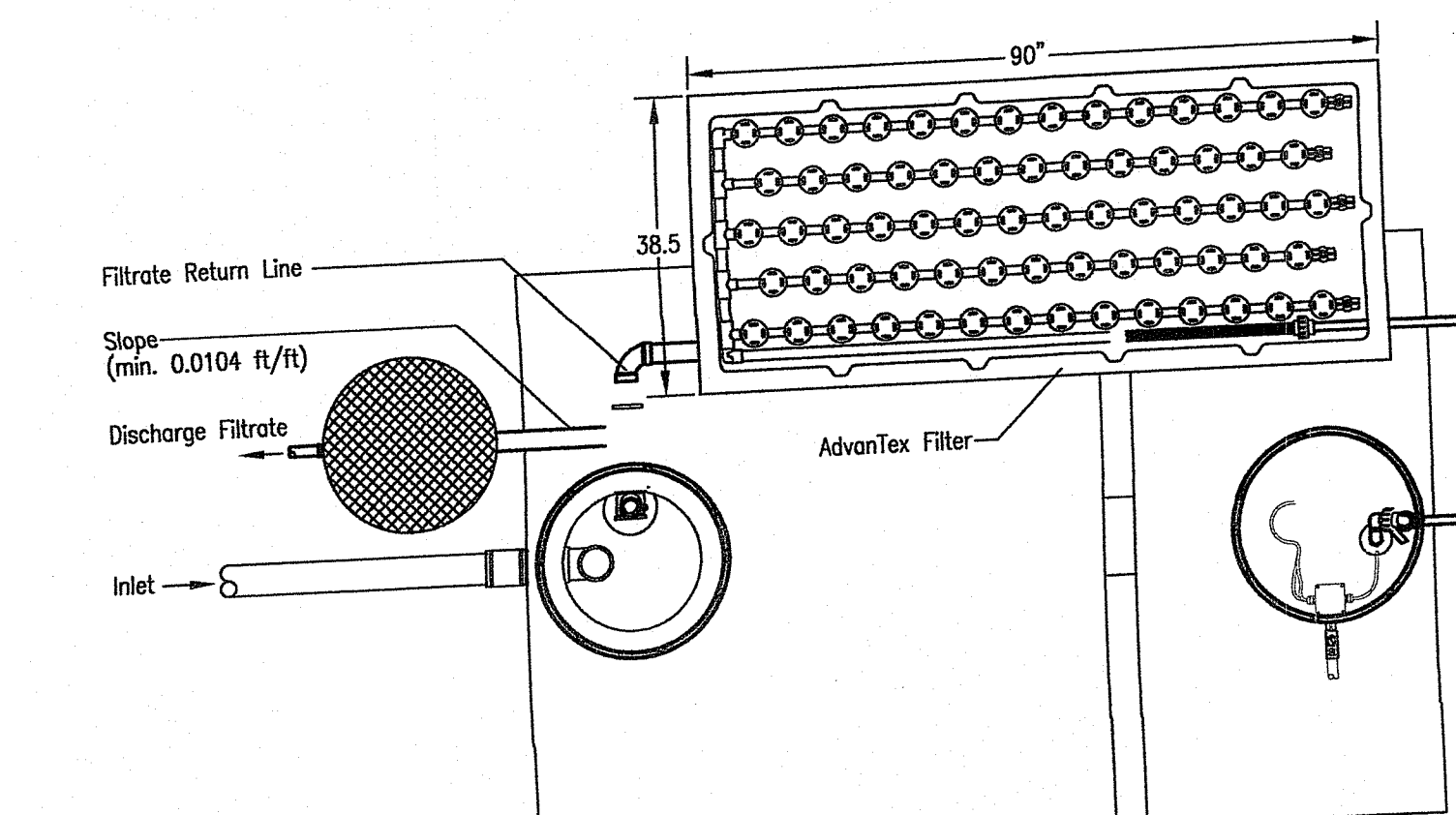
SOIL CATEGORY 4 m, 10 PRESENT IN TESTHOLES

SOIL CATEGORY 1m = 2.9 GAL/SF
 SOIL CATEGORY 4 = 4.1 GAL/SF
 SOIL CATEGORY 6 = 2.9 GAL/SF
 LOADING RATE = 2.3 GAL/SF/DAY

4 BEDROOM DWELLING
 115 GAL/BRIDAY = 440 GAL/DAY
 440 GAL/DAY @ 2.3 GAL/SF/DAY = 200 SF
 10' x 20' BSF



ADVANTEK TREATMENT SYSTEM AX 20 SERIES - MODE 3B
 NOT TO SCALE



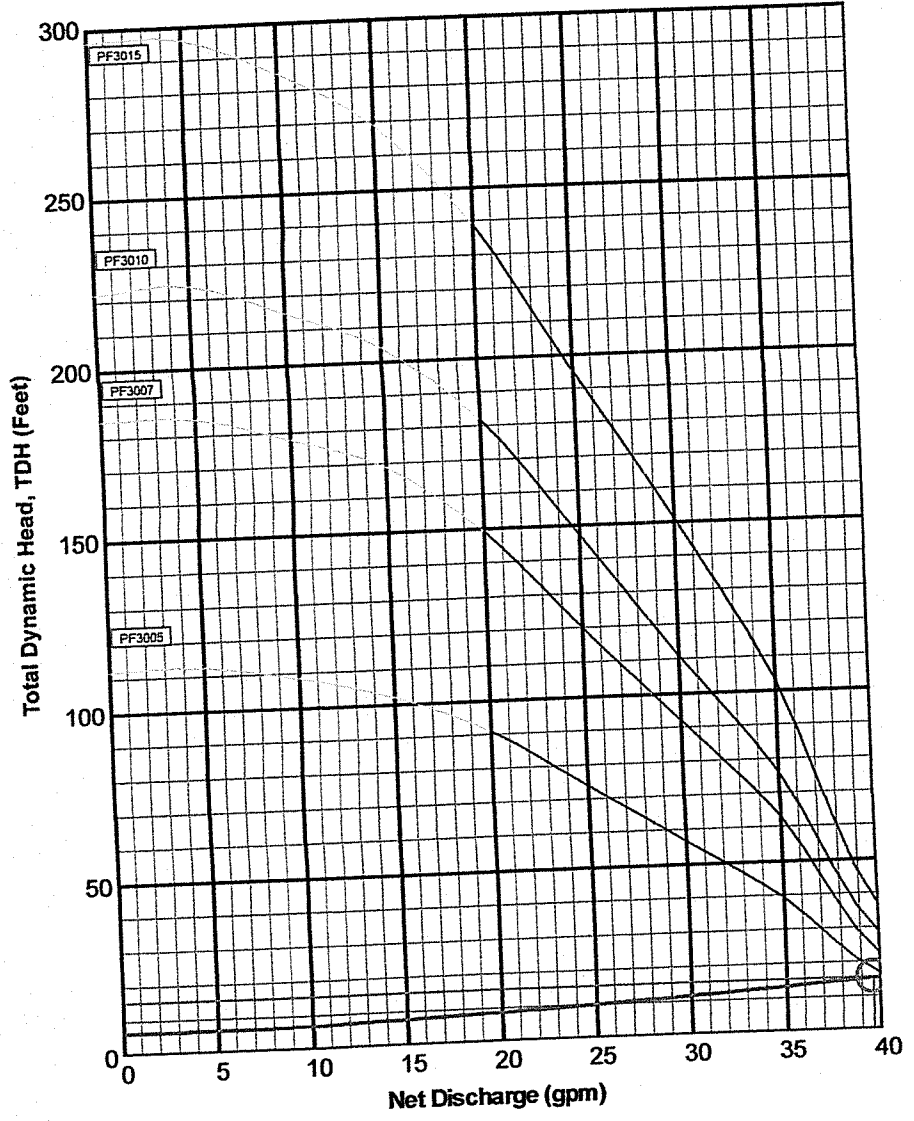
Pump Selection for a Pressurized System - Single Family Residence Project

Parameters	
Discharge Assembly Size	200 inches
Transport Length	10 feet
Transport Pipe Class	180 inches
Discharge Head Loss	200 inches
Transportation Head	None
Manifold Length	66 feet
Manifold Pipe Class	9 feet
Manifold Pipe Size	200 inches
Number of Lateral per Cell	125 inches
Lateral Length	7 feet
Lateral Pipe Class	19 feet
Lateral Pipe Size	200 inches
Orifice Spacing	075 inches
Residual Head	18 inches
Flow Velocity	5 feet
Actual Friction Losses	0 feet

Calculations	
Minimum Flow Rate per Orifice	043 gpm
Number of Orifices per Zone	91
Total Flow Rate per Zone	365 gpm
Number of Laterals per Zone	7
% Flow Distributed to Last Orifice	21 %
Transport Velocity	34 g/s

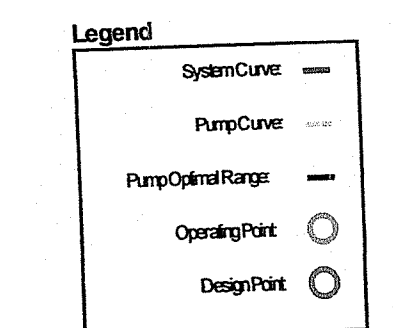
Frictional Head Losses	
Loss through Discharge	31 feet
Loss in Transport	02 feet
Loss through Valve	00 feet
Loss in Manifold	03 feet
Loss in Lateral	00 feet
Loss through Flowmeter	00 feet
Actual Friction Losses	00 feet

Pipe Volumes	
Void in Transport Line	19 g/s
Void in Manifold	08 g/s
Void in Lateral per Zone	47 g/s
Total Volume	75 g/s



Minimum Pump Requirements	
Design Flow Rate	365 gpm
Total Dynamic Head	155 feet

Pump Data	
PF3005 High Head Effluent Pump	30 GPM 120 HP
11500V 1600Hz 200V 30/03Hz	
PF3007 High Head Effluent Pump	30 GPM 340 HP
230V 1600Hz 2000V 30/03Hz	
PF3010 High Head Effluent Pump	30 GPM 1 HP
230V 1600Hz 2000V 30/03Hz	
PF3015 High Head Effluent Pump	30 GPM 1-02 HP
230V 1600Hz 2000V 30/03Hz	



WETLANDS JOINT APPLICATION-LOT "B"

MOHAMMED ARIF
 ASSESSORS PLAT 17 LOT 23
 OLD SMITHFIELD ROAD
 NORTH SMITHFIELD, RHODE ISLAND

MISCELLANEOUS DETAILS PRELIMINARY MINOR SUBDIVISION

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: J.N.,S.K.
SEPTEMBER 2021	JOB No. 2017-258	SHEET 4 OF 5

misc details sheet 4-lot b, 1:1

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

THE HAYBALES AND SILT FENCE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.

THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.

ALL CATCH BASINS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORMWATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.3.0) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.

ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND OF VEGETATION IS MAINTAINED.

ALL HAYBALES, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLAND EDGES. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.

THE HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED WITH SEDIMENTS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.

ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.

BMP MAINTENANCE SCHEDULE:

ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:

INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.

REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY.

SITE PLAN NOTES:

DETAILED ENGINEERING REVIEW FOR PROPOSED UTILITIES COVERED UNDER SEPARATE SUBMISSION, TO GOVERNING AGENCIES. THE DETAILED ENGINEERING PLANS FOR UTILITIES INSTALLATION AND CONNECTION HAVE NOT BEEN PROVIDED UNDER THIS SUBMISSION.

THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND NOTIFY THE DESIGNER PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)

TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DIVIDES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.

THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN THE STATE RIGHT-OF-WAY.

ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL, SETUPS, SIGNS CHANNELING DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. 1988 EDITION, INCLUDING REVISION 3, SEPTEMBER 3, 1993 AND SUBSEQUENT ADDENDA.

SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

ESTABLISHMENT OF VEGETATIVE COVER:

ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I. STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.

SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.

THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATION M.20.

THE SEED MIX TO BE USED ON SLOPE APPROACHING WETLAND SHALL BE THE NEW ENGLAND CONSERVATION/WILDLIFE MIX FROM NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL APPLIED AT A RATE OF 25 LBS. PER ACRE AND MULCHED WITH STRAW.

EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZER AS REQUIRED BY SOIL TESTING TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.

ISDS AX System Notes

THE AX SYSTEM IS AN ORENCO COMPONENT SYSTEM AND THIS DESIGN IS PREDICATED UPON AN INSTALLATION IN THE SERIES 3B MODE. IN MODE 3B THE FILTRATE RECIRCULATES BACK TO THE HIGH-CARBON, LOW ENVIRONMENT OF THE PROCESSING TANK. THIS PROCESS ALLOWS MICROBES TO REDUCE NITRATES TO NITROGEN GAS, DENITRIFYING THE EFFLUENT. THE INSTALLER OF THIS SYSTEM MUST BE LICENSED BY ORENCO, INC.

THE UNIT UTILIZED IN THIS DESIGN IS AN ORENCO AX20.

IT IS CONDITIONAL IN THIS DESIGN THAT THE LID OF THE AX20 UNIT BE TREATED WITH 2 INCHES OF FOAM INSULATION TO REDUCE FREEZING POTENTIAL.

A THERMOSTATICALLY CONTROLLED IN-LINE HEATER TO PRE-HEAT TREATMENT AIR IS AN OPTION WHICH IS RECOMMENDED IN THIS PLACEMENT.

THE INCORPORATION OF THE AX20 SYSTEM WILL PROVIDE FOR A CATEGORY 1 TREATMENT SYSTEM, AN ADVANCED TREATMENT UNIT THAT IS TIME DOSED AS CLASSIFIED BY THE RIDEM.

Determining RSV & Float Levels

RSV LEVEL: FOR STINGER PIPE LENGTHS UP TO 24" LONG. THE LOW LIQUID LEVEL WILL BE APPROXIMATELY 5"-6" BELOW THE TOP OF THE RSV CAGE. (LOW LIQUID LEVEL IS THE LEVEL AT WHICH 100% OF THE FILTRATE RETURNS TO THE TANK.) FOR MOST RESIDENTIAL APPLICATIONS, THE RECOMMENDED SURGE VOLUME IS APPROXIMATELY 150 TO 250 GALLONS (APPROX. 50% TO 100% OF ACTUAL FLOW). THE SURGE VOLUME IS THE VOLUME BETWEEN THE LOW LIQUID LEVEL AND THE HIGH WATER ALARM FLOAT. FOR MODE 3 INSTALLATIONS, THE DUCKBILL MODEL RSV IS REQUIRED, WHICH HAS A FLEXIBLE PVC TUBE THAT VENTS THE RSV CAGE TO THE ATMOSPHERE.

FLOAT LEVELS: TYPICALLY THE BOTTOM FLOAT SHOULD BE POSITIONED AS CLOSE TO THE TOP OF THE BIOTUBE CARTRIDGE AS POSSIBLE. THE TOP FLOAT IS NORMALLY SET ONE TO TWO INCHES BELOW THE INVERT OF THE TANK INLET. FOR MOST RESIDENTIAL APPLICATIONS, THE RECOMMENDED SURGE VOLUME IS APPROXIMATELY 150 TO 250 GALLONS (APPROX. 50% TO 100% OF ACTUAL FLOW). THE SURGE VOLUME IS THE VOLUME BETWEEN THE LOW LIQUID LEVEL AND THE HIGH WATER ALARM FLOAT. BE SURE TO CHECK PLANS FOR ANY SITE SPECIFIC OR TANK SPECIFIC FLOAT SETTINGS.

Retaining Wall Notes

THE WALLS MUST BE LINED WITH A 30 mil PVC LINER WITH ALL BOOTS, PATCHES, REPAIRS, AND SEAMS HAVING THE SAME PHYSICAL PROPERTIES AS THE LINER.

ANY PENETRATION THROUGH THE LINER SHALL BE DONE WITH A PVC BOOT ATTACHMENT GLUED TO THE LINER WITH THE APPROPRIATE RESILIENT SEALER.

SUPPORT WALLS ARE NEEDED TO PREVENT CAVING OF FILTER WALLS DURING CONSTRUCTION. THESE WALLS SHALL BE RIGID AND MADE OF PLYWOOD (OR EQUIVALENT) AND 2x4 SUPPORT BOARDS.

A PERMANENT TOP FRAME STRUCTURE MUST BE PROVIDED ON ANY PORTION OF THE BSF THAT IS INSTALLED ABOVE GRADE (AX OF 24" ABOVE GRADE). THE PERIMETER OF THE BSF, BELOW THE REQUIRED PERIMETER OF TIMBERS, MAY BE BERMED WITH NATIVE SOIL OR OTHER MATERIAL SUCH AS LANDSCAPE STONE OR OTHER NON-DEGRADING MATERIAL. BELOW GRADE USE OF TIMBERS IS PROHIBITED.

**ISDS SYSTEM NOTES
Bottomless Sand Filter Notes**

THIS DESIGN WILL PLACE THE DISPOSAL HORIZON WITHIN THE "A" AND "B" HORIZONS OF THE PARENT SOIL MATERIAL. ONLY THE GRASS THATCH AND/OR ORGANIC LAYERS ARE TO BE REMOVED IN THE CONSTRUCTION OF THE BOTTOMLESS SAND FILTER ("BSF").

THE "BSF" AREA IS TO BE LOCATED AND STAKED IN THE FIELD BY THE DESIGNER PRIOR TO CONSTRUCTION. PROTECTION AGAINST HEAVY VEHICLE TRAFFIC MUST BE ESTABLISHED IN THE "BSF" AREA PRIOR TO INITIATING ANY CONSTRUCTION OPERATIONS ON THE SITE. DEGRADATION OF THE PROPOSED SITE AREA WILL REQUIRE A RE-DESIGN.

SYSTEM COMPONENTS WITHIN THIS DESIGN ARE AVAILABLE FROM ORENCO SYSTEMS INC., 814 AIRWAY AVENUE, SUTHERLIN, OR. 97479. LOCAL DEALER INFORMATION IS AVAILABLE AT 1-800-348-9843 OR WWW.ORENCO.COM.

A MINIMUM TEN (10) FEET MUST BE MAINTAINED BETWEEN THE "BSF" AND ADJACENT TREES AND SHRUBS.

THIS SYSTEM IS EFFECTIVELY TIMED DOSED VIA ADVANTEX SYSTEM FOR PRESSURE DOSING. INTERMITTENT PRESSURE DOSED EFFLUENT WILL PROVIDE A UNIFORM DISTRIBUTION OF WASTE WATER OVER THE "BSF" AREA, MINIMIZING LOCALIZED SATURATION. LATERAL GATE VALVES ARE DESIGNED FOR PLACEMENT OFF THE HEADER LINE SO AS TO EQUALIZE HYDRAULIC PRESSURE IN THE DISPERSAL.

THE PRESSURE DOSE EFFLUENT LINE IS DESIGNED AS A 1 1/2" HDPE PVC LINE. THE PRESSURE LINE IS TO BE SLOPED BACK TOWARDS THE PUMP CHAMBER FROM THE "BSF" FIELD TO ELIMINATE FREEZING.

THE "BSF" SAND MEDIA MUST CONFORM TO ASTM C-33 SPECIFICATIONS, EFFECTIVE SIZE (D10) OF 0.3 mm AND A UNIFORMITY COEFFICIENT (D60/D10) OF 3.0 TO 4.0. MAXIMUM MATERIAL PASSING THE NUMBER 200 SIEVE SHALL BE 1%. THE INSTALLER SHALL PRODUCE GRADATION ANALYSIS RESULTS FOR THE MATERIAL PROVIDED FROM THE SUPPLIER.

PERIMETER STRIPPING OF THE SOIL MATERIAL BELOW THE "BSF" IS PROHIBITED.

THE WALLS OF THE "BSF" ENCLOSURE MUST BE LINED WITH A 30 mil PVC LINER WITH ALL BOOTS, PATCHES, REPAIRS, AND SEAMS HAVING THE SAME PROPERTIES AS THE LINER.

ANY PENETRATION THROUGH THE PVC LINER WALL SHALL BE DONE WITH A PVC BOOT ATTACHMENT GLUED TO THE LINER WITH APPROPRIATE RESILIENT SEALER.

EXCAVATOR/BACKHOE BUCKET USED TO PLACE MEDIA SHALL BE WASHED THOROUGHLY BEFORE LOADING PROCESS.

SAND MEDIA SHALL BE PLACED IN 6 INCH LIFTS AND WETTED TO PROVIDE EVEN SETTLING. AFTER PLACEMENT OF EACH LIFT EDGES OF THE FILTER SHALL BE WALKED DOWN, CLEAN SHOES ARE REQUIRED FOR THIS PROCESS.

AFTER SAND MEDIA HAS SETTLED, 3 INCHES OF 3/8 INCH WASHED PEA STONE SHALL BE PLACED OVER SAND MEDIA. AFTER INSTALLATION OF DISTRIBUTION LATERALS ADD 3 INCHES OF WASHED PEA STONE TO COVER THE SYSTEM. NO FILTER FABRIC OF ANY KIND IS TO BE USED BETWEEN THE SAND AND OVERLYING PEA STONE LAYERS.

THE ELEVATION OF THE "BSF" INVERT SHALL EXTEND 5 FEET BEYOND THE WALL PERIMETER.

WHILE NOT NORMALLY EXPERIENCED, THERE HAVE BEEN REPORTED INSTANCES WHERE SAND FILTER SYSTEMS HAVE BEEN KNOWN TO EXPERIENCE PROBLEMS WITH FREEZING OF PIPES UNDER EXTREME COLD CONDITIONS. WHILE MOST SAND FILTER INSTALLATIONS OPERATE SATISFACTORILY AND WITHOUT FREEZING PROBLEMS, THE POSSIBILITY OF FREEZING MAY EXIST UNDER CERTAIN CIRCUMSTANCES. SHOULD THE OWNER WISH TO MAXIMIZE THE AVOIDANCE OF THIS POSSIBILITY, THE OWNER MAY ELECT THE OPTION OF INSTALLING AN ELECTRIC HEAT TRACING SYSTEM ON THE PIPELINES. OWNER SHOULD CONTACT MANUFACTURERS/SUPPLIERS OF SUCH EQUIPMENT FOR FURTHER INFORMATION.

Operation and Maintenance Requirements

THIS SYSTEM SHALL PROVIDE FOR AN AUDIBLE ALARM FOR HIGH WATER IN THE PUMP CHAMBERS WHICH MAY BE SILENCED BY PUSHING A BUTTON ON THE CONTROL PANEL. THIS SITUATION MAY DEVELOP WITH UNUSUALLY HIGH WATER USAGE AND WILL NOT INDICATE AN ONGOING PROBLEM. REPEATED ALARMS, OR ALARMS WITH NO UNUSUAL WATER USAGE SHOULD BE REPORTED TO YOUR MAINTENANCE PROVIDER.

THE PROPERTY OWNER SHALL ENTER INTO MAINTENANCE CONTRACTS FOR BOTH THE AX SYSTEM AND THE "BSF" DISPOSAL FIELD. EACH UNIT SHOULD HAVE A MINIMUM OF 2 INSPECTIONS ANNUALLY.

THE MAINTENANCE PROVIDER SHALL AFFIX THEIR NAME AND 24-HOUR CONTACT PHONE INSIDE THE CONTROL BOX LOCATED ON THE EXTERIOR OF THE HOUSE.

THE "BSF" INSPECTION SHALL INCLUDE A SAMPLING OF THE "BSF" INFLUENT TO CHECK FOR CLARITY.

"BSF" LATERALS SHALL BE CLEANED ANNUALLY BY OPENING THE LATERAL END BALL VALVE AND CLEANING THE ENTIRE LENGTH OF THE LATERAL WITH A BOTTLE BRUSH. THE ACCUMULATED CLEANED MATERIAL MAY BE DEPOSITED IN THE INLET OF THE SEPTIC TANK. EACH LATERAL IS TO BE FLUSHED AS REQUIRED.

THE TOP OF THE "BSF" FIELD IS TO BE KEPT CLEAN OF DEBRIS AND UNWANTED VEGETATION (WEEDS, LEAVES, BRUSH, ETC.). LANDSCAPE TIMBERS AS DESIGNED SHALL BE MAINTAINED TO PREVENT CRUSHING OF THE SYSTEM BY UNWANTED LOADS.

ELECTRONIC COMPONENTS OF THE ADVANTEX AND BSF SYSTEMS SHALL BE CHECKED ANNUALLY FOR OPERATION.

ALL FLOATS IN THE PUMP CHAMBERS SHALL BE HOSED DOWN AND CLEANED FROM BUILD-UP.

THE INLET OF THE SEPTIC TANK AND THE DOSING TANK SHALL BE INSPECTED FOR SLUDGE AND SLIM ACCUMULATION. WHEN THESE MATERIALS BUILD UP TO 3/32 OF THE SEPTIC TANK HEIGHT, THE TANK SHOULD BE PUMPED AND THE ACCUMULATIONS APPROPRIATELY REMOVED.

THE FILTER IN THE PUMP CHAMBERS SHALL BE CLEANED ANNUALLY.

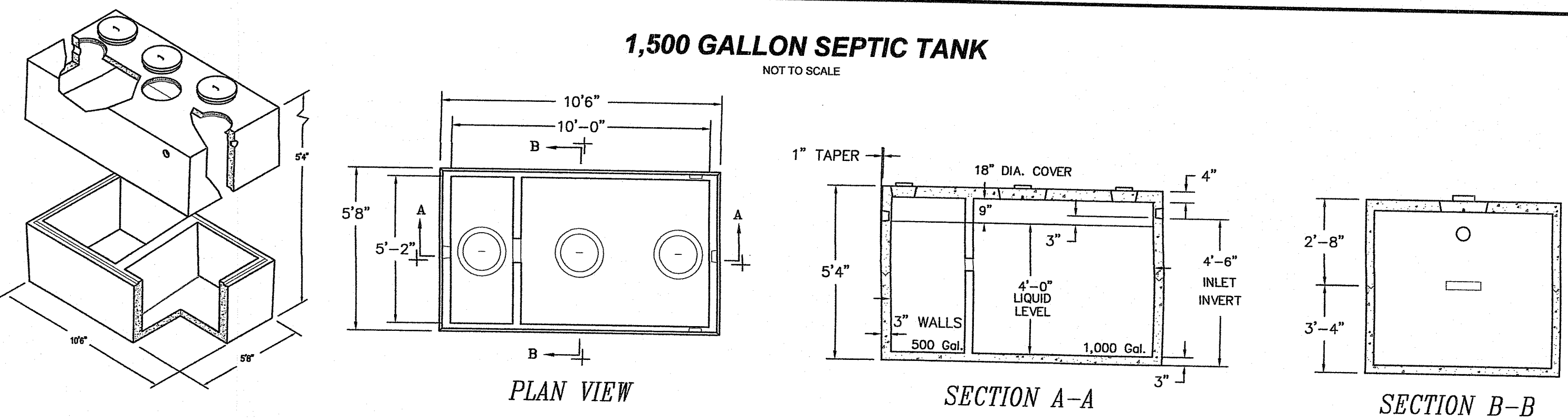
SHOULD THE PUMP ASSEMBLY BE REMOVED, THE VAULT SHALL BE CLEANED AND FILLED WITH CLEAN WATER TO PREVENT THE SCREEN FROM BEING FOULED WITH SOLIDS.

THE AREA WITHIN 10 FEET OF THE "BSF" SHALL BE KEPT CLEAR OF TREES AND SHRUBS. THE COVER OVER THE BOTTOMLESS SAND FILTER SHALL BE KEPT FREE FROM DEBRIS AND PEA STONE BROUGHT TO TOP OF FORM.

TWO TO FOUR WEEKS AFTER INSTALLATION, OR AFTER SUFFICIENT USE OF THE SYSTEM TIMER SHALL BE RESET, AS NEEDED, BASED UPON ACTUAL FLOW THROUGH THE SYSTEM.

TIMER SETTINGS SHALL BE CHECKED AT EVERY ESTABLISHED MAINTENANCE AND INSPECTION VISIT AND ADJUSTED AS NEEDED.

* PLEASE NOTE: INSPECTIONS ARE REQUIRED, AND THE SYSTEM MUST BE INSTALLED AS DESIGNED. ANY CHANGES MAY REQUIRE EITHER AN AS-BUILT PLAN OR A RE-DESIGN APPLICATION TO BE REVIEWED AND APPROVED BY D.E.M./OWTS AT AN ADDITIONAL COST TO THE OWNER AND A POSSIBLE TIME DELAY. THE DESIGNER MUST RECEIVE ALL PURCHASE SLIPS OF COMPONENTS AND MATERIALS PRIOR TO SCHEDULING FINAL INSPECTIONS.



ISDS NOTES

THIS DESIGN IS SUBMITTED TO RIDEM TO BE REVIEWED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. CONSTRUCTION OF THIS SYSTEM WILL REQUIRE THE DESIGNER'S CERTIFICATE OF CONSTRUCTION FOR ISDS.

UNLESS OTHERWISE SPECIFIED, THE SYSTEM HAS NOT BEEN DESIGNED WITH THE PROVISIONS FOR GARBAGE GRINDERS.

THERE ARE NO KNOWN PUBLIC WELLS, EXISTING OR PROPOSED, WITHIN 500 FEET OF THE DESIGNED SYSTEM UNLESS SHOWN.

THERE ARE NO OTHER KNOWN WELLS, EXISTING OR PROPOSED, WITHIN 200 FEET OF THE LEACHING AREA, NOR SEPTIC SYSTEMS WITHIN 100 FEET OF THE WELL UNLESS SHOWN.

THERE ARE SURFACE WATER DRAINS OR TRIBUTARIES WITHIN 200 FEET OF THE SYSTEM OR ALTERNATE AREA WHICH DRAIN TO A CRITICAL RESOURCE AREA PER SD 19.00 - 19.03 AS SHOWN.

THE 1 1/2 INCH PRESSURE EFFLUENT LINE SHALL BE SLOPED TOWARDS THE PUMP CHAMBER TO PREVENT FREEZING.

NO DRIVING, PARKING OR PAVING WITHIN 10' OF LEACH FIELD.

THIS SEWERAGE DISPOSAL SYSTEM SHALL CONFORM TO ALL THE REGULATIONS UNDER SECTIONS 42-17.1-2(1), (M) (R) AND (S) AND SECTION 23-19.5-4 AND CHAPTER 42-35 OF THE GENERAL LAWS OF RHODE ISLAND.

ALL PIPES EXCEPT IN THE LEACHING FIELD SHALL BE SOLID 4 INCH DIAMETER SCHEDULE 35 WITH WATERTIGHT JOINTS OR EQUIVALENT UNLESS OTHERWISE SPECIFIED.

ALL GRAVITY PIPES UNLESS OTHERWISE SPECIFIED SHALL HAVE A SLOPE NOT LESS THAN 1/8 INCH PER FEET BUT NO GREATER THAN 3%.

SEPTIC TANK AND DOSING TANK SHALL BE SET ON A LEVEL STABLE BASE THAT WILL NOT SETTLE.

THIS PROPOSED DEVELOPMENT SHALL USE "LOW FLOW FIXTURES".

INSPECTIONS OR AS-BUILT PLANS ARE REQUIRED, DESIGNER MUST BE NOTIFIED 48 HOURS IN ADVANCE AND COMPONENTS OF SYSTEM MUST BE LEFT EXPOSED.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

THE HAYBALE / SILT FENCE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.

THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.

ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND IS MAINTAINED.

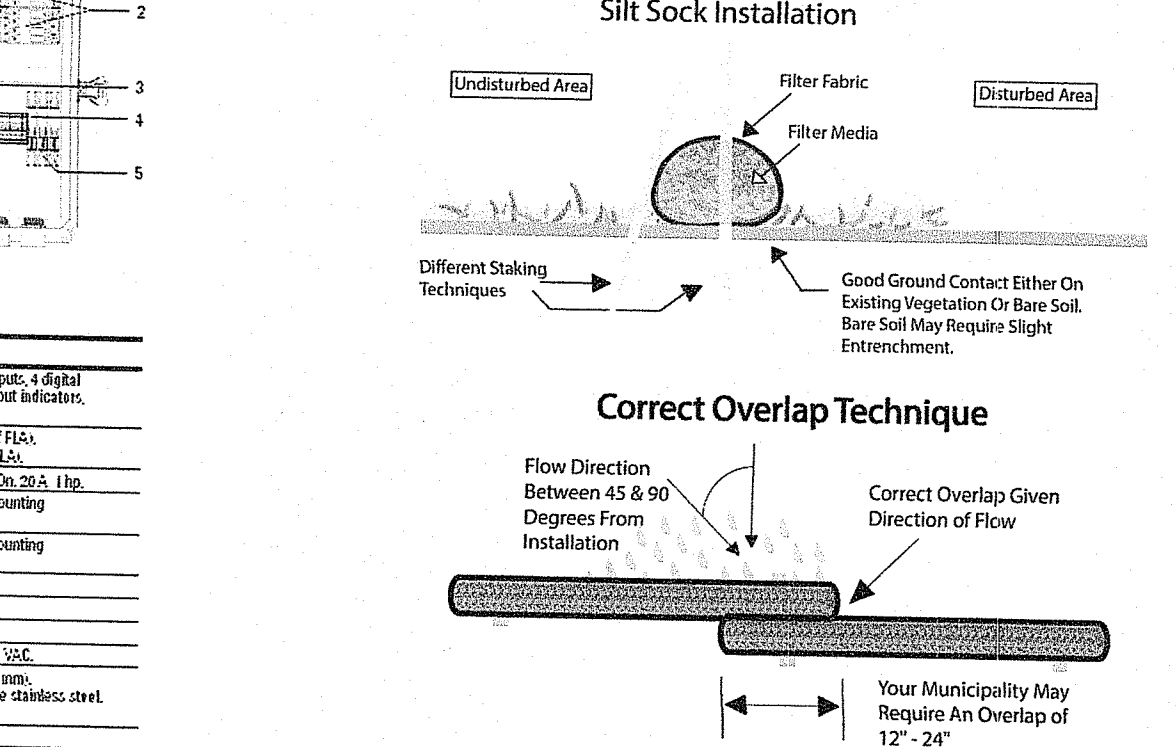
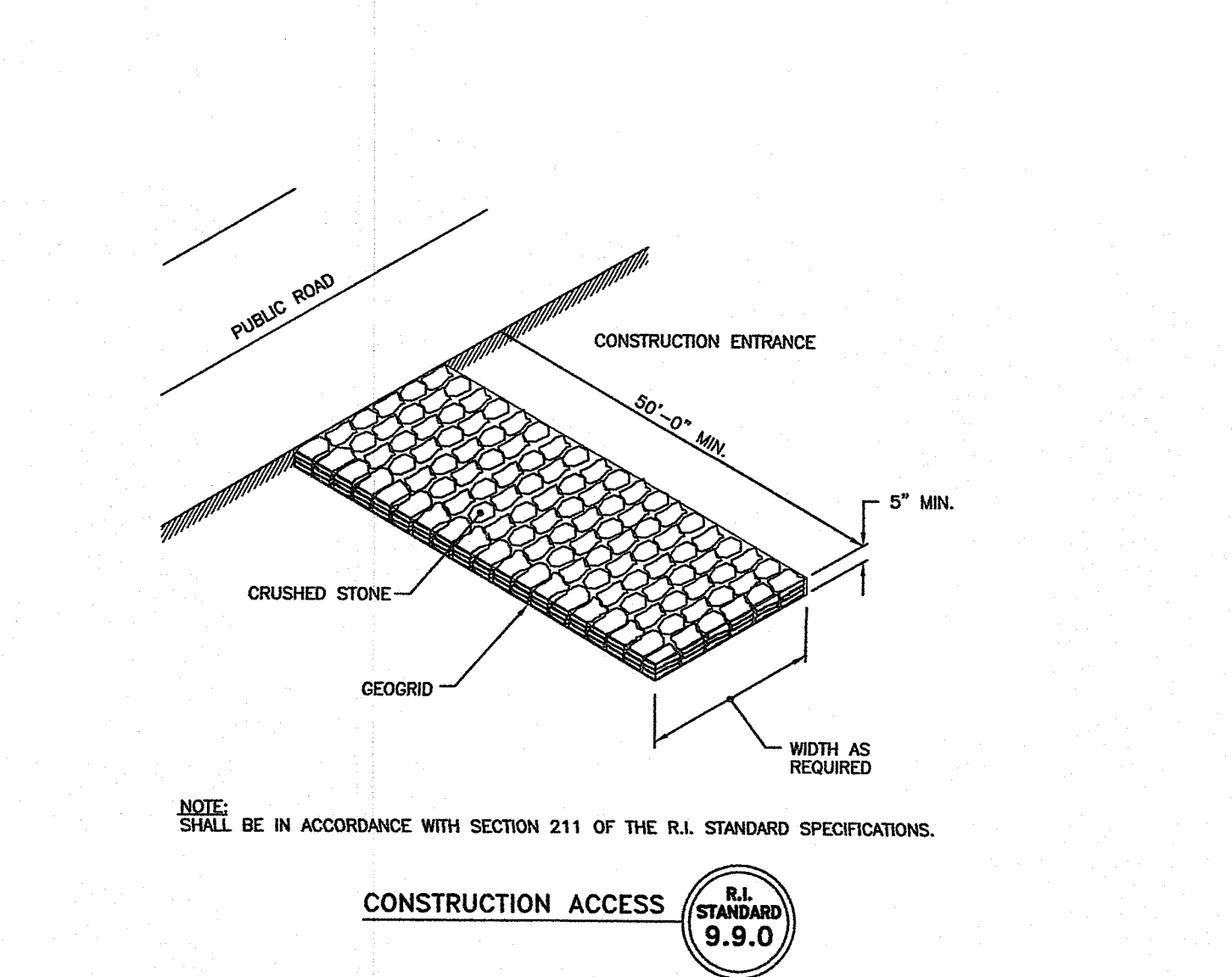
ALL HAY BALES, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.

THE HAY BALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY HAY BALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED WITH SEDIMENTS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAY BALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.

ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.



PUMP CONTROL PANEL BOX MUST BE PLACED ON AN OUTSIDE WALL OF THE STRUCTURE THAT IT SERVES. RECOMMENDED THAT THE PANEL BOX BE WITHIN VIEW OF THE SYSTEM LOCATION.

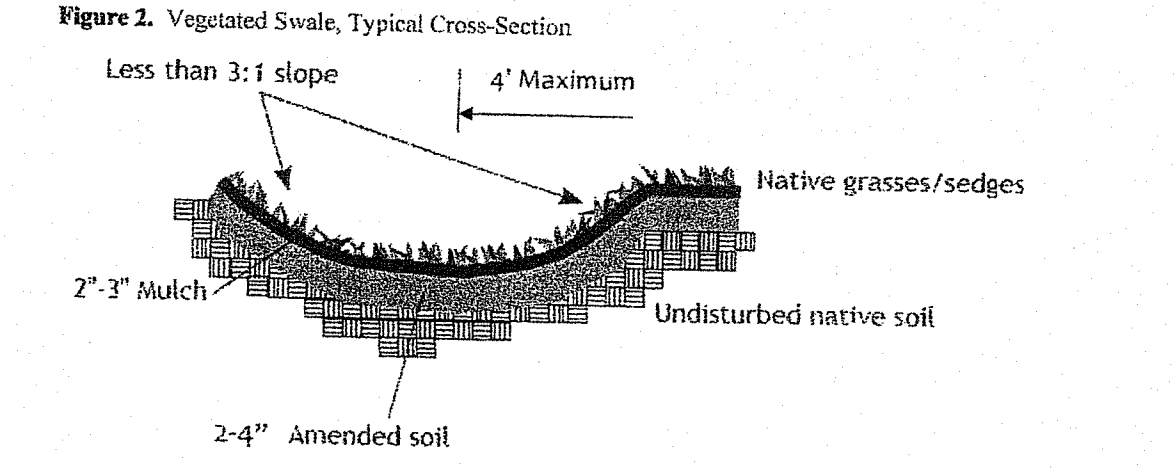


Table 5. Vegetated Swale Sizing Guidance

Drainage Area (in square feet)	Bottom surface Area (in square feet) for an 8 in. deep swale	
	Sandy Soils	Silty Soils
200	16	32
400	32	64
600	48	96
800	64	128
1000	80	160

**WETLANDS
JOINT APPLICATION-LOT "B"**

**MOHAMMED ARIF
ASSESSORS PLAT 17 LOT 23
OLD SMITHFIELD ROAD
NORTH SMITHFIELD, RHODE ISLAND**

**MISCELLANEOUS DETAILS
PRELIMINARY MINOR SUBDIVISION**

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: J.N.S.K.
SEPTEMBER 2021	JOB No. 2017-258	SHEET 5 OF 5