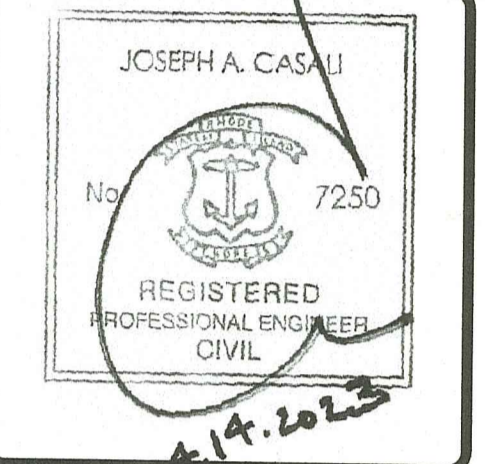
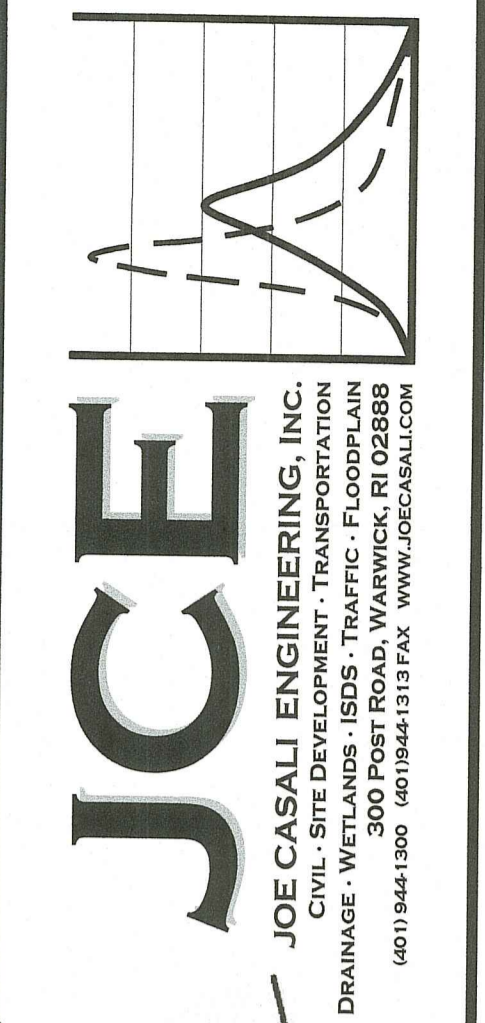


SITE IMPROVEMENT PLAN FOR A PROPOSED

3-LOT RESIDENTIAL MINOR SUBDIVISION

**BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54**



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 18 2023 FILE # 23-0090
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
NOTE PER DEM:
Kindly be advised that this Permit
is not equivalent to a
verification of the type or extent
of freshwater wetlands on site

APPROVALS:

SMITHFIELD TOWN ENGINEER'S OFFICE - SOIL EROSION PERMIT #2021-1417 (JUNE 4, 2021)

FILINGS:

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - FRESHWATER WETLANDS PERMIT NO. 21-0007 (RE-FILE)

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - SUBDIVISION SUITABILITY DETERMINATION

**PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54**

REVISIONS:

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

DESIGNED BY: WMLJR
DRAWN BY: SD/SEP
CHECKED BY: JAC
DATE: APRIL 2023
PROJECT NO: 15-34g

PRELIMINARY, NOT FOR CONSTRUCTION

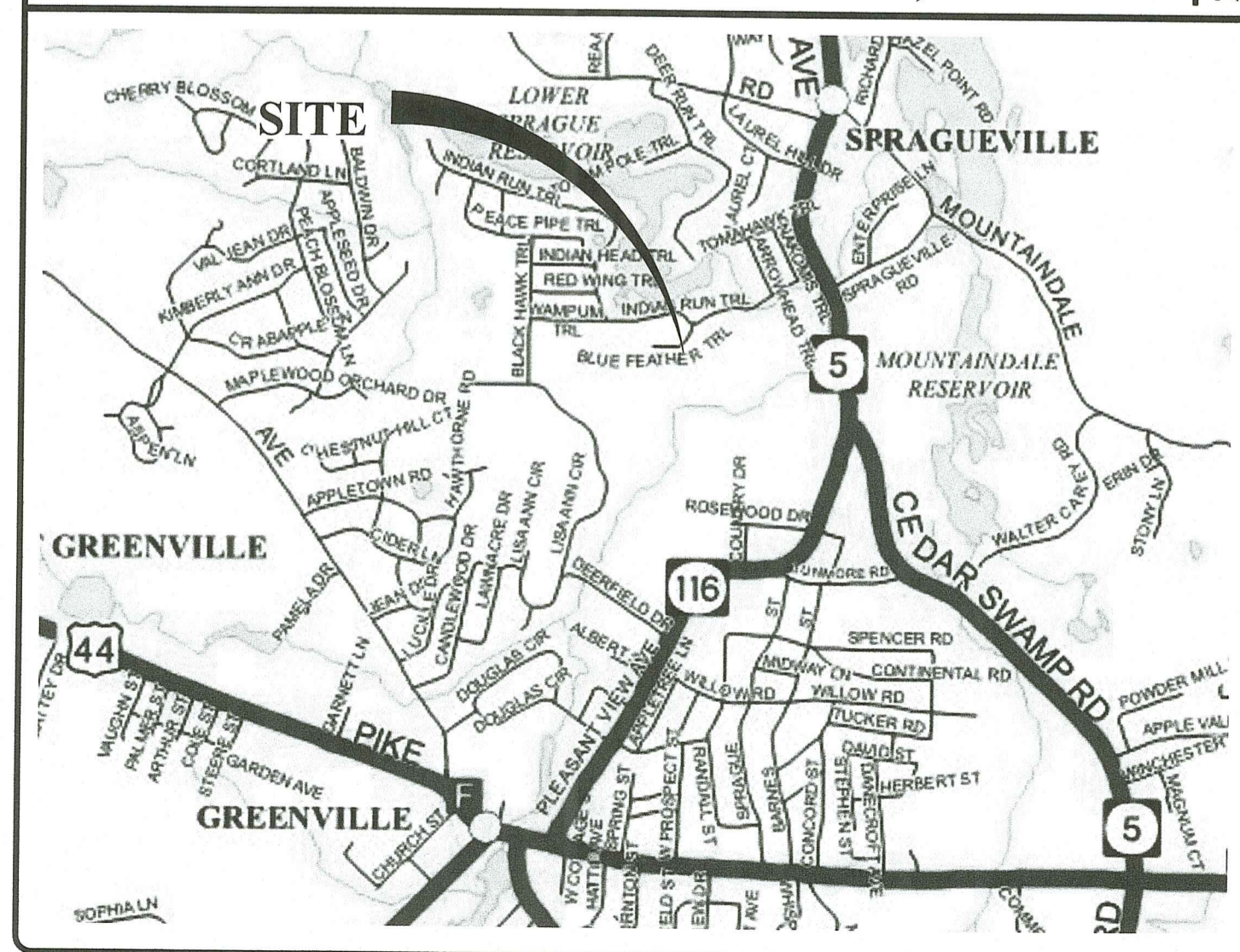
COVER SHEET

SHEET 1 OF 9

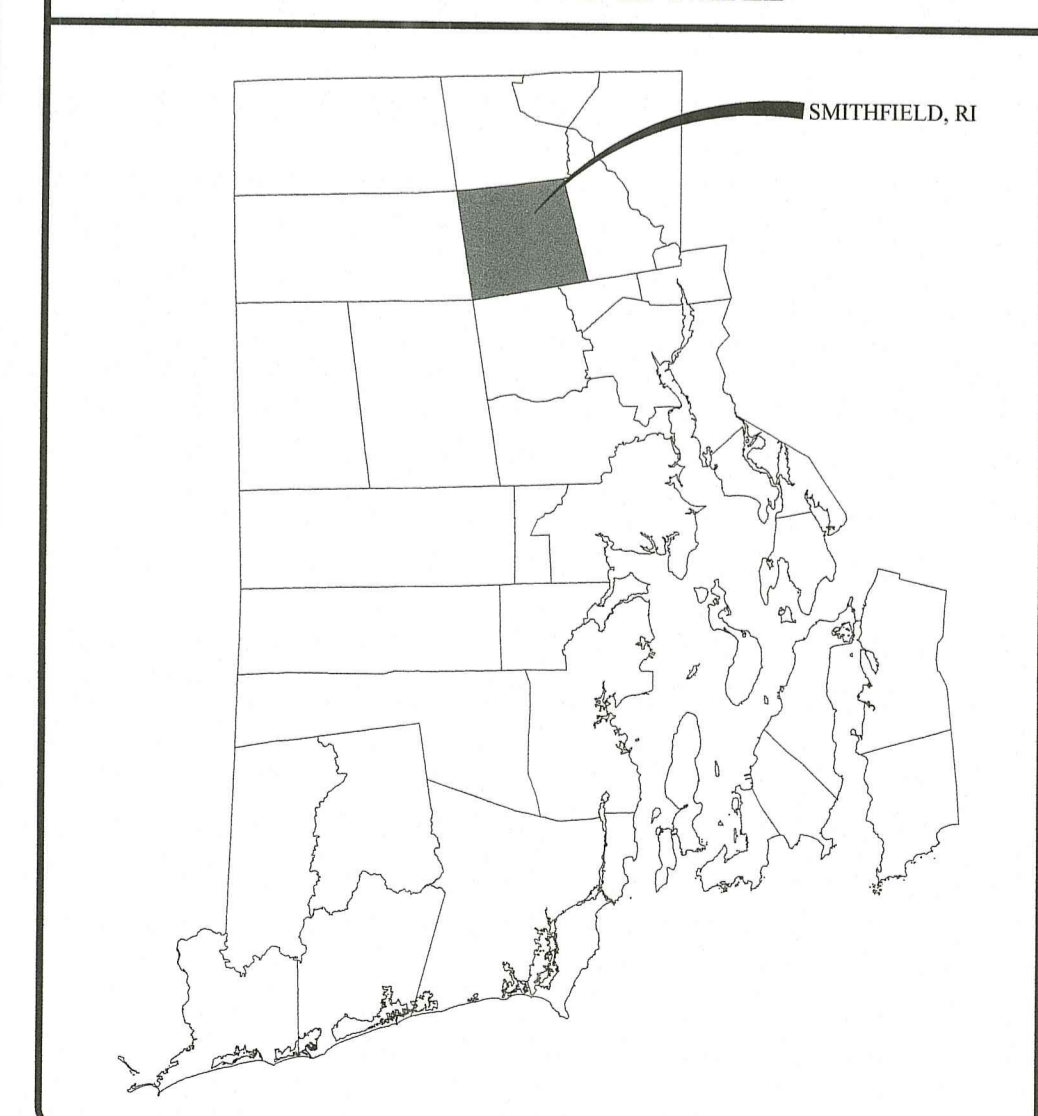
PROJECT TEAM

| | | | |
|------------------------------|---|-------------------------------|--|
| OWNER/ APPLICANT: | TRI-MAR DEVELOPMENT LLC 8 TRISTAN COURT SMITHFIELD, RI 02917 PHONE: 401-265-9797 | LAND SURVEYOR: | INTERNATIONAL MAPPING & SURVEYING CORP. 19 INDUSTRIAL DRIVE SMITHFIELD, RI 02917 PHONE: 401-232-2620 |
| CIVIL ENGINEER: | JOE CASALI ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313 JOECASALI.COM | WETLAND BIOLOGIST: | NATURAL RESOURCE SERVICES 86 HARRISVILLE, RI 02830 HARRISVILLE, RI 02830 PHONE: 401-568-7390 FAX: 401-568-7390 |

LOCUS MAP (NOT TO SCALE)



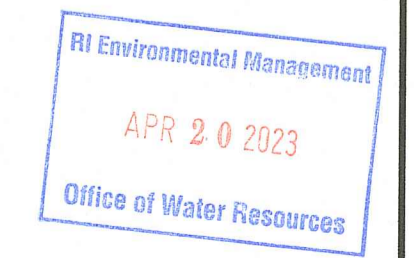
STATE WIDE MAP



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| 3 | EXISTING CONDITIONS & SITE PREPARATION PLAN |
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| 5 | GRADING, DRAINAGE & UTILITY PLAN |
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REFERENCE PLAN:
COMPREHENSIVE BOUNDARY SURVEY PREPARED BY
INTERNATIONAL MAPPING AND SURVEYING, INC., JANUARY 2019



C:\15-34-Scott-Ringham\15-34g-Blue-Feather-Trail\DWG\Refille-RI\15m1.dwg, Apr. 19, 2023 4:33pm

GENERAL NOTES:

- 1. CONTRACTOR SHALL NOTIFY "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CLASS I PROPERTY LINE AND CLASS III TOPOGRAPHIC SURVEY COMPLETED BY INTERNATIONAL MAPPING AND SURVEYING CORP., 19 INDUSTRIAL DRIVE, SMITHFIELD, RI 02917 IN JANUARY 2019.
3. 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 "DIG-SAFE" MUST BE NOTIFIED 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 THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
4. THE ENTIRE PROJECT SITE LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FIRM MAP FOR PROVIDENCE COUNTY, RHODE ISLAND, MAP NUMBER 44007C0168H, EFFECTIVE DATE OCTOBER 2, 2015.
5. THERE ARE NO HIGH HAZARD AREAS ON THE PROJECT SITE.
6. FRESHWATER WETLANDS SHOWN HEREIN WERE DELINEATED IN APRIL OF 2020 BY NATIONAL RESOURCE SERVICES, INC., OF BURRILLVILLE, RI.
7. SOILS EXISTING ON THE SITE CONSIST OF HINCKLEY LOAMY SAND, 8 TO 15% SLOPES (H%K).
8. SOIL EVALUATIONS WERE PERFORMED BY PATRICIA KELLY (D0497) IN APRIL 2019 AND JULY 2020.
9. THERE ARE NO KNOWN EASEMENTS WITHIN THE PROJECT AREA.
10. PUBLIC WATER IS AVAILABLE TO THE SUBJECT PROPERTY. SEWER IS NOT AVAILABLE. ELECTRIC SERVICES AND COMMUNICATION SERVICES ARE AVAILABLE VIA OVERHEAD LINES ALONG BLUE FEATHER TRAIL.

SITE NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
2. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICAN WITH DISABILITIES ACT AND WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS, WHICHEVER IS MORE STRINGENT.
3. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
4. ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
5. THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.
6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
7. ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
8. REFER TO ARCHITECTURAL PLANS, STRUCTURAL PLANS, PLUMBING PLANS AND ELECTRICAL PLANS FOR ACTUAL SIZE OF THE PROPOSED BUILDINGS AND WORK WITHIN 5 FEET OF THE PROPOSED BUILDINGS.
9. WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
10. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
11. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION, UNLESS OTHERWISE NOTED ON THE SITE PLANS.
12. THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
13. ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
14. WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
15. LEDGE TO BE REMOVED BY MECHANICAL MEANS OR BY BLASTING.
16. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
17. ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AMENDED DECEMBER 2010 (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- 1. 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 THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION.
2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHT-OF-WAY.
4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.
5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

SEDIMENTATION CONTROL PROGRAM:

- 1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE STORMWATER MANAGEMENT AREAS. THESE AREAS CANNOT BE USED AS SEDIMENT CONTROL DEVICES.
2. ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED, SHALL RECEIVE SUITABLE SOLE PROTECTION.
3. ALL UNSLOPED AREAS ARE TO BE STABILIZED PRIOR TO CONNECTING TO THE STORMWATER FACILITIES.
4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF DURING STORMS AND PERIODS OF RAINFALL.
5. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERMS/BARS/CHANNELS AS NECESSARY TO DIRECT FLOW TO TEMPORARY SEDIMENT TRAPS. BERM/BAR/CHANNEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (2016).
6. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. SUCH DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
7. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" ISSUED IN 1989 (REVISED 2014, UPDATED 2016).
8. 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.
9. MATERIAL STOCKPILES SHALL BE ENCLOSED BY SILT FENCE (RI STD. 9.2.0).

DRAINAGE SYSTEM NOTES:

- 1. THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE PIPE OR AN APPROVED EQUAL UNLESS OTHERWISE NOTED ON THE SITE PLANS.
2. ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.

DRAINAGE SYSTEM MAINTENANCE SCHEDULE:

UPON PROJECT COMPLETION, THE PROPERTY OWNER OR ASSOCIATION SHALL ADHERE TO THE FOLLOWING MAINTENANCE PLAN AND SCHEDULE:

- 1. MANHOLES AND DRAIN LINES: AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONAL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
* DAMAGE TO GRATE/ COVERS
* EVIDENCE OF STANDING WATER
* DEBRIS REMOVAL
* STRUCTURAL ALIGNMENT/ INTEGRITY

ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. THE SILT FENCE / HAY BALE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.
2. 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.
3. ALL CATCH BASINS AND CULVERTS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORM WATER 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) OUTLET PROTECTION (STAKED HAYBALE OR STAKED HAYBALE WITH SILT FENCE) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
4. 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 STANDING OF VEGETATION IS MAINTAINED.
5. ALL SILT FENCE, 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.
6. 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.
7. THE SILT FENCE/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 SILT FENCE/HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE HAY-BALES BECOMES FILLED WITH SEDIMENTS.
8. 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, TOWN ENGINEER, OR OWNER 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.
9. 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 AMENDED 2014.

MISCELLANEOUS UTILITY NOTES:

- 1. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. OVERHEAD ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THEIR OPERATIONS.
4. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT THEIR OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR TOWN. ALL GRASSED AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE LOAMED AND SEEDED.
5. EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.
6. THE CONTRACTOR SHALL CONFINE HIS CONSTRUCTION OPERATIONS AND ACTIVITIES TO WITHIN THE STREET LINES, EASEMENT AND/OR RIGHT-OF-WAY, AS SHOWN ON THE DRAWINGS.

SEQUENCE & STAGING OF PROPOSED CONSTRUCTION ACTIVITIES:

THIS IS A GENERAL SEQUENCE AND STAGING OF CONSTRUCTION ACTIVITIES. A DETAILED SEQUENCE WITH TIME LINES SHALL BE ESTABLISHED BY THE CONTRACTOR IN COORDINATION WITH THE OWNER, ENGINEER AND SITE CONTRACTORS PRIOR TO THE START OF CONSTRUCTION.

- 1. SURVEY AND STAKE THE PROPOSED DRAINAGE BMP'S (SEDIMENT FOREBAY, SAND FILTER AND DETENTION BASIN), ROADWAY CENTERLINE, WATER LINE, SEWER LINE AND LIMIT OF DISTURBANCE. THE CONTRACTOR SHALL NOT COMPACT THE AREAS OF THE DRAINAGE BMP'S DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE TO PROTECT BMP'S.
2. PLACE SEDIMENTATION BARRIERS (SILT FENCE) AS SHOWN ON THE PLANS AND AS STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. BEGIN SITE WORK (CLEARING AND GRUBBING, EXCAVATING AND GRADING ETC.) TOPSOIL IS TO STRIPPED AND STOCKPILED WITHIN DISTURBANCE LIMITS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIERS. STOCKPILES TO BE COVERED OR TEMPORARILY SEEDED.
4. EXCAVATE AND CONSTRUCT STORMWATER MANAGEMENT AREAS AND ASSOCIATED EMBANKMENTS AS SHOWN ON THE PLANS. DIVERT ALL THE RUNOFF FROM DISTURBED AREAS TO THE PROPOSED STORMWATER STORAGE AREA.
5. INSTALL UTILITIES AND DRAINAGE INCLUDING DRAINAGE PIPE. IMMEDIATELY PLACE THE RIP-RAP AT THE DISCHARGE POINTS. SEED ALL DISTURBED AREAS.
6. BEGIN PAVEMENT AND PROPOSED GRADING. BRING ROADWAY TO SUBBASE GRADE WITH GRAVEL. SEED ALL DISTURBED AREAS.
7. BEGIN BUILDING CONSTRUCTION.
8. FINISH PAVEMENT CONSTRUCTION.
9. MAINTAIN SEDIMENT AND EROSIONS CONTROLS WHILE BUILDINGS ARE CONSTRUCTED.
10. FINISH LANDSCAPING AND PERMANENT STABILIZATION.
11. INSPECT AND REPAIR ALL DRAINAGE STRUCTURES INCLUDING DISCHARGE POINTS. REMOVE ANY DEBRIS (LEAVES, TREE LIMBS, BOULDERS, ETC.) FROM DRAINAGE INLETS AND OUTLETS. FLUSH ALL SEDIMENTS FROM DRAINAGE PIPES AND APPLY TOPSOIL TO PONDS.
12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ONCE VEGETATION HAS BEEN ESTABLISHED TO ALL DISTURBED AREAS.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS

SPECIFIED IN THE LETTER OF APPROVAL

DATED: MAY 18 2023 FILE #: 23-0090

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Handwritten signature: Nancy L. Freeman

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

NOTE PER DEM:

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site

ORDER OF PROCEDURE:

- 1. SEDIMENT CONTROL DEVICES SHALL SET IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED DURING THE CONSTRUCTION.
3. IF WORK PROGRESS IS INTERRUPTED AT ANY TIME, REFERENCE EROSION & SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
4. SPECIFIED PLANTINGS ARE TO TAKE PLACE IN EARLY SPRING (APRIL 1 THRU JUNE 15) OR EARLY FALL (SEPTEMBER 1 THRU OCTOBER 15) AND ARE TO BE MAINTAINED FOR A PERIOD OF ONE GROWING SEASON AND SHALL BE REPLACED IF NECESSARY.

BMP MAINTENANCE SCHEDULE:

- 1. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
A. MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS ALL PIPES, INTAKE AND DISCHARGE STRUCTURES, CATCH BASIN SUMPS, AND MANHOLES.
B. INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES 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.
2. UPON COMPLETION OF THE PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION AND CLEANING OF THE DRAINAGE SYSTEM AND ALL ASSOCIATED STRUCTURES.
3. ALL INSTALLATION, CLEANING, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL FOLLOW AT LEAST THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION MINIMUM STANDARDS, SECTION 212 AND SECTION 708. WHERE APPROPRIATE, PROCEDURES REGARDING THE DRAINAGE INSTALLATION, CLEANING, INSPECTION, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL BE FOLLOWED AS OUTLINED IN THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" (RIDEM/RICRMC, 2010).
4. AFTER CONSTRUCTION, STORMWATER BMP'S SHALL BE INSPECTED AND MAINTAINED BY THE OLD COUNTY VILLAGE CONDOMINIUM ASSOCIATION AS FOLLOWS:

CATCH BASINS/ DRAIN LINES

- * INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO 2 FEET (LESS THAN 2 FEET FROM THE BOTTOM OF PIPE). ALL REMOVED SEDIMENT SHALL BE TESTED TO DETERMINE POLLUTANT CONTENT AND SHALL BE REMOVED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
* THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME SO THAT THE PUMP CAN BE EASILY INSPECTED AND MAINTAINED.

ROOF DRAIN LEADERS

- * PERFORM ROUTINE ROOF INSPECTIONS QUARTERLY.
* KEEP ROOFS CLEAN AND FREE OF DEBRIS.
* KEEP ROOF DRAINAGE SYSTEMS CLEAR.

UNDERGROUND INFILTRATION SYSTEM

- * INFILTRATION SYSTEMS SHALL BE INSPECTED ON A BI-ANNUAL BASIS TO ENSURE PROPER FUNCTIONS. INSPECTION PORTS SHALL BE USED TO VERIFY THAT THE SYSTEMS ARE DRAINING WITHIN 72 HOURS. IF THE SYSTEM FAILS TO DRAIN WITHIN 72-HOURS, THE SYSTEM SHALL BE CLEANED OR REPLACED AS NECESSARY.
* THE INFILTRATION SYSTEM SHALL BE INSPECTED BI-ANNUALLY FOR SEDIMENT ACCUMULATIONS. IF THE SYSTEM HAS ACCUMULATED 3 INCHES OF SEDIMENT, THE SEDIMENT SHALL BE REMOVED BY FLUSHING FROM THE SYSTEM WITH HIGH PRESSURE WATER JETS AND VACUUMING THE SEDIMENT AND DEBRIS THROUGH THE ACCESS PORTS. ALL SEDIMENT REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS.

INFILTRATION BASIN

- * DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, THE INFILTRATION BASINS SHALL BE INSPECTED AFTER THE FIRST TWO RAINFALL EVENTS OF AT LEAST 1.0 INCH TO ENSURE THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON A BI-ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL TO 2 INCHES.
* SILT AND SEDIMENT SHALL BE REMOVED FROM THE INFILTRATION BASINS WHEN THE ACCUMULATION EXCEEDS 6 INCHES, OR WHEN WATER PONDS ON THE SURFACE OF THE INFILTRATION BASIN FOR MORE THAN 48 HOURS.
* SOIL EROSION GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
* THE OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN NECESSARY.
* TRASH AND DEBRIS SHALL BE REMOVED WHEN NECESSARY OR ANNUALLY AT A MINIMUM.
* THE OUTFLOW WEIR SHOULD BE INSPECTED ANNUALLY TO ENSURE THAT IT IS FUNCTIONING PROPERLY.

LOAMING & SEEDING

SEEDING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SECTION L.02 SEEDING OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA), AND SHALL ALSO CONFORM TO THE FOLLOWING:

- 1. AFTER ROUGH GRADING IS COMPLETED, ALL DISTURBED AREAS AND AREAS LABELED AS 'LOAM AND SEED' ARE TO BE BROUGHT TO AN ELEVATION OF 6" BELOW THE PROPOSED FINISHED GRADE. SCARIFY THE SUBGRADE TO A DEPTH OF 12" WITH THE TEETH OF A BACKHOE OR A POWER RAKE TO RESULT IN AN UNCOMPACTED SUBSOIL. 6" OF GOOD QUALITY TOPSOIL IS TO BE APPLIED AND RAKED TO FINISHED GRADE.
2. THE TOPSOIL IS TO BE GOOD QUALITY LOAM, FERTILE AND FREE OF WEEDS, STICKS AND STONES OVER 3/4" IN SIZE AND OTHERWISE COMPLYING WITH SECTION M.18.01 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA),
3. PRIOR TO SEEDING OR SODDING, FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 1-2" OF THE PLANTING SOIL. APPLY AT A RATE OF 8 LBS. PER 1000 SQUARE FEET.
4. APPLY LIME AT A RATE OF ONE TON PER ACRE AND UNIFORMLY INCORPORATE INTO THE TOP 1-2" OF TOPSOIL.
5. SEEDING
AFTER THE SEED BED IS PREPARED, SEED IS TO BE BROADCAST EVENLY OVER THE SURFACE AND WORKED INTO THE TOP 1" OF SOIL. SEED SHALL BE APPROVED URI #2 OR APPROVED EQUAL. APPLY AT A RATE OF 4-5 LBS. PER 1000 SQUARE FEET OR AS OTHERWISE DIRECTED BY THE MANUFACTURER.

URI #2 IMPROVED SEED MIX, % BY WEIGHT:

- 40% CREEPING RED FESCUE
20% IMPROVED PERENNIAL RYEGRASS
20% IMPROVED KENTUCKY BLUEGRASS
20% KENTUCKY BLUEGRASS

RECOMMENDED SEEDING DATES ARE APRIL 1 TO JUNE 15 AND AUGUST 15 TO OCTOBER 15. AT THE CONTRACTORS DISCRETION, SEED MAY BE APPLIED BY HYDROSEEDING RATHER THAN THE METHOD DESCRIBED ABOVE.

- 6. THE TOPSOIL IN THE SAND FILTER SHALL CONSIST OF 40% COMPOST AND 60% SAND (ASTM C-33) THE TOPSOIL SHALL ALSO HAVE AN ORGANIC CONTENT BETWEEN 8-10% AND THE PERCENT PASSING THE #200 SIEVE BETWEEN 2-5%. TYPICAL GRADATION OF THE TOP SOIL MIXTURE SHALL MEET THE FOLLOWING:

Table with 2 columns: SIEVE SIZE and PERCENT PASSING. Rows include 3/8", #4, #10, #40, #100, #200.

LEGEND

- EXISTING PROPERTY LINE
ABUTTING PROPERTY LINE
BUILDING SETBACK LINE
EXISTING CONTOUR
PROPOSED CONTOUR
EXISTING STONE WALL
EXISTING CURB
EXISTING GUARD RAIL
EXISTING DRAIN LINE
PROPOSED DRAIN LINE
EXISTING DRAINAGE MANHOLE
PROPOSED DRAINAGE MANHOLE
EXISTING CATCH BASIN
PROPOSED CATCH BASIN
EXISTING UTILITY POLE
PROPOSED UTILITY POLE
EXISTING TELECOM DUCTBANK
EXISTING ELECTRIC DUCTBANK
RELOCATED ELECTRIC DUCTBANK
EXISTING GAS LINE
PROPOSED GAS LINE
EXISTING WATER LINE
PROPOSED WATER LINE
EXISTING WATER SHUT OFF VALVE
PROPOSED WATER SHUT OFF VALVE
EXISTING SEWER LINE
PROPOSED SEWER LINE
EXISTING SEWER MANHOLE
PROPOSED SEWER MANHOLE
NOW OR FORMERLY
TREETRINE
COMPOST FILTER SOCK
LIMIT OF DISTURBANCE
TEST HOLE
BORING

JOCE logo and contact information for JOE CASALI ENGINEERING, INC. including address and phone number.

Professional Engineer Seal for JOSEPH A. CASALI, No. 7250, Registered Professional Engineer, Civil.

PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

REVISIONS table with columns: NO., DATE, DESCRIPTION.

DESIGNED BY: WMLJR
DRAWN BY: SD/SEP
CHECKED BY: JAC
DATE: APRIL 2023
PROJECT NO: 15-34g

PRELIMINARY, NOT FOR CONSTRUCTION

GENERAL NOTES & LEGEND

SHEET 2 OF 9

| ZONING CRITERIA | REQUIRED | EXISTING | PROPOSED | | |
|------------------------------------|-----------|-----------------------|-----------|-----------|-----------|
| | R-20 | R-20 | LOT 1 | LOT 2 | LOT 3 |
| MINIMUM LOT AREA | 20,000 SF | 85,710 SF | 20,030 SF | 22,602 SF | 20,021 SF |
| MINIMUM LOT AREA PER DWELLING UNIT | 20,000 SF | N/A | N/A | N/A | N/A |
| MINIMUM LOT FRONTAGE AND LOT WIDTH | 125 FT | 82.65 FT ² | 101.00 FT | 87.50 FT | 141.51 FT |
| MINIMUM FRONT YARD SETBACK | 30 FT | N/A | 30.49 FT | 30 FT | 30.08 FT |
| MINIMUM SIDE YARD | 15 FT | N/A | 15 FT | 23.07 FT | 36.89 FT |
| MINIMUM REAR YARD | 30 FT | N/A | 30.03 FT | 66.01 FT | 30.01 FT |
| MAXIMUM LOT COVERAGE (STRUCTURES) | 25% | N/A | 7.5% | 6.6% | 7.5% |
| MAXIMUM BUILDING HEIGHT | 39 FT | N/A | <39 FT | <39 FT | <39 FT |

- NOTES:**
- MINIMUM STREET FRONTAGE FOR LOTS FRONTING ENTIRELY ON CUL-DE-SACS, SHALL BE 30% BELOW THE FRONTAGE REQUIREMENTS (87.5 FT). FOR CUL-DE-SACS, FRONTAGE SHALL BE MEASURED AT THE STREET LINE.
 - EXISTING, NON-CONFORMING CONDITION

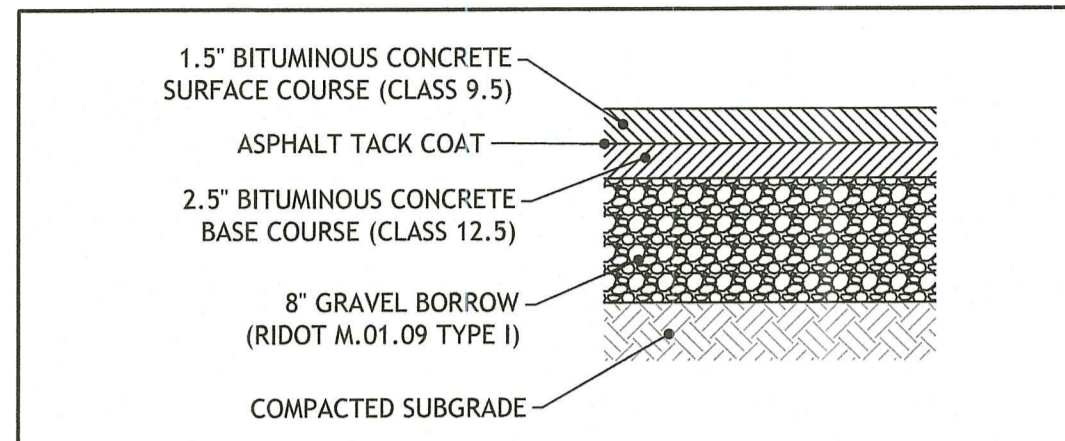
SMITHFIELD LAND DEVELOPMENT & SUBDIVISION REVIEW REGULATIONS

SECTION V, ARTICLE C STREETS:

(5) STREET WIDTHS

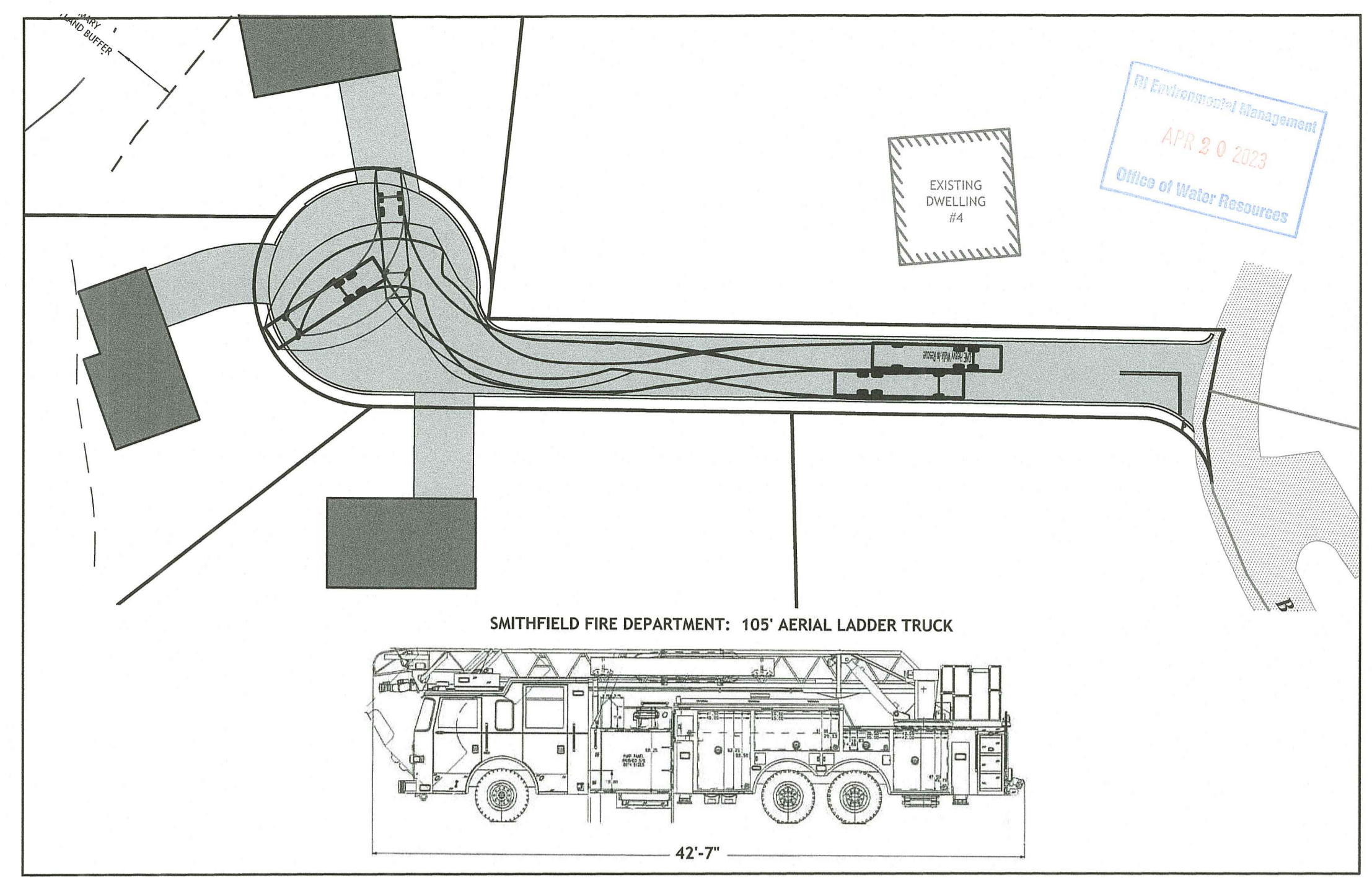
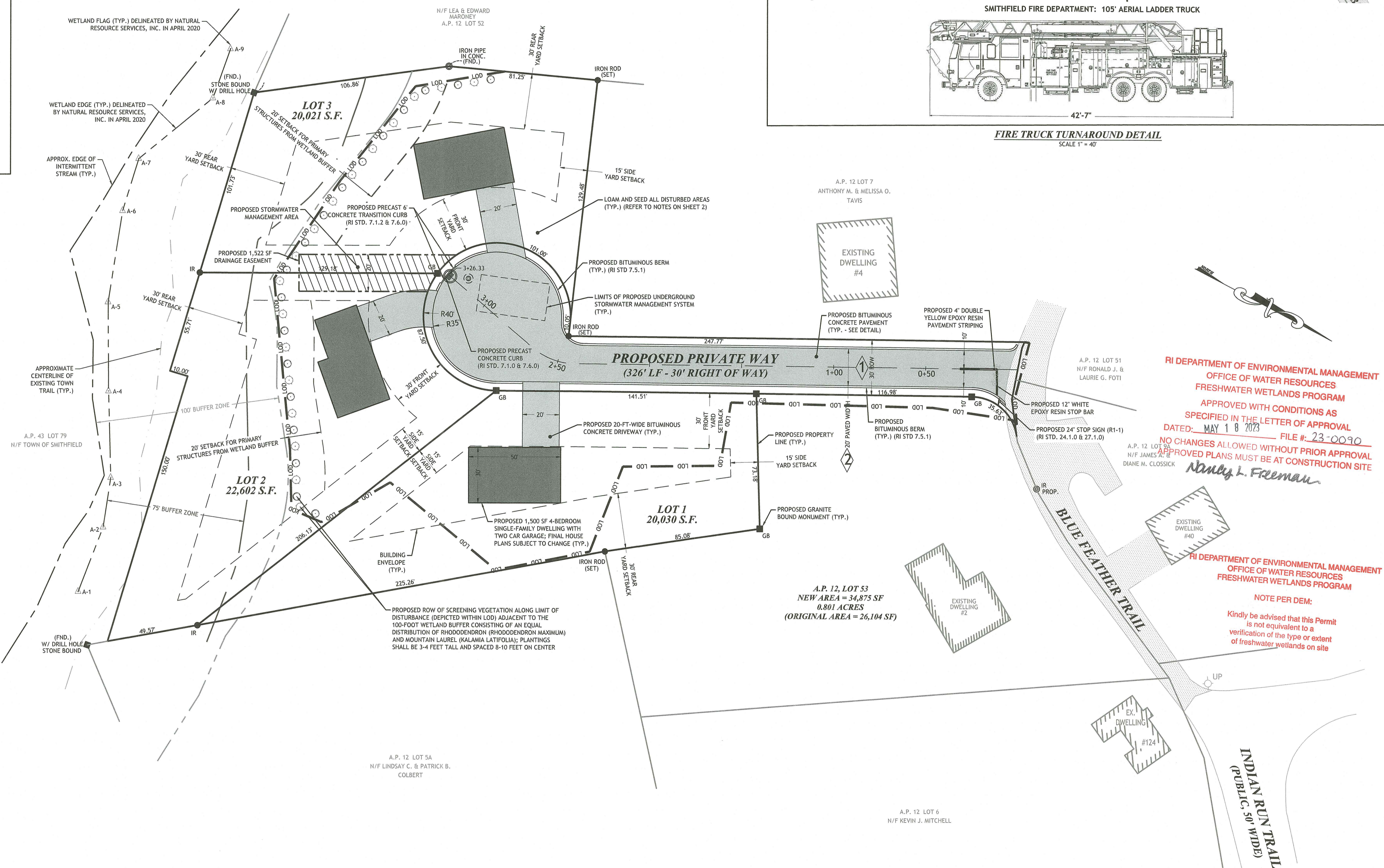
(A) RIGHTS OF WAY
 REQUIRED: 50 FT
 PROPOSED: 30 FT
 RELIEF REQUESTED: 20 FT

(B) PAVEMENT WIDTHS
 REQUIRED: 30 FT
 PROPOSED: 20 FT
 RELIEF REQUESTED: 10 FT



- NOTES:**
- IF UNSUITABLE MATERIALS ARE ENCOUNTERED AT SUBGRADE ELEVATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE DEPTH OF UNSUITABLE MATERIAL TO BE REMOVED WILL BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE THE UNSUITABLE MATERIALS AND REPLACE WITH SUITABLE MATERIAL APPROVED BY THE ENGINEER.
 - MINIMUM COMPACTION FOR GRAVEL BORROW SUB-BASE AND SUBGRADE: 95% MODIFIED PROCTOR.

3 BITUMINOUS CONCRETE PAVEMENT
 NOT TO SCALE



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED: MAY 18 2023 FILE # 23-0090
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Nancy L. Freeman

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM

NOTE PER DEM:
 Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site

JOE CASALI ENGINEERING, INC.
 CIVIL - SITE DEVELOPMENT - TRANSPORTATION
 DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
 300 POST ROAD, WARWICK, RI 02888
 (401) 844-1300 4018441300@JOECASALI.COM WWW.JOECASALI.COM

JOSEPH A. CASALI
 No. 7250
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 4-14-2023

PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

REVISIONS:

| NO. | DATE | DESCRIPTION |
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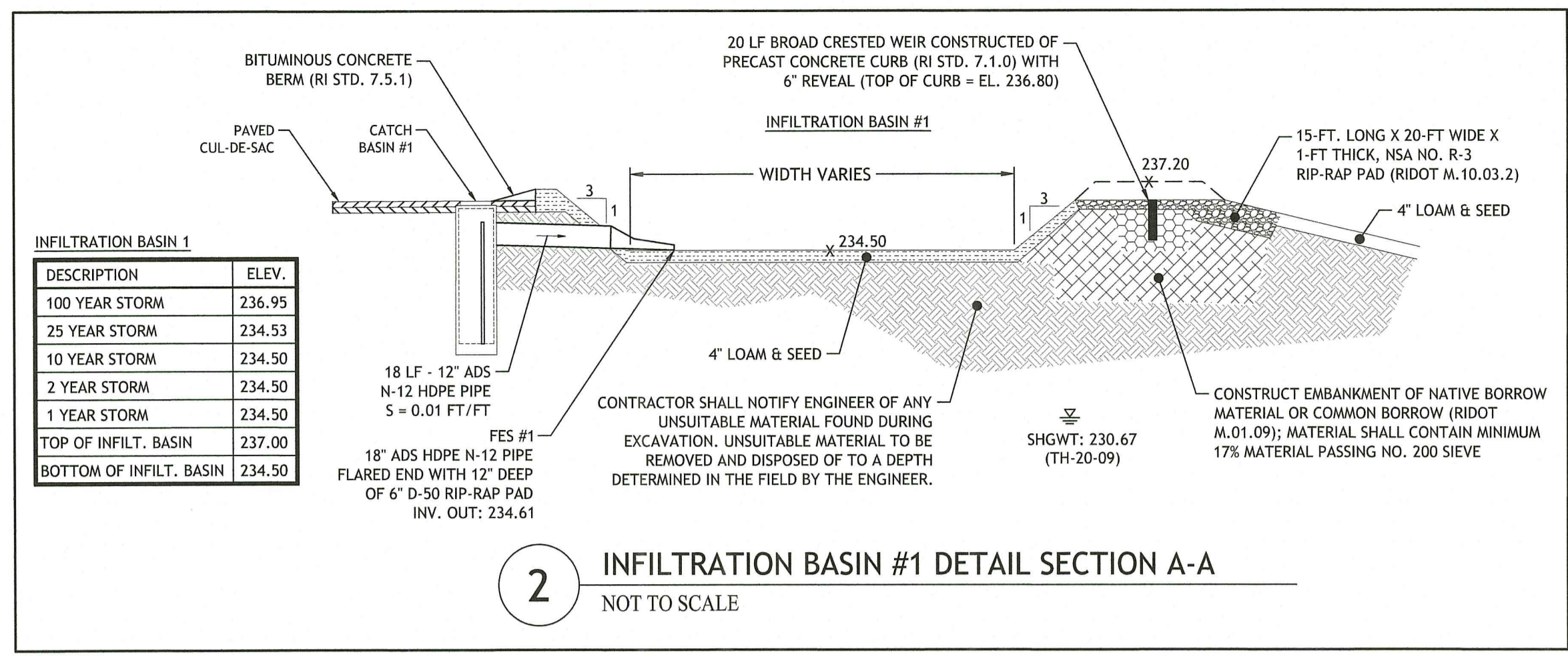
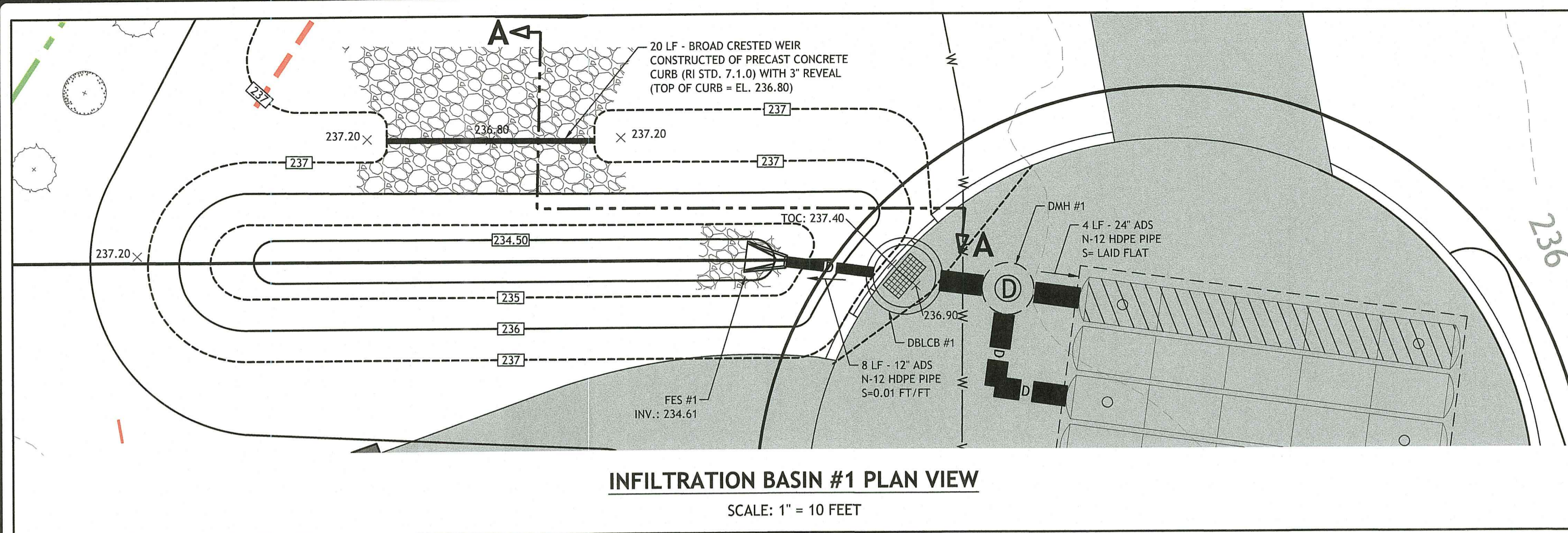
DESIGNED BY: WMLJR
 DRAWN BY: SD/SEP
 CHECKED BY: JAC
 DATE: APRIL 2023
 PROJECT NO: 15-34g

PRELIMINARY, NOT FOR CONSTRUCTION

SITE PLAN

SHEET 4 OF 9

Q:\15-34 Scott Ringland\15-34g Blue Feather Trail\DEA Refile R1\wml.dwg Apr. 19, 2023 4:34pm



| TEST PIT DATA | | |
|---------------|-------------|---------------|
| | SURFACE EL. | SHWT / EL. |
| TH 19-01 | 238.10 | 100' / 229.77 |
| TH 19-02 | 236.83 | 100' / 228.50 |
| TH 19-03 | 238.00 | 100' / 229.67 |
| TH 19-04 | 239.08 | 100' / 230.75 |
| TH 19-05 | 240.00 | 100' / 231.67 |
| TH 19-06 | 236.89 | 100' / 228.56 |
| TH 19-07 | 231.62 | 50' / 227.45 |
| TH 20-08 | 240.00 | 100' / 231.67 |
| TH 20-09 | 238.75 | 100' / 230.42 |
| TH 20-10 | 237.10 | 56' / 232.43 |

TEST HOLES PER APPLICATION #1931-0129 AND PERFORMED BY PATRICIA KELLY, D4047 ON APRIL 27, 2019 AND JULY 24, 2020.

OWTS DESIGN CALCULATIONS

LOADING RATE PER TEST PITS

LOADING RATE = 0.61 GAL/SF/DAY
PER LIMITING SOIL LAYER CATEGORY 1m

DESIGN DATA
per table 21.1 Wastewater Design Flows
Single family residence: 115 gal/day/bedroom

4-BEDROOM SINGLE-FAMILY DWELLING
4 BEDROOMS x 115 GAL/BEDROOM/DAY = 460 GAL/DAY
460 GAL/DAY @ 0.61 GAL/SF/DAY = 754.09 SF

SEPTIC TANK DESIGN
per 26.1.1 Residential Buildings: For three (3) bedrooms or less the minimum capacity shall be one thousand (1000) gallons. For each additional bedroom, add two hundred and fifty (250) gallons.

REQUIRED VOLUME, 4 BEDROOMS: 1,250 GALLONS
PROVIDED VOLUME: 1,500 GALLONS

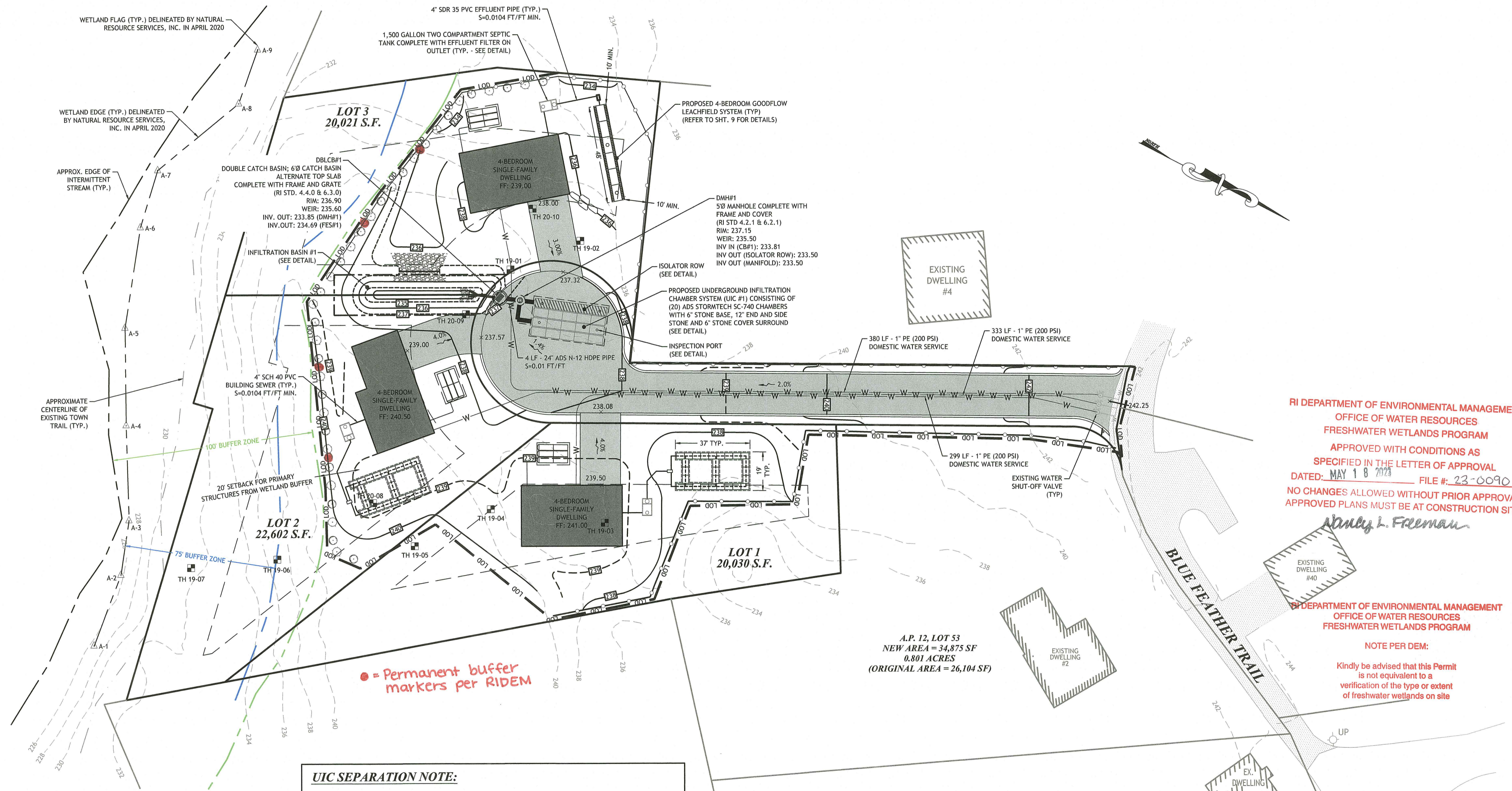
LEACHFIELD DESIGN

LOTS 1 & 2:
ELJEN IN-DRAIN (TYPE B): 7 SF/LF
ELJEN IN-DRAIN UNIT LENGTH: 4 FT
754.09 SF / 28 SF PER UNIT = 26.93 OR 27 UNITS
27 ELJEN IN-DRAIN UNITS PROVIDED = 756 SF
756 SF > 754.09 SF ∴ OK

LOT 3:
GOODFLOW CTL-18 LEACHFIELD PROPOSED
1 ROW OF 6 CUR-TECH GOODFLOW CTL-18 (4' x 8') UNITS
(4 INTERIOR UNITS & 2 END UNITS)
EACH INTERIOR UNIT PROVIDES 122.8 SF OF TREATMENT
EACH END UNIT PROVIDES 145.3 SF OF TREATMENT

4 INTERIOR UNITS = 491.2 SF
2 END UNITS = 290.6 SF

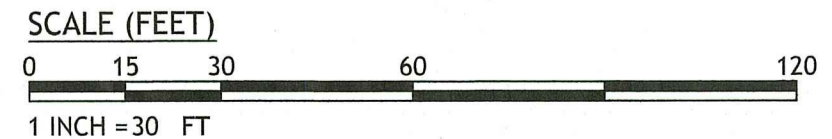
TOTAL PROPOSED LEACHFIELD SIZE: 781.80
781.80 > 754.09 SF ∴ OK



UIC SEPARATION NOTE:
REQUIRED MINIMUM HORIZONTAL SEPARATION FROM INFILTRATION BASIN #1 TO RESIDENTIAL STRUCTURES IS NOT MAINTAINED PER TABLE 5-2 OF THE RIDISM, HOWEVER, AS DESIGNED, THE SYSTEM WILL HAVE NO NEGATIVE IMPACTS TO EXISTING AND/OR PROPOSED STRUCTURES ON THE SITE. BASED ON THE SOIL EVALUATION TEST HOLES, SOILS CONSIST OF SAND AND GRAVEL (HSG A / 8.27 IN/HR INFILTRATION RATE) WITH A SEASONAL HIGH GROUNDWATER TABLE ROUGHLY 8.5-FT BELOW THE GROUND SURFACE. AS STORMWATER INFILTRATES, THE RATE OF VERTICAL INFILTRATION SHOULD GREATLY EXCEED THE RATE OF HORIZONTAL INFILTRATION. IN ADDITION, THE DIRECTION OF GROUNDWATER FLOW LIKELY MIMICS THE GENERAL TOPOGRAPHY OF THE SITE, DIRECTING INFILTRATING STORMWATER AWAY FROM PROPOSED STRUCTURES AND BASEMENTS.
OUT OF AN ABUNDANCE OF CAUTION, PROPOSED DWELLINGS SHALL INCLUDE BASEMENT WATERPROOFING.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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NOTE PER DEM:
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JCE
JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
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300 FOXTON ROAD, WARWICK, RI 02886
(401) 944-1300

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4.14.2023

PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

APRIL 2023
Office of Water Resources

| REVISIONS: | | |
|------------|---------|---------------|
| NO. | DATE | DESCRIPTION |
| 1 | 5/12/23 | RIDEM COMMENT |

DESIGNED BY: WMLR
DRAWN BY: SDSEP
CHECKED BY: JAC
DATE: APRIL 2023
PROJECT NO: 15-34c

PRELIMINARY, NOT FOR CONSTRUCTION

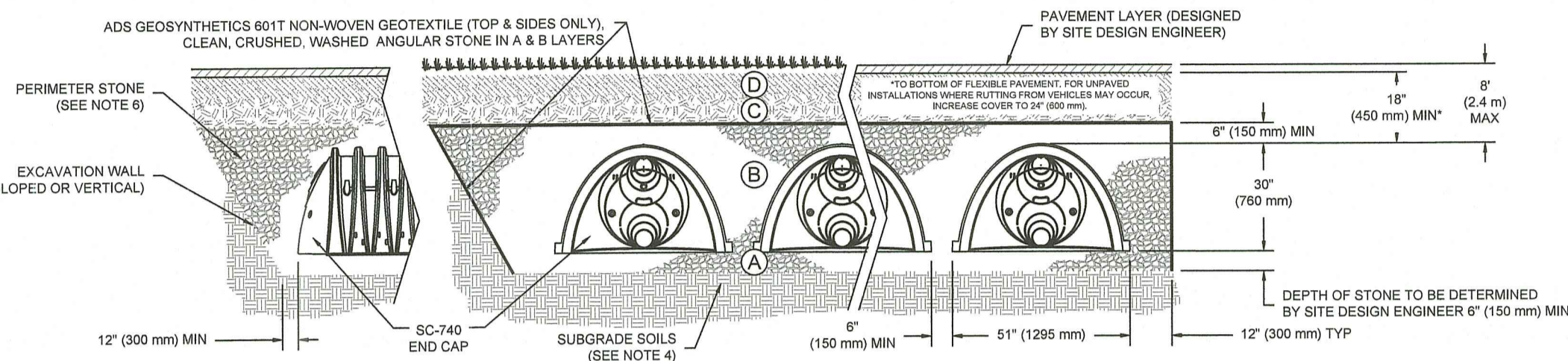
GRADING, DRAINAGE & UTILITY PLAN

SHEET 5 OF 9

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

| MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|-------------------|---|---|--|
| D | FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| C | INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER. | AASHTO M43 A-1, A-2.4, A-3 OR AASHTO M43 3, 357, 4, 467, 5, 56, 57, 67, 68, 7, 76, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE. MATERIALS ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN). |
| B | EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE. | AASHTO M43 3, 357, 4, 467, 5, 56, 57 | NO COMPACTION REQUIRED. |
| A | FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER. | AASHTO M43 3, 357, 4, 467, 5, 56, 57 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ** |

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTION. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

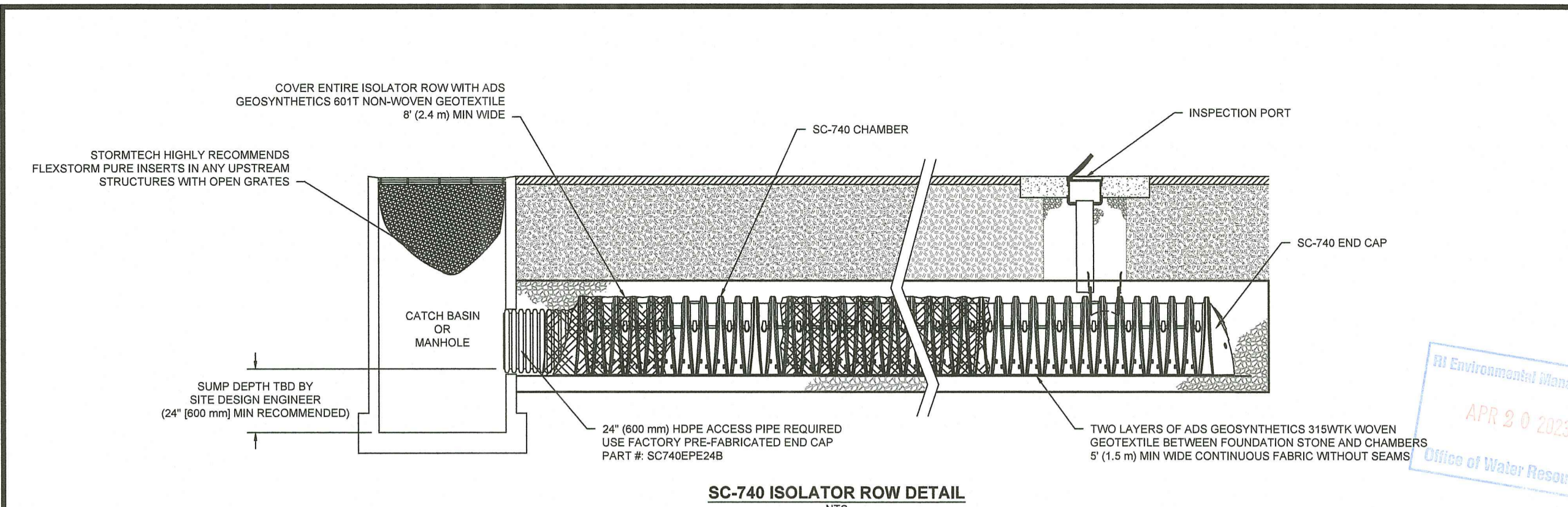


NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

8 STORMTECH SC-740 CROSS SECTION DETAIL
NOT TO SCALE

| REV | DATE | DESCRIPTION |
|-----|----------|--------------------|
| 1 | 11/19/14 | ISSUED FOR PERMITS |
| 2 | 11/19/14 | ISSUED FOR PERMITS |
| 3 | 11/19/14 | ISSUED FOR PERMITS |
| 4 | 11/19/14 | ISSUED FOR PERMITS |
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| 91 | 11/19/14 | ISSUED FOR PERMITS |
| 92 | 11/19/14 | ISSUED FOR PERMITS |
| 93 | 11/19/14 | ISSUED FOR PERMITS |
| 94 | 11/19/14 | ISSUED FOR PERMITS |
| 95 | 11/19/14 | ISSUED FOR PERMITS |
| 96 | 11/19/14 | ISSUED FOR PERMITS |
| 97 | 11/19/14 | ISSUED FOR PERMITS |
| 98 | 11/19/14 | ISSUED FOR PERMITS |
| 99 | 11/19/14 | ISSUED FOR PERMITS |
| 100 | 11/19/14 | ISSUED FOR PERMITS |

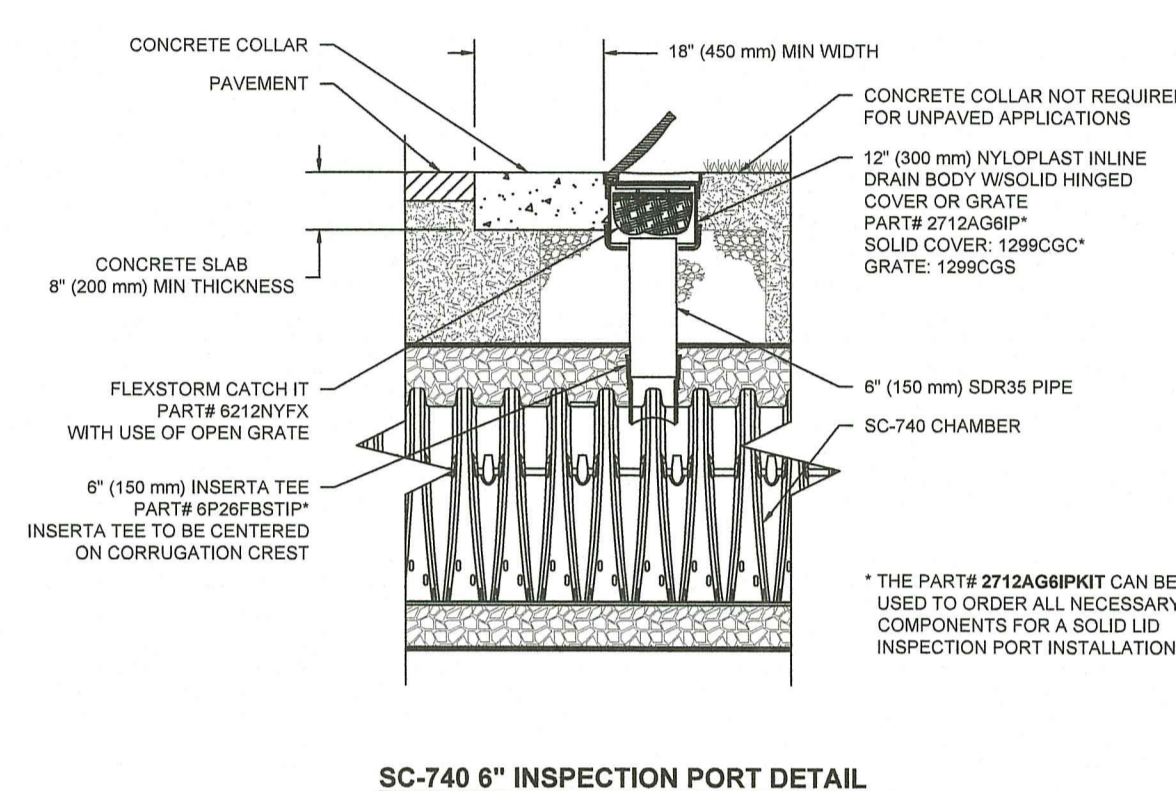


INSPECTION & MAINTENANCE

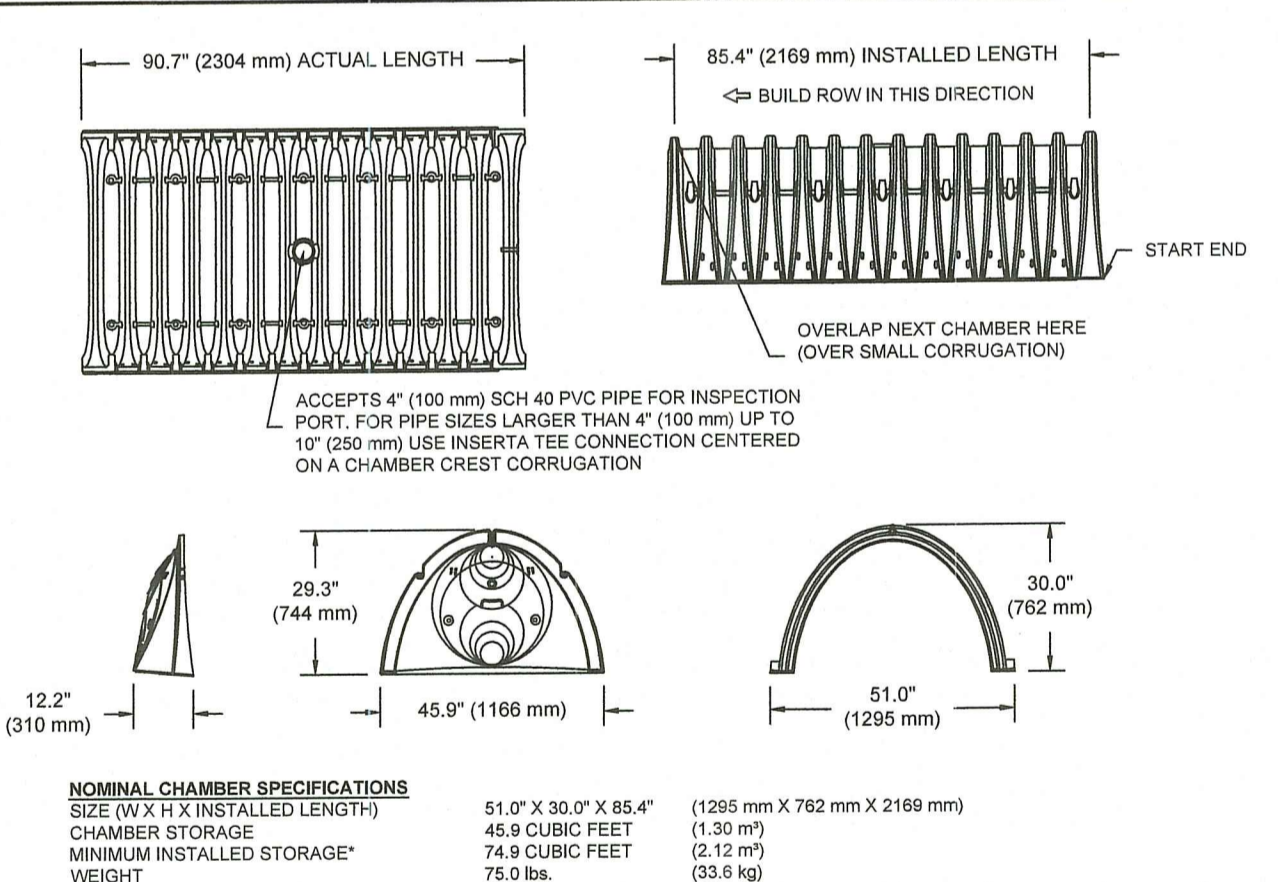
- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - ALL ISOLATOR ROWS
 - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS, RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



9 STORMTECH SC-740 ISOLATOR ROW DETAIL
NOT TO SCALE



NOMINAL DIMENSION SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)

CHAMBER STORAGE

MINIMUM INSTALLED STORAGE

WEIGHT

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

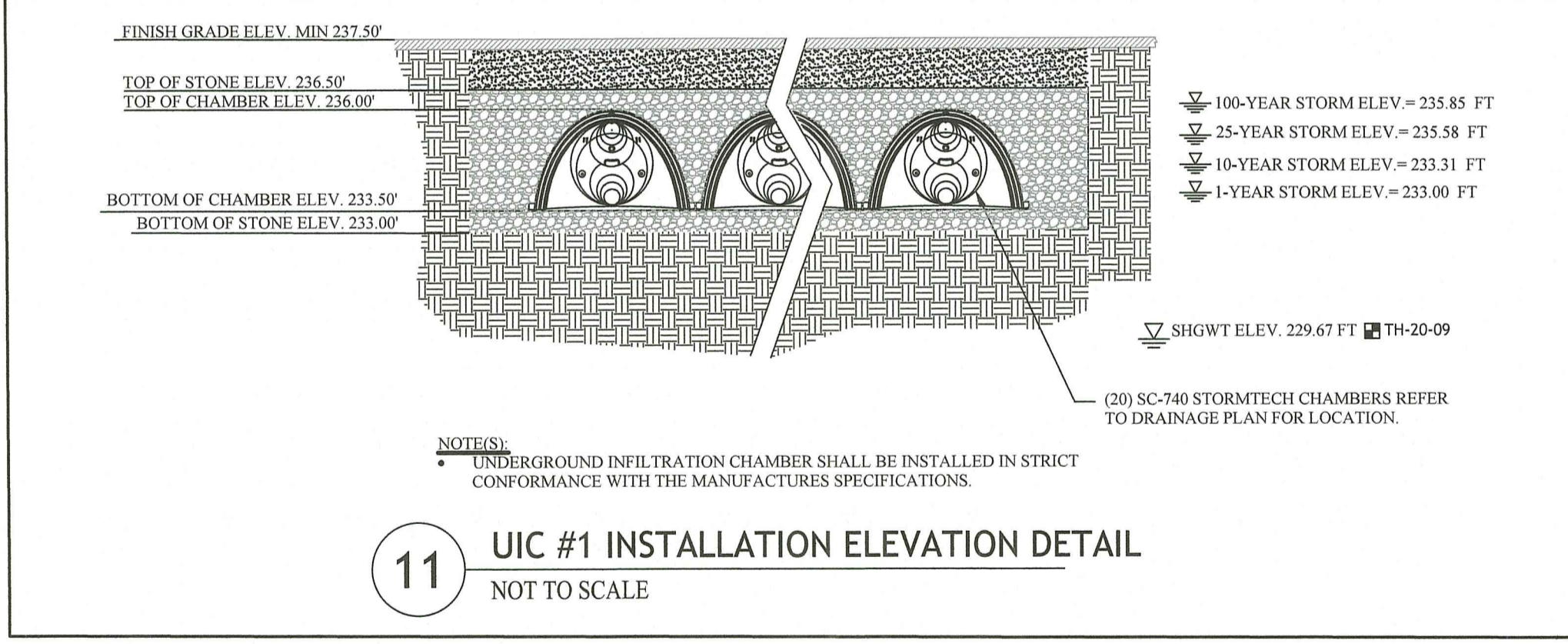
| PART # | STUB | A | B | C |
|---------------------------|--------------|----------------|----------------|--------------|
| SC740EP001 / SC740EP001PC | 6" (150 mm) | 10.9" (277 mm) | 18.5" (470 mm) | 0.5" (13 mm) |
| SC740EP002 / SC740EP002PC | 8" (200 mm) | 12.2" (310 mm) | 16.5" (419 mm) | 0.8" (19 mm) |
| SC740EP003 / SC740EP003PC | 10" (250 mm) | 13.4" (340 mm) | 14.5" (368 mm) | 0.7" (18 mm) |
| SC740EP004 / SC740EP004PC | 12" (300 mm) | 14.7" (373 mm) | 12.5" (318 mm) | 1.2" (30 mm) |
| SC740EP005 / SC740EP005PC | 15" (375 mm) | 18.4" (467 mm) | 9.0" (229 mm) | — |
| SC740EP006 / SC740EP006PC | 18" (450 mm) | 19.7" (500 mm) | 5.0" (127 mm) | 1.3" (33 mm) |
| SC740EP007 / SC740EP007PC | 24" (600 mm) | 18.5" (470 mm) | — | 0.1" (3 mm) |

ALL STUBS, EXCEPT FOR THE SC740EP006 ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

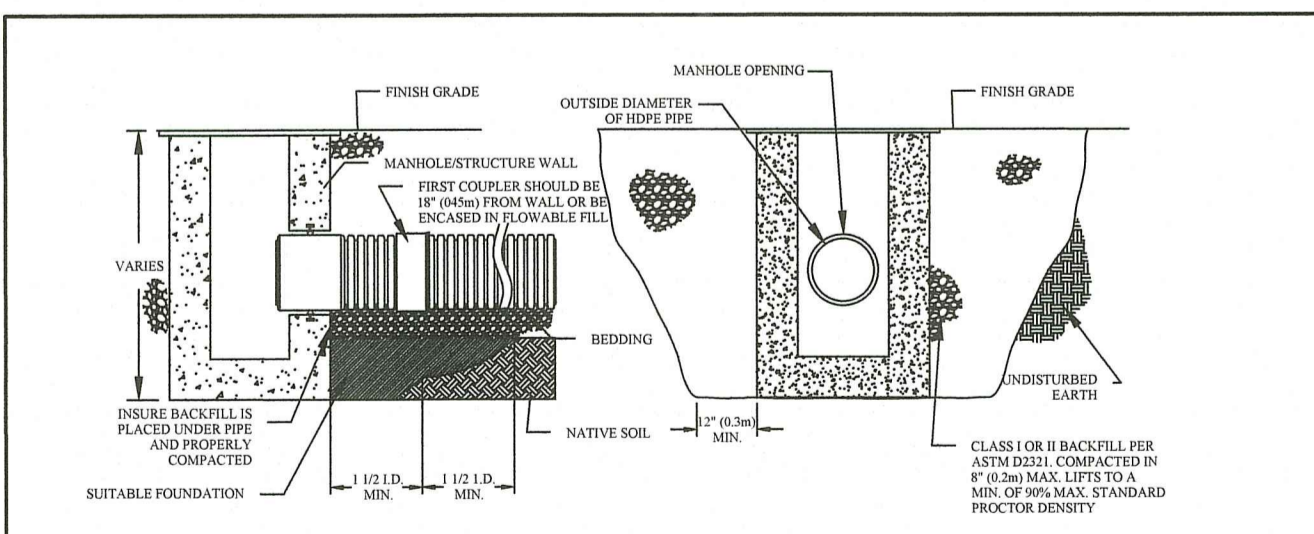
*FOR THE SC740EP006 THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING BITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

10 SC-740 TECHNICAL SPECIFICATION
NOT TO SCALE



11 UIC #1 INSTALLATION ELEVATION DETAIL
NOT TO SCALE



- NOTES:**
- MAXIMUM INSERTION ANGLE SHALL NOT EXCEED REQUIREMENTS AS SPECIFIED BY THE MANUFACTURER.
 - SEE STANDARD DETAILS STD-202 (A-B) THROUGH STD-204 (A-E) FOR STRUCTURE CONNECTIONS, PRODUCT INFORMATION AND DIMENSIONAL PIPE DATA. INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN TECHNICAL NOTE 5.04: HOPE CONNECTIONS TO MANHOLES AND STRUCTURES.
 - PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST INSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

12 STRUCTURE CONNECTION INSTALLATION DETAIL
NOT TO SCALE

NOTES FOR THE INSTALLATION OF THE SC-740 SYSTEM

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOTTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 6" SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4".
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 18 2023 FILE #: 23-0090
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

JOE CASALI ENGINEERING, INC.
CIVIL SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
1601 9441 3200 0603944131313131 WWW.JOECASALI.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4.14.2023

PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

REVISIONS:

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |

DESIGNED BY: WMLJR
DRAWN BY: SDSEP
CHECKED BY: JAC
DATE: APRIL 2023
PROJECT NO.: 15-34g

PRELIMINARY, NOT FOR CONSTRUCTION

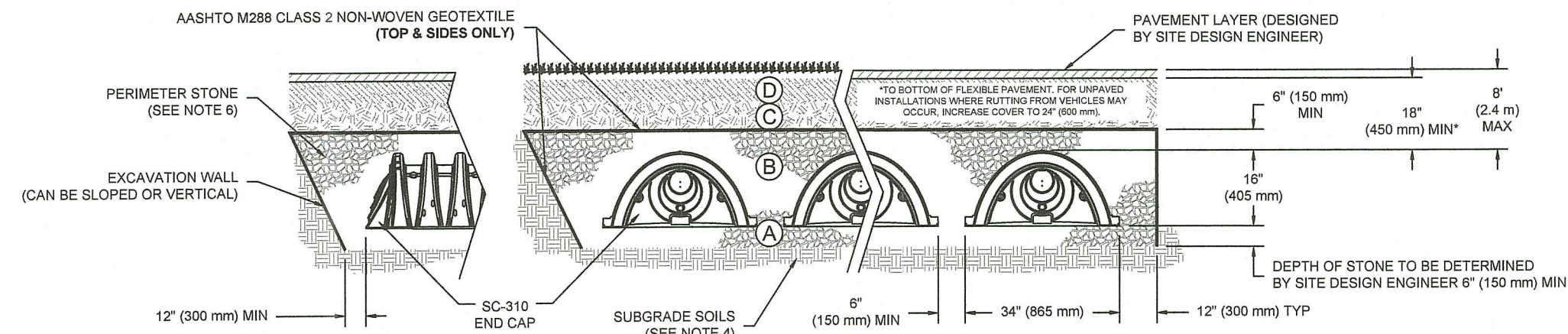
SITE DETAILS II

SHEET 7 OF 9

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

| MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|-------------------|---|---|--|
| D | FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| C | INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (457 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. | AASHTO M145 ¹ A-1, A-2, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN). |
| B | EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE. | AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57 | NO COMPACTION REQUIRED. |
| A | FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER. | AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57 | FLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ³ |

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

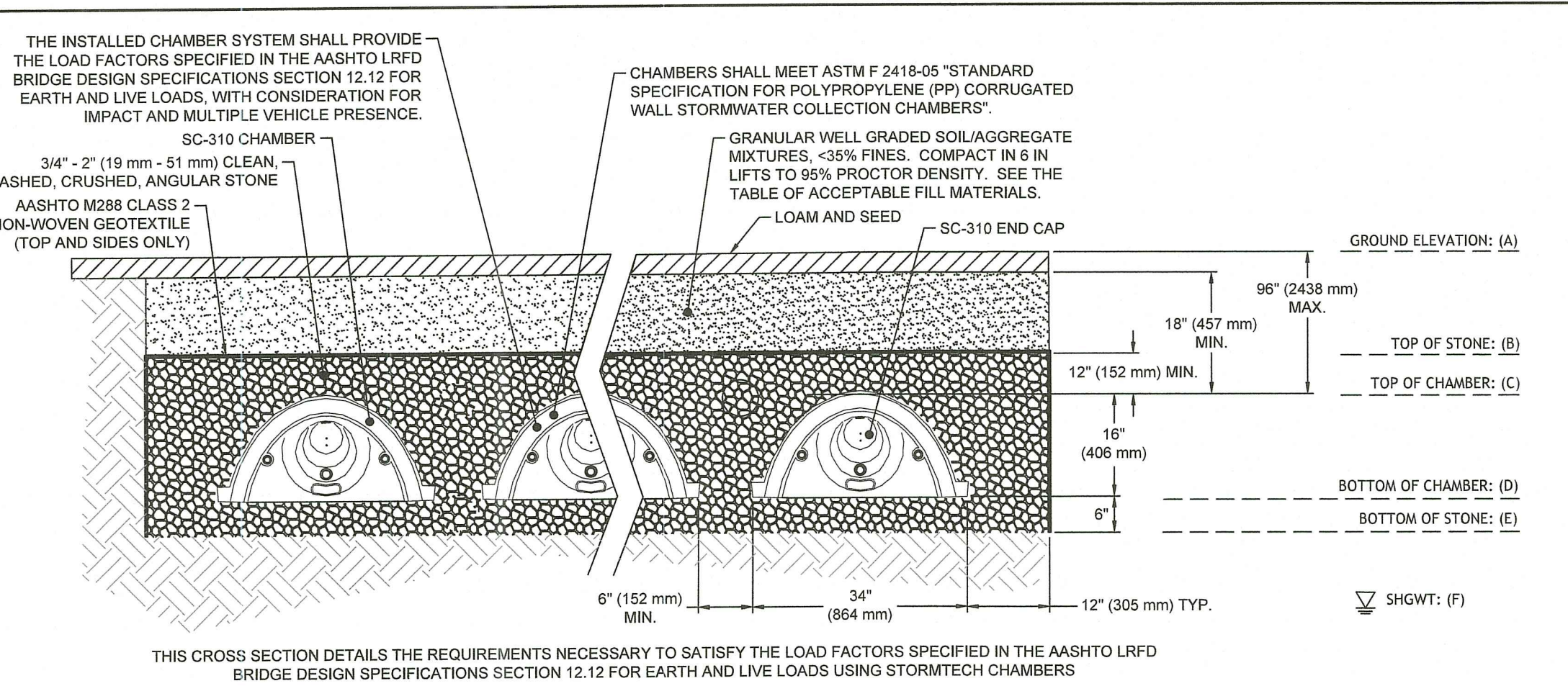
STORMTECH GENERAL NOTES:

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM, TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM.

STORMTECH CHAMBER SPECIFICATIONS:

- CHAMBERS SHALL BE STORMTECH SC-310 OR SC-740.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

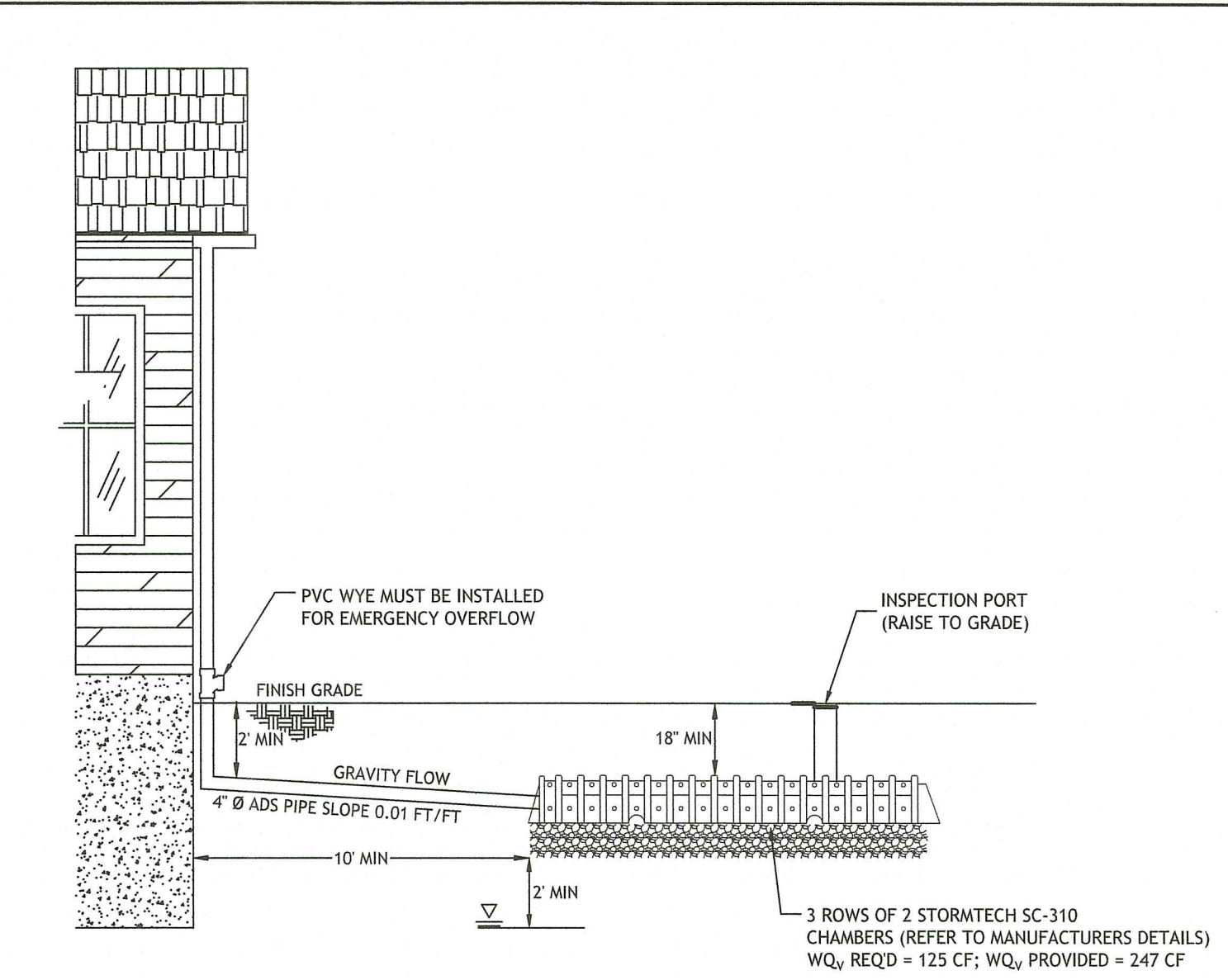
13 STORMTECH SC-310 CROSS SECTION DETAIL
NOT TO SCALE



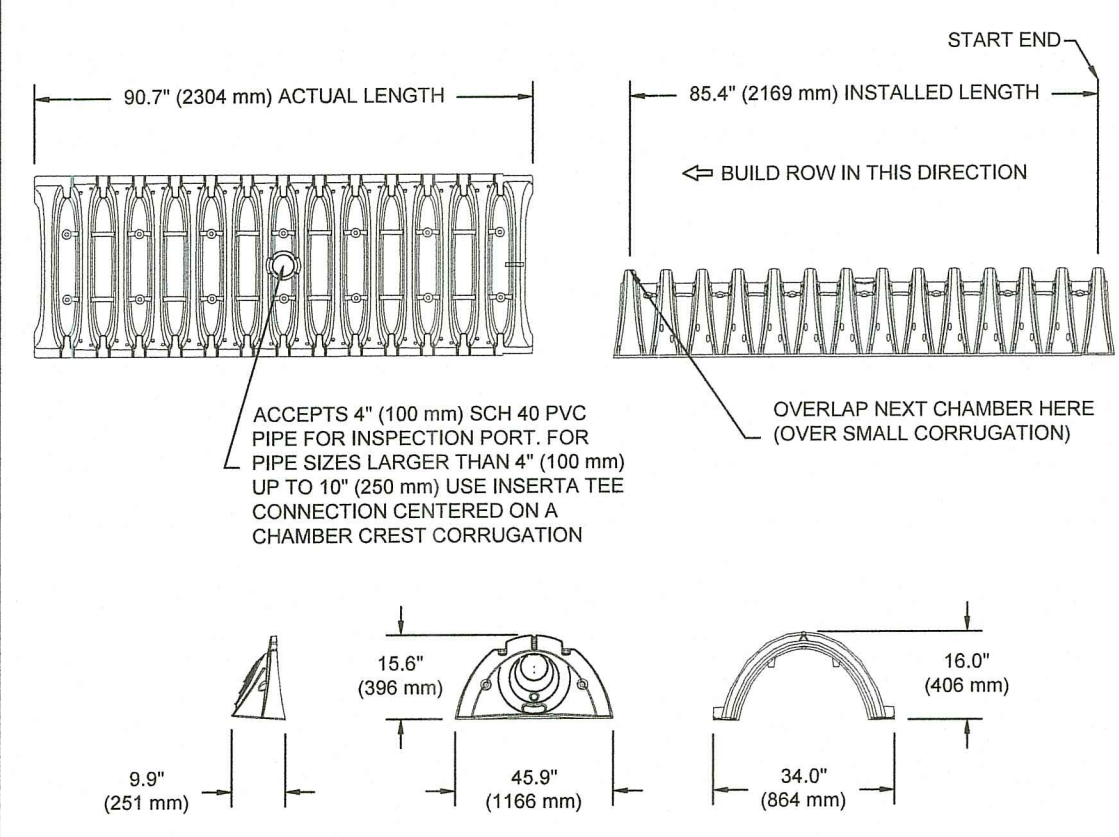
14 SC-310 INSTALLATION ELEVATION DETAIL
NOT TO SCALE

UNDERGROUND INFILTRATION SYSTEM ELEVATIONS

| | LOT 1 | LOT 2 | LOT 3 |
|---------------------------|----------|----------|----------|
| A (GROUND ELEVATION) | 239.00 | 238.50 | 238.00 |
| B (TOP OF STONE) | 238.50 | 238.00 | 237.5 |
| C (TOP OF CHAMBER) | 237.50 | 237.00 | 236.50 |
| D (BOTTOM OF CHAMBER) | 236.17 | 235.67 | 235.17 |
| E (BOTTOM OF STONE) | 235.67 | 235.17 | 234.67 |
| F (SHGWT) | 229.67 | 230.17 | 232.08 |
| DIST. E-F (SEP. TO SHGWT) | 6.00' | 5.00' | 2.59' |
| TEST HOLE REFERENCE | TH-20-08 | TH-20-09 | TH-20-10 |



16 ROOFTOP INFILTRATION SYSTEMS - TYP. SECTION
NOT TO SCALE



15 SC-310 TECHNICAL SPECIFICATION
NOT TO SCALE

NOMINAL CHAMBER SPECIFICATIONS

| | | |
|---------------------------------|-----------------------|-----------------------------|
| SIZE (W X H X INSTALLED LENGTH) | 34.0" X 16.0" X 85.4" | (864 mm X 406 mm X 2169 mm) |
| CHAMBER STORAGE | 14.7 CUBIC FEET | (0.42 m ³) |
| MINIMUM INSTALLED STORAGE* | 31.0 CUBIC FEET | (0.88 m ³) |
| WEIGHT | 35.0 lbs. | (16.8 kg) |

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

| PART # | STUB | A | B | C |
|----------------------------|--------------|----------------|---------------|--------------|
| SC310EPE06T / SC310EPE06PC | 6" (150 mm) | 9.6" (244 mm) | 5.8" (147 mm) | --- |
| SC310EPE06B / SC310EPE06BP | --- | --- | --- | 0.5" (13 mm) |
| SC310EPE08T / SC310EPE08PC | 8" (200 mm) | 11.9" (302 mm) | 3.5" (89 mm) | --- |
| SC310EPE08B / SC310EPE08BP | --- | --- | --- | 0.8" (16 mm) |
| SC310EPE10T / SC310EPE10PC | 10" (250 mm) | 12.7" (323 mm) | 1.4" (36 mm) | --- |
| SC310EPE10B / SC310EPE10BP | --- | --- | --- | 0.7" (16 mm) |
| SC310EPE12B | 12" (300 mm) | 13.5" (343 mm) | --- | 0.9" (23 mm) |

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.29" (8 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

- NOTES FOR THE INSTALLATION OF THE SC-310 SYSTEM:**
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
 - STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
 - STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
 - THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
 - JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
 - MAINTAIN MINIMUM - 6" SPACING BETWEEN THE CHAMBER ROWS.
 - EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2".
 - THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
 - ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- NOTES FOR CONSTRUCTION EQUIPMENT:**
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIERED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

JOCE
JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
(601) 844-1900 (601) 844-1313 FAX WWW.JOCEALCO.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4.14.2023

APR 9 2023
Office of Water Resources

PROPOSED RESIDENTIAL SUBDIVISION
BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 18 2023 FILE #: 23-0090
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

REVISIONS:
NO. DATE DESCRIPTION

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NOTE PER DEM:
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site

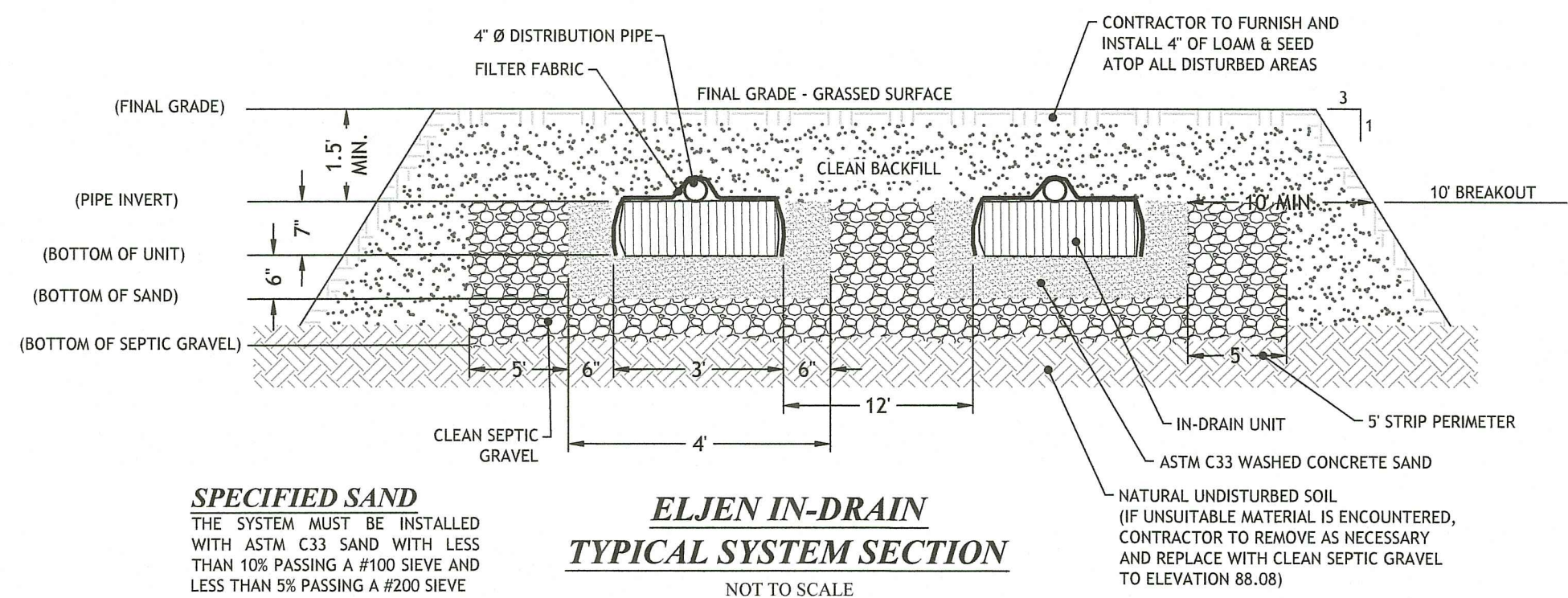
DESIGNED BY: WMLJR
DRAWN BY: SD/SEP
CHECKED BY: JAC
DATE: APRIL 2023
PROJECT NO: 15-34g

PRELIMINARY, NOT FOR CONSTRUCTION

SITE DETAILS III

SHEET 8 OF 9

| ELJEN SEPTIC SYSTEM ELEVATIONS | | |
|--------------------------------|---------|---------|
| | LOT 1 | LOT 2 |
| A (FINISH FLOOR ELEVATION) | 241.00 | 240.50' |
| B (HOUSE SEWER INVERT) | 236.96 | 237.53' |
| C (TOP OF SEPTIC TANK) | 237.69 | 238.30' |
| D (INLET INVERT) | 236.86 | 237.47' |
| E (SHGWT) | 229.17 | 230.67' |
| F (BOTTOM OF SEPTIC TANK) | 232.27 | 232.88' |
| G (ELEVATION ABOVE TANK) | 239.00' | 239.00' |
| H (EFFLUENT INVERT) | 236.61' | 237.22' |
| I (DBOX INLET INVERT) | 236.34' | 236.84' |
| J (DBOX OUTLET INVERT) | 236.17' | 236.67' |
| K (ELJEN INLET INVERT) | 236.00' | 236.50' |
| L (ELJEN PIPE INVERT) | 236.00' | 236.50' |
| M (ELJEN UNIT INVERT) | 235.33' | 235.92' |
| N (BOTTOM OF SAND) | 234.83' | 235.42' |
| O (ELEV. OVER SYSTEM) | 237.00' | 239.00' |
| P (SHGWT UNDER FIELD) | 229.67' | 231.67' |

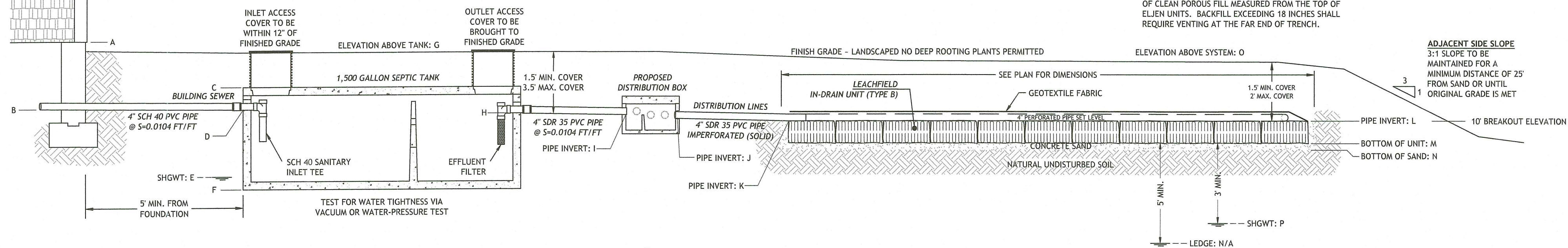


SPECIFIED SAND
THE SYSTEM MUST BE INSTALLED WITH ASTM C33 SAND WITH LESS THAN 10% PASSING A #100 SIEVE AND LESS THAN 5% PASSING A #200 SIEVE

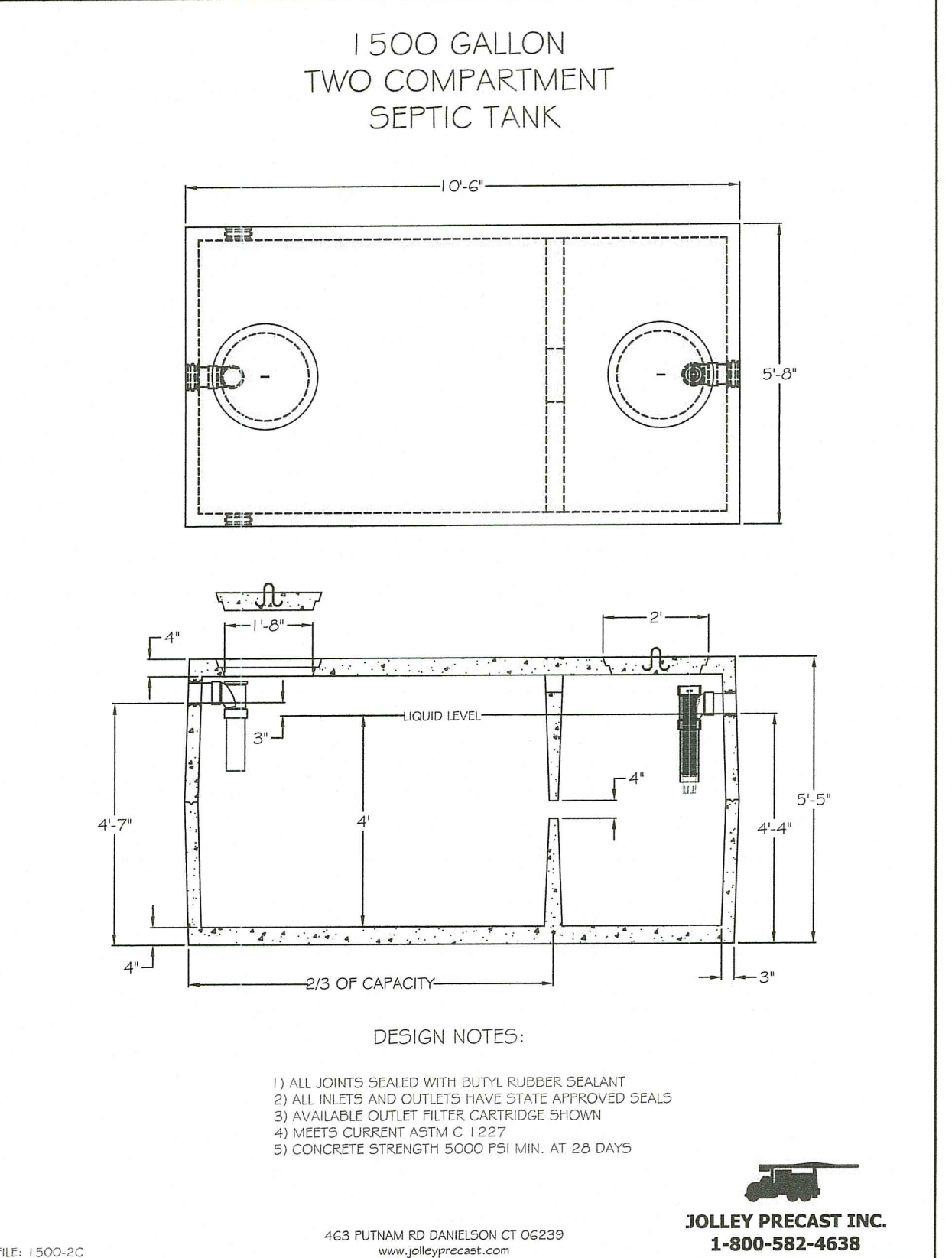
ELJEN IN-DRAIN TYPICAL SYSTEM SECTION
NOT TO SCALE

BACKFILL & FINISH GRADING
COMPLETE BACKFILL WITH A MINIMUM OF 12 INCHES OF CLEAN POROUS FILL MEASURED FROM THE TOP OF ELJEN UNITS. BACKFILL EXCEEDING 18 INCHES SHALL REQUIRE VENTING AT THE FAR END OF TRENCH.

ADJACENT SIDE SLOPE
3:1 SLOPE TO BE MAINTAINED FOR A MINIMUM DISTANCE OF 25' FROM SAND OR UNTIL 1' ORIGINAL GRADE IS MET



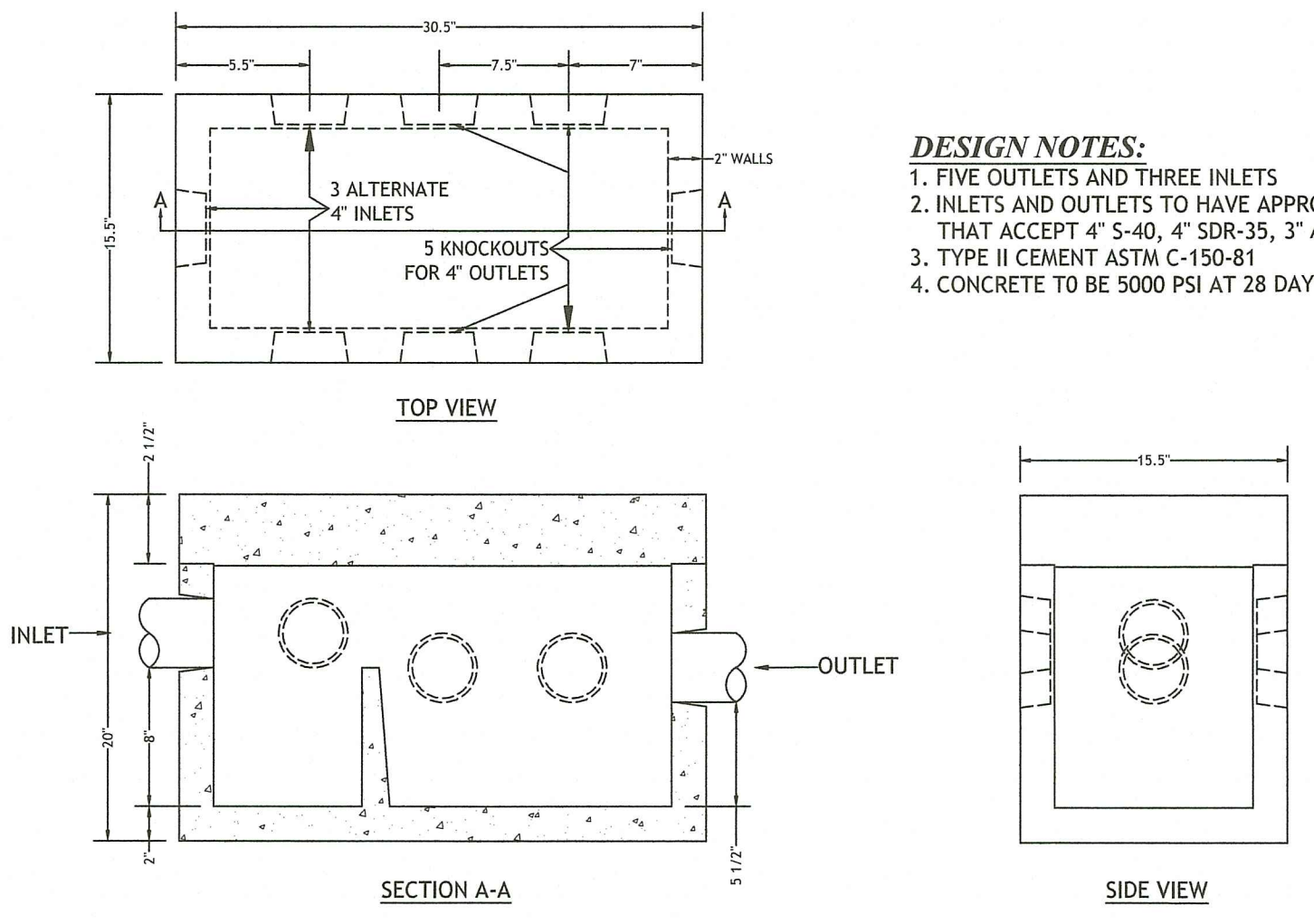
17 ELJEN SEPTIC SYSTEM
NOT TO SCALE



DESIGN NOTES:
1) ALL JOINTS SEALED WITH BUTYL RUBBER SEALANT
2) ALL INLETS AND OUTLETS HAVE STATE APPROVED SEALS
3) AVAILABLE OUTLET FILTER CARTRIDGE SHOWN
4) MEETS CURRENT ASTM C 1227
5) CONCRETE STRENGTH 5000 PSI MIN. AT 28 DAYS

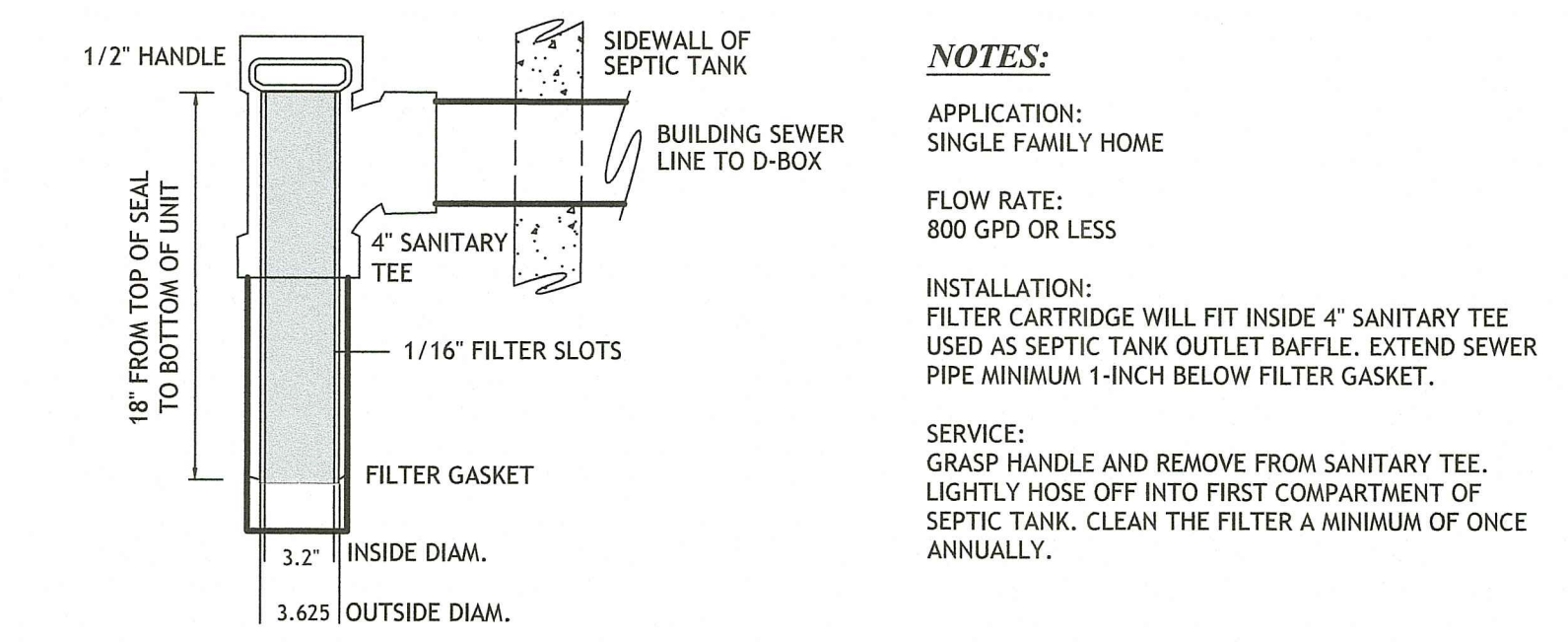
JOLLEY PRECAST INC.
1-800-582-4638

18 1,500 GAL. TWO COMPARTMENT SEPTIC TANK
NOT TO SCALE



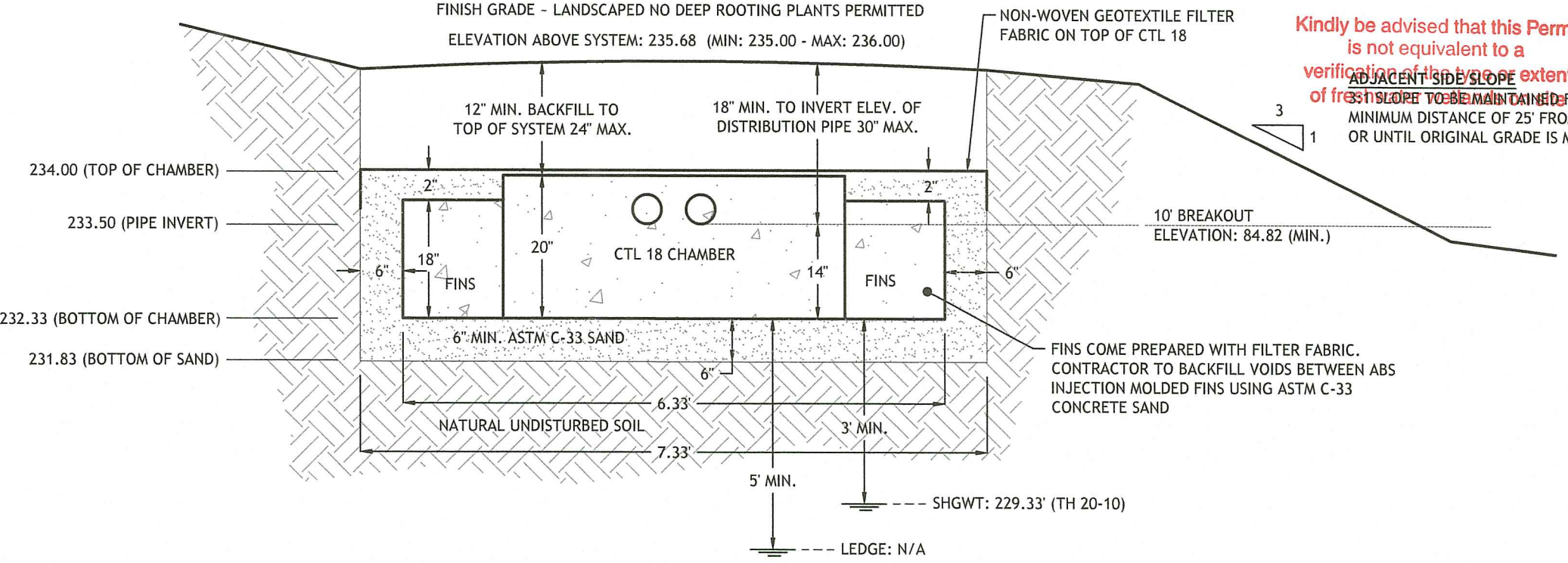
DESIGN NOTES:
1. FIVE OUTLETS AND THREE INLETS
2. INLETS AND OUTLETS TO HAVE APPROVED SEALS THAT ACCEPT 4\"/>

19 DISTRIBUTION BOX - 5
NOT TO SCALE



NOTES:
APPLICATION:
SINGLE FAMILY HOME
FLOW RATE:
800 GPD OR LESS
INSTALLATION:
FILTER CARTRIDGE WILL FIT INSIDE 4\"/>

20 EFFLUENT FILTER
NOT TO SCALE



GOODFLOW SYSTEM PROFILE
NOT TO SCALE

OWTS NOTES:

- THIS DESIGN IS SUBMITTED TO RIDEM TO BE REVIEWED IN CONFORMANCE WITH ALL APPLICABLE REGULATIONS. CONSTRUCTION OF THIS SYSTEM WILL REQUIRE THE DESIGNER'S CERTIFICATE OF CONSTRUCTION FOR OWTS.
- ALL PIPES, EXCEPT IN THE LEACHING FIELD, SHALL BE SOLID 4 INCH DIAMETER SDR 35 WITH WATERTIGHT JOINTS OR EQUIVALENT, UNLESS OTHERWISE NOTED.
- ALL PIPES EXCEPT IN LEACHING FIELD SHALL HAVE A SLOPE NOT LESS THAN 1/8 INCH PER FOOT BUT NO GREATER THAN 3%, UNLESS OTHERWISE NOTED.
- SEPTIC TANK AND DISTRIBUTION BOX SHALL BE SET ON A LEVEL STABLE BASE THAT WILL NOT SETTLE.
- DISTRIBUTION PIPES FOR A MINIMUM OF 2 FEET FROM DISTRIBUTION BOX TO THE FIRST SECTION IN THE FIELD SHALL BE SET LEVEL.
- NO KNOWN SUBSURFACE DRAINS WITHIN 25 FEET UPGRADIENT OF OR 50 FEET DOWNGRADIENT OF PROPOSED SYSTEM, INCLUDING FOUNDATION DRAINS.
- NO IN-GROUND SWIMMING POOLS WITH 25 FEET OF PROPOSED OWTS, NO SWIMMING POOLS WITH 10 FEET OF ANY OWTS COMPONENT.
- DISTRIBUTION LINES IN LEACH FIELD SHALL BE 4 INCH SDR 35 PERFORATED PVC PIPE OR EQUIVALENT AND HAVE A SLOPE OF 2-4 INCHES PER 100 FEET.
- ALL TREES, BRUSH AND STUMPS WITHIN THE AREA OF THE LEACHFIELD AND WITHIN TEN (10) FEET OF THE LEACHFIELD SHALL BE REMOVED, CARE MUST BE TAKEN TO ASSURE THAT THE SOIL AT THE BOTTOM AND SIDES OF THE EXCAVATION FOR THE LEACHFIELD IS NOT COMPACTED OR SMEARED. THE BOTTOM OF THE EXCAVATION SHALL BE LEVEL AND THE BOTTOM AND SIDES OF THE EXCAVATION SHALL BE SCARIFIED. IN NO CASE SHALL EXPOSED BOULDERS IN THE WALLS OR BOTTOM OF THE EXCAVATION BE LEFT IN PLACE. VOIDS CREATED BY THE REMOVAL OF BOULDERS SHALL BE FILLED WITH GRAVEL MEETING THE REQUIREMENTS IN RULE 32.12. EXPOSED ROOTS WITHIN THE EXCAVATION SHALL BE CUT BACK TO THE WALLS OF THE EXCAVATION. NO PART OF THE EXCAVATION FOR THE LEACHFIELD SHALL BE INTO GROUNDWATER. ALL STORM DEPOSITED SAND IN THE BACKLOUSE ENVIRONMENT AND HUMAN TRANSPORTED MATERIAL EXISTING IN THE PROPOSED LEACHFIELD AND FIVE (5) FEET AROUND AND BELOW SHALL BE REMOVED PRIOR TO OWTS INSTALLATION.
- THE GRAVEL BASE MATERIAL AND, WHERE APPLICABLE, THE GRAVEL BETWEEN THE TRENCHES SHALL CONSIST OF CLEAN SAND AND GRAVEL FREE OF ORGANIC MATTER AND FOREIGN SUBSTANCES. THE GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THREE (3) INCHES AND UP TO TEN PERCENT (10%) MAY BE SIZED BETWEEN THREE-QUARTERS (3/4) AND THREE (3) INCHES. GRAVEL SHALL MEET THE FOLLOWING CRITERIA: SIEVE SIZE PERCENT PASSING 3/4\"/>

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NOTE PER DEM:

Kindly be advised that this Permit is not equivalent to a verification of the slope extent of frost slope to be maintained for a minimum distance of 25 feet from sand or until original grade is met

JOLLEY ENGINEERING, INC.
JOE CASALI ENGINEERING, INC.
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WWW.JOLEY-INC.COM
(401)844-1300 (401)844-1313 FAX

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4.14.2023

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BLUE FEATHER TRAIL
SMITHFIELD, RHODE ISLAND
AP 12, LOT 54

REVISIONS:

| NO. | DATE | DESCRIPTION |
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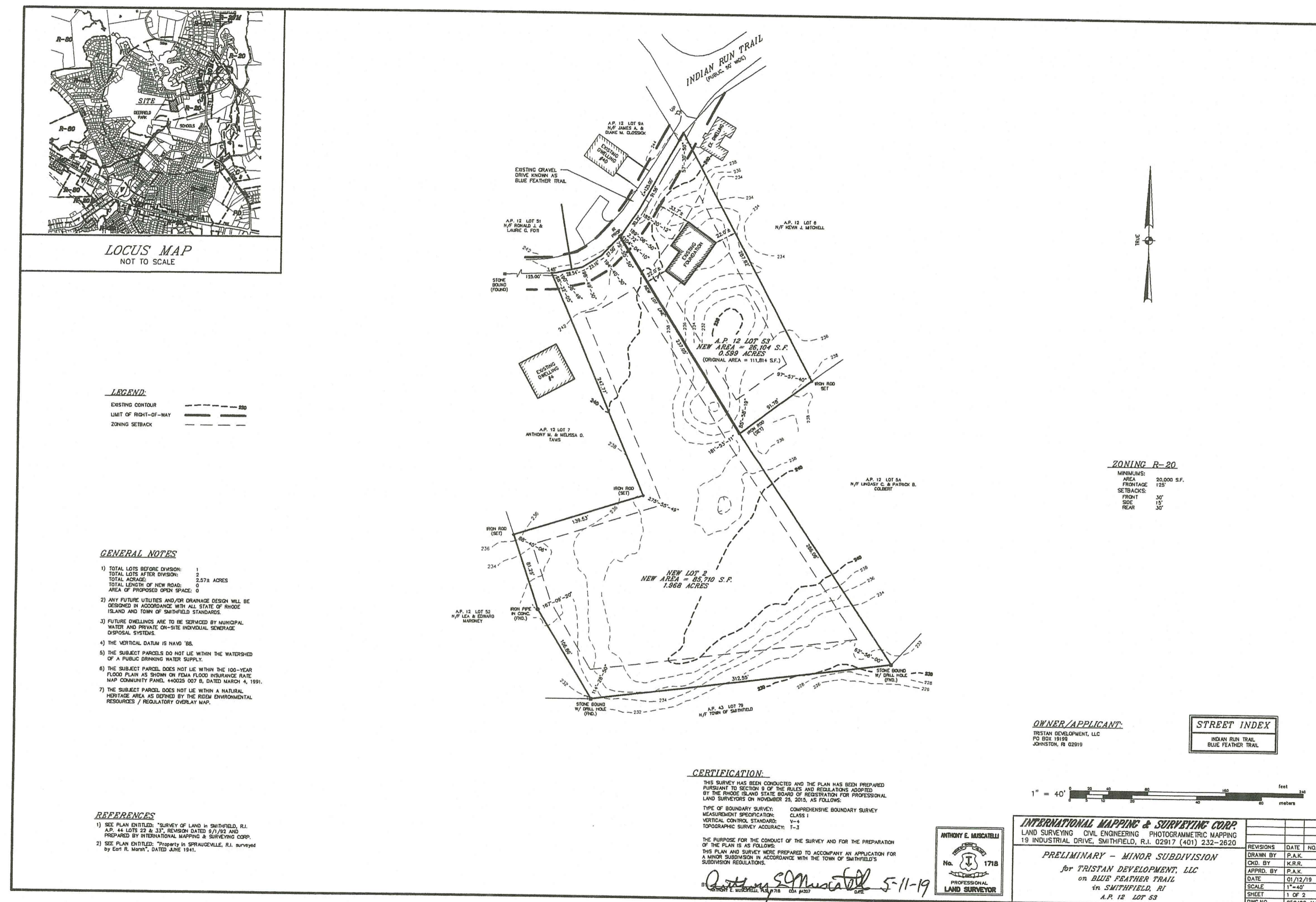
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OWTS NOTES & DETAILS

SHEET 9 OF 9

RI Department of Environmental Management
 APR 30 2023
 Office of Water Resources



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