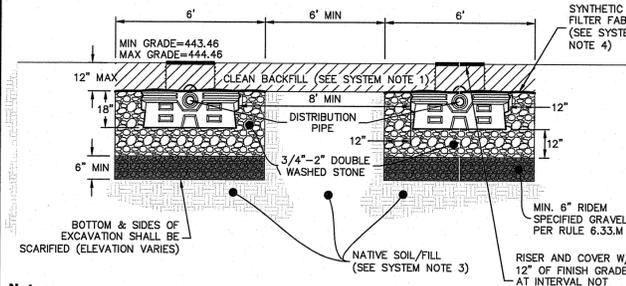
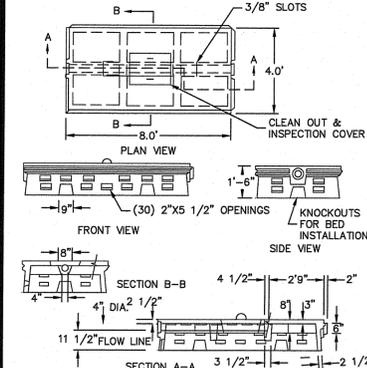
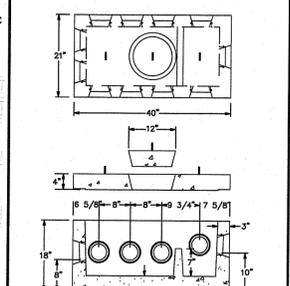


**System Notes:**  
1. CLEAN BACKFILL SHALL BE NATIVE MATERIAL MEETING THE REQUIREMENTS OF RULE 6.33.0.  
2. STONE SHALL BE FREE OF FINES, SOILS, STONE DUST OR DEBRIS AND MEET THE REQUIREMENTS OF RULE 6.33.3.  
3. NATIVE SOIL/FILL BELOW SYSTEM SHALL BE SUITABLE NATIVE SOIL (LEFT UNDISTURBED) OR RIDEM SPECIFIED GRAVEL PER RULE 6.33.3.M. THE SOIL BETWEEN THE DISPERSAL TRENCHES SHALL REMAIN UNDISTURBED UNLESS TRENCH EXCAVATION IS IMPRACTICABLE PER RULE 6.35.J.3 IN WHICH CASE RIDEM SPECIFIED GRAVEL MAY BE USED WITH RIDEM APPROVAL.  
4. A LAYER OF NON-WOVEN SYNTHETIC FILTER FABRIC PER RULE 6.33.L SHALL BE PLACED OVER STONE.

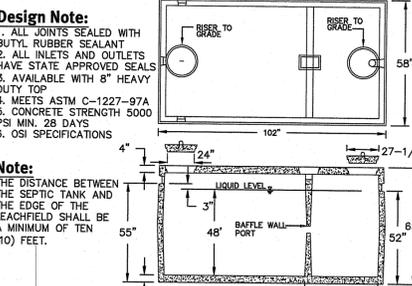
**Design Notes:**  
1. CONCRETE - 5,000 P.S.I. MINIMUM STRENGTH #28 DAYS.  
2. STEEL REINFORCEMENT - ASTM A-615, GRADE 60.  
3. COVER TO STEEL - 1" MINIMUM.  
4. DESIGN LOADING - STANDARD UNITS - LIGHT DUTY.  
5. EARTH COVER - 0 TO 5 FEET.  
6. VENT HOLES AND INSPECTIONS MANHOLES - OPTIONAL.  
7. CONSTRUCTION JOINT - TONGUE & GROOVE.  
8. USE FD 4X8-D UNITS WHERE PIPE CONNECTIONS TO THE SIDE OF THE UNIT ARE REQUIRED. FD 4X8-L UNITS MAY BE USED WHERE NO SIDE CONNECTIONS ARE NEEDED.



**Notes:**  
1. EFFLUENT SHALL BE APPLIED TO THE CHAMBER TRENCHES AT LEAST EVERY 25'.  
2. ALL UNUSED SIDE INLETS TO BE CAPPED OFF OR CEMENTED.  
3. NO CONCRETE FRAGMENTS ALLOWED WITHIN THE FLOW DIFFUSER LINES.  
4. THE ENDS OF MULTIPLE TRENCH LEACHFIELDS SHALL BE INTERCONNECTED WITH 4" IMPERFORATED SCH-40 PVC.



**Design Notes:**  
1. CONCRETE - 5,000 P.S.I. MINIMUM STRENGTH #28 DAYS.  
2. STEEL REINFORCEMENT - ASTM A-615 GRADE 60, 1" MIN. COVER



**Design Note:**  
1. ALL JOINTS SEALED WITH BUTYL RUBBER SEALANT  
2. ALL INLETS AND OUTLETS HAVE STATE APPROVED SEALS  
3. AVAILABLE WITH 8" HEAVY DUTY TOP  
4. MEETS ASTM C-1227-97A  
5. CONCRETE STRENGTH 5000 PSI MIN. 28 DAYS  
6. OSI SPECIFICATIONS

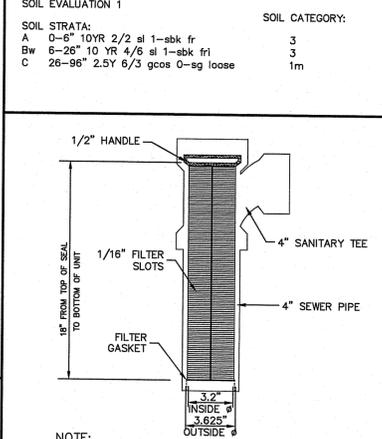
**Design Calculations**

- DESIGN FLOW = 3 BEDROOM HOME X 115 GAL/BEDROOM = 345.0 GALLONS(GAL)/DAY
- DESIGN LOADING RATE = 0.61 GAL/SF/DAY  
DESIGN SHGWT = 5.1
- MINIMUM LEACHING AREA = 345.0 GAL/DAY ÷ 0.61 GAL/SF/DAY = 565.6 SF
- FLOW DIFFUSERS = 78 SF PER END UNIT & 64 SF PER INTERIOR UNIT WITH 12 INCHES STONE BELOW UNIT & ON ALL SIDES  
4 END UNITS X 78 SF = 312 SF  
4 INTERIOR UNITS X 64 SF = 256 SF  
TOTAL = 568.0 SF
- LEACHING AREA = 2 FLOW DIFFUSER TRENCHES (6 FT WIDE), 34 FT LONG EACH WITH 6 FT SPACING BETWEEN TRENCHES
- LEACHING AREA PROVIDED = 568.0 SF

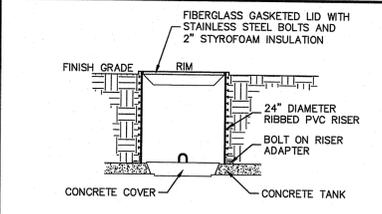
**Soil Testing:**

RIDEM DIVISION OF OWTS APPROVAL  
1. SITE SUITABILITY NO. N/A  
2. SITE TESTING DATE OF EXCAVATION 11/10/2019

SOIL EVALUATION 1 SOIL CATEGORY:  
SOIL STRATA:  
A 0-6" 10YR 2/2 at 1-abk fr 3  
B 6-26" 10 YR 4/6 sl 1-abk fri 3  
C 26-96" 2.5Y 6/3 gscs 0-sg loose 1m



**Notes:**  
TO BE INSTALLED AT THE OUTLET TEE, WITH A MANHOLE SET TO FINISH GRADE FOR ACCESS.



**Legend**  
NOT ALL ITEMS SHOWN WILL APPEAR ON PLAN

- SOIL EVALUATION
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING MINOR CONTOUR LINE
- EXISTING MAJOR CONTOUR LINE
- PROPOSED CONTOUR LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING WELL
- PROPOSED WELL
- EXISTING DRAINAGE LINE
- PROPOSED DRAINAGE LINE
- BENCH MARK

**Buffer Marker Note:**

- A PERMANENT BUFFER MARKER MUST BE INSTALLED EVERY 50- FEET ALONG THE LIMIT OF DISTURBANCE (LOD) WHERE THE LOD TOUCHES THE 50' PERIMETER WETLAND.
- ACCEPTABLE PERMANENT TYPE MARKERS INCLUDE 4"x4" PRESSURE TREATED TIMBER POSTS, GALVANIZED FENCE POST WITH CAP, OR GRANITE OR CONCRETE BOUNDS. MARKERS MUST EXTEND A MINIMUM OF TWENTY-FOUR (24) INCHES ABOVE GRADE. A PERMANENT-TYPE TAG OR SIGN LABELED "RIDEM BUFFER ZONE" MUST BE PLACED ON EACH MARKER. A PERMANENT-TYPE FENCE AT LEAST TWENTY-FOUR (24) INCHES TALL PLACED ALONG THE LIMITS OF DISTURBANCE AND SIMILARLY LABELED MAY BE SUBSTITUTED WHERE DESIRED.

**General Notes:**

- DIPRETE ENGINEERING CERTIFIES TO THE SOIL CONDITIONS AND LOADING RATE ONLY IN AREA TESTED. INSTALLER TO NOTIFY DESIGNER IF SOIL CONDITIONS ARE FOUND DIFFERENT THAN STATED ON OWTS APPLICATION.
- THE BOUNDARY LINES DEPICTED HEREON ARE APPROXIMATE ONLY UNLESS OTHERWISE NOTED. THIS PLAN DOES NOT REPRESENT A BOUNDARY OPINION.
- TOPOGRAPHY OBTAINED FROM DIPRETE ENGINEERING. ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO NAVD 83 DATUM.
- NO DRAINS OR WATERLINES TO BE INSTALLED WITHIN 25' OF LEACHING AREA. NO GARAGE GRINDERS SHALL BE INSTALLED.
- THERE ARE NO KNOWN EXISTING OR PROPOSED PRIVATE WELLS WITHIN 200' OF THE PROPOSED OWTS OTHER THAN SHOWN ON PLAN.
- THERE ARE NO KNOWN EXISTING OR PROPOSED OWTS WITHIN 200' OF THE PROPOSED OWTS OTHER THAN SHOWN ON PLAN.
- THERE ARE NO KNOWN EXISTING OR PROPOSED DRAINS WITHIN 200' OF THE PROPOSED OWTS OTHER THAN SHOWN ON PLAN.
- THERE ARE NO KNOWN EXISTING OR PROPOSED PUBLIC WELLS WITHIN 500' OF THE PROPOSED OWTS OTHER THAN SHOWN ON PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUNDWATER ARE DIRECTED AWAY FROM THE STRUCTURE. THIS PLAN SHOWS GENERAL GRADING ONLY AND ADDITIONAL DETAIL MAY BE REQUIRED.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA CONFORMANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN.
- THE FINAL LANDSCAPING, SOIL STABILIZATION AND EROSION CONTROL IS TO BE COMPLETED BY THE OWNER PER THE APPROVED PLAN. ALTERATIONS TO THIS DESIGN ARE TO BE IDENTIFIED BY SOMEONE IN WRITING TO THE DESIGN ENGINEER FOR APPROVAL AND POSSIBLE RESUBMISSION TO THE RIDEM.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED BUILDING. THIS SHALL BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
- ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS BY OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. NO ONE SHOULD RELY ON THE UTILITY LOCATIONS SHOWN FOR CONSTRUCTION AND DIG SAFE MUST BE NOTIFIED PRIOR TO ANY WORK.
- THIS SITE IS LOCATED IN FEMA FLOOD ZONES X (UNSHADED) AND AE (ELEV 436). REFERENCE FEMA FLOOD INSURANCE RATE MAP 44007C0145G, MAP REVISED MARCH 02, 2009.
- ALL OWTS SHOULD BE MAINTAINED BY THE HOMEOWNER ON AN ANNUAL BASIS OR MORE FREQUENTLY IF REQUIRED BY LOCAL REGULATIONS.
- OWTS DESIGNER REQUIRES A MINIMUM OF THREE INSPECTIONS: BOTTOM INSPECTION, COVER INSPECTION AND FINAL INSPECTION.
- SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL EROSION CONTROL BARRIER SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE AND INLET PROTECTION SHALL BE INSTALLED AT IMMEDIATELY ADJACENT CATCH BASINS, WHERE DOWNGRADE OF LAND DISTURBING ACTIVITIES.

**Construction Notes:**

- CONSTRUCTION SHALL CONFORM TO THE RHODE ISLAND SPECIFICATIONS SET FORTH IN THE "DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - RULES AND REGULATIONS" ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION & CONSTRUCTION OF ONSITE WASTEWATER TREATMENT SYSTEMS, LATEST EDITION.
- THE FILL AROUND THE SYSTEM SHALL BE COARSE SAND, OR BANK RUN GRAVEL. INSTALLER TO REMOVE ALL TREES, BRUSH AND STUMPS WITHIN THE AREA OF THE LEACHFIELD AND WITHIN 10 FEET OF THE LEACH FIELD.
- BUILDING SEWER PIPE TO BE MINIMUM 4" SCH 40 PVC. ALL OWTS PIPING TO BE MINIMUM 4" SDR 35.
- TREATMENT TANK RISERS TO BE AT FINISH GRADE.
- INSTALLER TO MAINTAIN OWTS INVERT ELEVATION OF 441.96 FOR 10' FILL PERIMETER.
- MAXIMUM 3:1 SLOPE FOR 25' FROM LEACHFIELD.
- BENCHMARK = NAIL SET IN UP 47
- ELEVATION = 443.08
- ALL STAGES OF THE OWTS INSTALLATION MUST BE SUPERVISED BY THE DESIGN ENGINEER.
- DIG SAFE IS REQUIRED TO BE NOTIFIED PRIOR TO START OF ANY CONSTRUCTION.

**Sequence of Construction:**

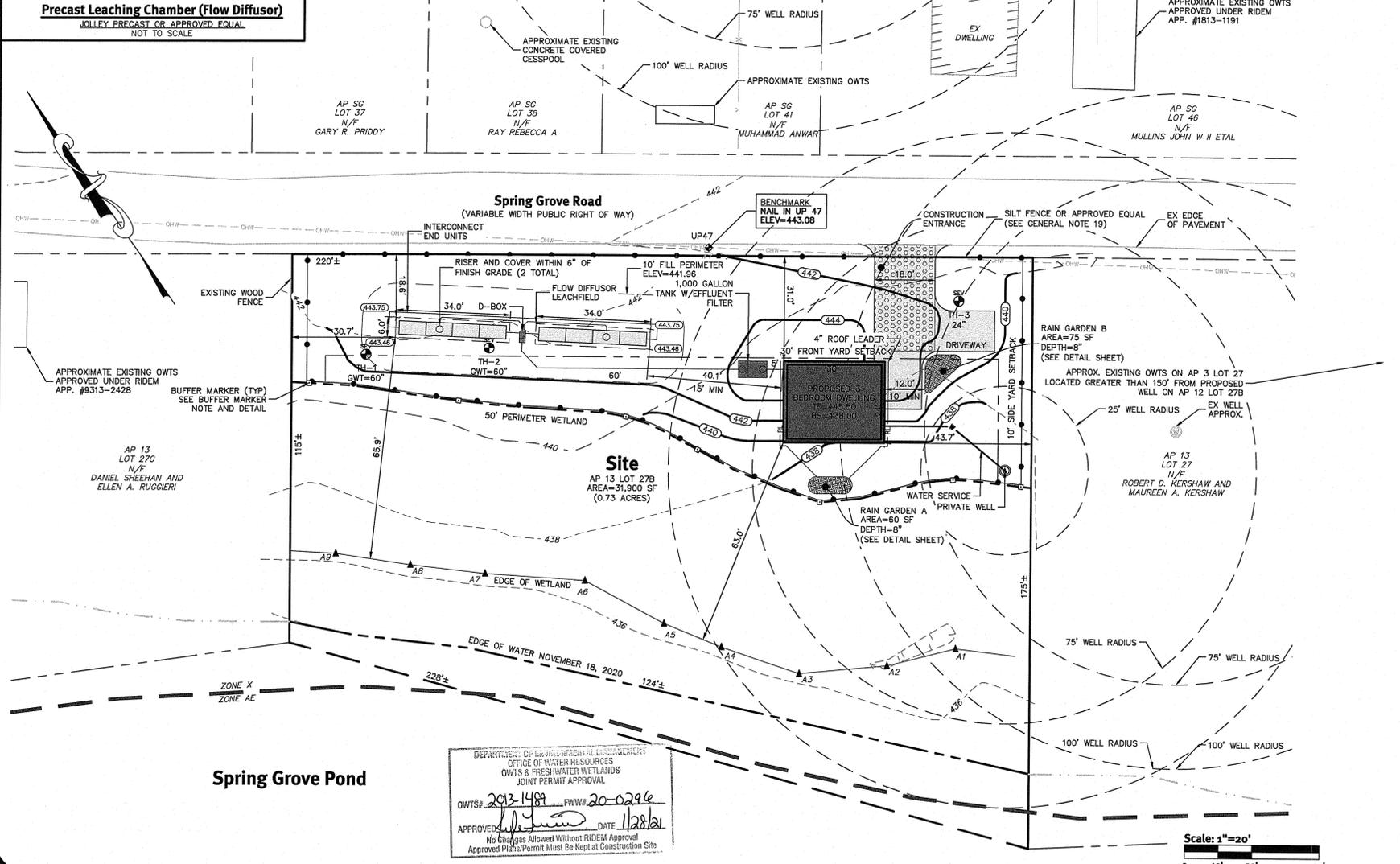
- CONTRACTOR TO OBTAIN ALL REQUIRED FEDERAL, STATE AND MUNICIPAL PERMITS, AND TO NOTIFY "DIG SAFE" PRIOR TO CONSTRUCTION.
- SET EROSION CONTROL BARRIER AT LIMIT OF DISTURBANCE. MAINTAIN CONTINUOUS EROSION CONTROL BARRIER DURING CONSTRUCTION AND REPAIR AS NEEDED.
- CONTACT DESIGNER 24 HOURS PRIOR TO OWTS CONSTRUCTION.
- BEGIN OWTS BOTTOM EXCAVATION.
- CONTACT DESIGNER 24 HOURS PRIOR TO OWTS BOTTOM EXCAVATION COMPLETION FOR INSPECTION.
- BEGIN OWTS CONSTRUCTION.
- CONTACT DESIGNER 24 HOURS PRIOR TO OWTS COMPLETION FOR INSPECTION. COVER OWTS COMPONENTS AND COMPLETE FINISH GRADING.
- CONTACT DESIGNER 24 HOURS PRIOR TO OWTS FINAL GRADING FOR INSPECTION. COMPLETE SOIL STABILIZATION BY LOAM AND SEEDING DISTURBED AREAS.

**Minimum Lot Requirements:**

MINIMUM LOT AREA	80,000 SQUARE FEET
FRONTAGE/WIDTH	250 FEET
FRONT YARD	30 FEET
SIDE YARD	10 FEET
REAR YARD	N/A FEET
CORNER SIDE YARD	N/A FEET

**Abbreviations**

BS	BASEMENT SLAB ELEVATION	SG	SLAB ON GRADE ELEVATION
FT	FEET	SHGWT	SEASONAL HIGH GROUNDWATER TABLE
GS	GARAGE SLAB ELEVATION	TF	TOP OF FOUNDATION
MAX	MAXIMUM	TYP	TYPICAL
MIN	MINIMUM	WO	WALKOUT ELEVATION
SF	SQUARE FEET		

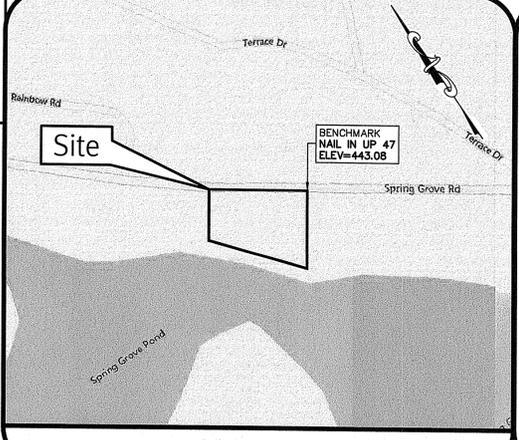


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
OWTS & FRESHWATER WETLANDS  
JOINT PERMIT APPROVAL

OWTS# 2013-1481 FWW# 20-0296

APPROVED: [Signature] DATE 12/28/21

No Changes Allowed Without RIDEM Approval  
Approved Plans/Permit Must Be Kept at Construction Site



**DiPrete Engineering**  
Two Stafford Court Cranston, RI 02920  
tel 401-949-1000 fax 401-464-6006 www.diprete-eng.com

**JASON P. CLOUGH**  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

This plan set must not be used for construction purposes unless approved by a registered Professional Engineer of Diprete Engineering.  
Diprete Engineering only warrants plans on a Diprete Engineering title block stamped by registered Professional Engineer of Diprete Engineering.  
Diprete Engineering does not warrant plans by any other party.  
The user is responsible for all other necessary applicable safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.  
Existing utilities shown on this plan are approximate only. Diprete Engineering assumes no responsibility for damages incurred due to mislocation of existing utilities.

Environmental Management  
JAN 19 2021  
Office of Water Resources

**Onsite Wastewater Treatment System**  
**Spring Grove Road**  
Glocester, Rhode Island  
AP 13 Lot 27B

**Robert D. Kershaw**  
102 Spring Grove Road  
Chepachet, Rhode Island 02814

APPLICANT: Robert D. Kershaw  
DESIGN BY: S.R.  
DRAWN BY: S.R.

**ESTABLISHMENT OF VEGETATIVE COVER**

- SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. THE CONTRACTOR SHALL INITIATE APPROPRIATE VEGETATIVE PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED OR PROTECTED.
- 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 WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, M.20.
- THE TEMPORARY SEEDING DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT
ANNUAL RYEGRASS	40
PERENNIAL RYEGRASS	60

- THE NEW ENGLAND EROSION CONTROL/RESTORATION SEED MIX SHALL BE COMPRISED OF THE FOLLOWING:

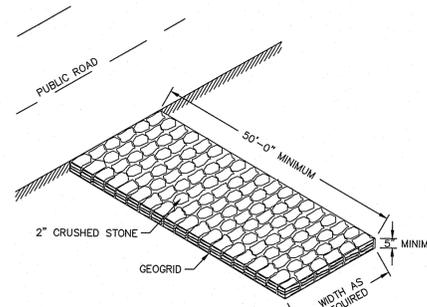
TYPE	% BY WEIGHT
UPLAND BENTGRASS	1.0
CREeping BENTGRASS	1.0
BIG BLUESTEM	8.0
NEW ENGLAND ASTER	1.0
FOX SEDGE	8.0
VIRGINIA WILD RYE	28.0
BONESET	1.0
GRASS LEAVED GOLDENROD	1.0
CREeping RED FESCUE	24.0
SOFT RUSH	0.5
SENSITIVE FERN	1.0
SWITCH GRASS	8.0
LITTLE BLUESTEM	15.0
GREEN BULLRUSH	1.0
WOOL GRASS	0.5
BLUE VERVAIN	1.0

- THE GENERAL PURPOSE SEED MIX SHALL BE COMPRISED URI #2 OF THE FOLLOWING:

TYPE	% BY WEIGHT
CREeping RED FESCUE	40
IMPROVED PERENNIAL RYE GRASS	20
IMPROVED KENTUCKY BLUEGRASS	30
KENTUCKY BLUEGRASS	10

EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. SEEDING SCHEDULE SHOULD CONFORM WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, L.02.03.1 SEEDING DATES. PERMANENT SEEDING SHALL BE DURING THE APRIL 1 TO MAY 31 OR AUGUST 15 TO OCTOBER 15. TEMPORARY SEEDING MAY BE DONE ANYTIME BETWEEN MARCH 15 AND NOVEMBER 15 WITH THE APPROVAL OF THE ENGINEER OF RECORD. FERTILIZE AS REQUIRED BY SOIL TESTING TO COMPLEMENT OR UPGRADE EXISTING CONDITIONS. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS AND BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULANTS FOR EACH VARIETY.

- TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING. TEMPORARY HAY MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING. SIDE SLOPES OF BASINS SHALL BE TREATED WITH NORTH AMERICAN GREEN EROSION CONTROL BLANKETS SUCH AS S150 OR APPROVED EQUIVALENTS. THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 2 TONS/ACRE.
- ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PART 200.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED.
- ALL AREAS PROPOSED TO BE VEGETATED THAT ARE DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENTLY SEEDING AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH MULCH. ALL SEEDING AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STANDARD IS MAINTAINED. WELL ESTABLISHED VEGETATION SHALL BE MAINTAINED. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEEDED BY THE CONTRACTOR. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF WORK AS SHOWN ON THE PLANS.
- MAXIMUM PERMANENT GRADED SLOPE WITHIN THE SITE IS TO BE 3:1 UNLESS NOTED OTHERWISE.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.



NOTE: SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

**Construction Access**  
NOT TO SCALE

**MAINTENANCE: SHORT TERM / LONG TERM**

- THE STONE STABILIZATION PADS AT THE SITE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ON THE PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- ALL SILT FENCE, TEMPORARY TREATMENTS (HAY, STRAW, ETC.), AND TEMPORARY PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. SILT FENCE SHALL BE INSPECTED BY THE CONTRACTOR WITHIN 24 HOURS AFTER EACH STORM EVENT OR EVERY 7 DAYS, WHICHEVER COMES FIRST, FOR UNDERMINING AND DETERIORATION. A STORM EVENT SHALL BE DEFINED AS 0.25 INCHES OF RAIN WITHIN A 24-HOUR PERIOD. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS WARRANTED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE SILT FENCE BECOMES FILLED IN WITH SEDIMENT. THE HAY SILT FENCE SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. FOLLOWING CONFIRMATION FROM THE OWNER AND OR THE PROJECT ENGINEER THAT AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER HAS BEEN ESTABLISHED THE SILT FENCE SHALL BE REMOVED.
- THE CONTRACTOR SHALL MAINTAIN ALL TOPSOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER. HAY BALES OR SILT FENCE SHALL BE STAKED AROUND THE STOCKPILES.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR FOLLOWING FINAL GRADING AND CONSTRUCTION. THE CONTRACTOR SHALL CHECK ALL SEEDING AREAS REGULARLY TO SEE THAT A GOOD STAND OF VEGETATION IS MAINTAINED. THE CONTRACTOR MUST REPAIR OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DRAINAGE BMPs DURING AND UP TO A YEAR AFTER COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER. THE OWNER IS RESPONSIBLE FOR INSPECTIONS AND MAINTENANCE THEREAFTER. THE DRAINAGE BMPs SHALL BE INSPECTED/MAINTAINED AS DETAILED BELOW.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE AND REPAIR TO AND IMMEDIATELY FOLLOWING CONSTRUCTION FOR A MAXIMUM OF ONE YEAR, OR UNTIL ACCEPTANCE BY THE ENGINEER AND THE OWNER. THE OWNER IS RESPONSIBLE FOR INSPECTIONS AND MAINTENANCE THEREAFTER.
- A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT SHALL BE EXECUTED BETWEEN THE OWNER AND THE RESPONSIBLE AUTHORITY TO ENSURE THE FOLLOWING MAINTENANCE SCHEDULES ARE FOLLOWED.
- DURING THE FIRST SIX (6) MONTHS OF OPERATIONS, INSPECTIONS SHALL BE ACCOMPLISHED IN EACH DRAINAGE BMP AFTER EVERY RAINFALL EVENT, TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID A STORMWATER RELEASE. FOLLOWING THE SIX (6) MONTHS, INSPECTIONS SHALL BE CONDUCTED, AT A MINIMUM, ANNUALLY.
- IF STANDING WATER IS OBSERVED WITHIN THE DRAINAGE BMPs FOR MORE THAN THREE (3) DAYS AFTER A RAINFALL, THEN FAILURE OF THE SYSTEM MAY HAVE OCCURRED AND SHALL BE ADDRESSED THROUGH REPAIR OR REPLACEMENT.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR THE MAINTENANCE PROGRAM DURING THE CONSTRUCTION PHASE AND FOR A PERIOD OF ONE YEAR AFTER CONSTRUCTION. THE SUPERINTENDENT SHALL SEE THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- AFTER ACCEPTANCE OF THE SITE BY THE OWNER, THE OWNER SHALL HAVE OVERALL RESPONSIBILITY FOR IMPLEMENTING THE MAINTENANCE PROGRAM FOR THE STORMWATER MANAGEMENT PLAN.
- THE RESPONSIBLE PARTY FOR THE STORMWATER MANAGEMENT PROGRAM IS THE OWNER OF THE SITE. THE FUNDING FOR THE STORMWATER MANAGEMENT PROGRAM IS BY THE OWNER. IF THE PROPERTY IS SOLD, THE RESPONSIBILITY OF THE STORMWATER MANAGEMENT PROGRAM WILL BE TRANSFERRED TO THE NEW OWNER.

**THE FOLLOWING MAINTENANCE PROCEDURES SHALL BE FOLLOWED FOR THE RAIN GARDEN:**

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

**SEQUENCE OF CONSTRUCTION OF CONSTRUCTION AND STAGING OF LAND DISTURBING ACTIVITIES**

- CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL (SE & SC) ONSITE. SEQUENCE OF CONSTRUCTION PROVIDED MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM OWNER OR THEIR REPRESENTATIVE.
- CONSTRUCTION TO BEGIN IN THE SUMMER 2021 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- SURVEY AND STAKE THE DRAINAGE BMPs (DRYWELLS AND/OR OTHER DRAINAGE FEATURES), DRAIN LINES, AND LIMIT OF SEDIMENTATION BARRIERS/LIMIT OF DISTURBANCE.
- PLACE SEDIMENTATION BARRIERS (SILT FENCE OR APPROVED EQUIVALENT) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS. PLACE BARRIERS AROUND VEGETATED SWALE. NO CONSTRUCTION TRAFFIC IS PERMITTED IN THESE AREAS.
- INSTALL TEMPORARY SEDIMENTATION CONTROL MEASURES AND DEVICES AS WARRANTED. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
- BEGIN DEMOLITION AND CLEARING AND GRUBBING IN AREA OF THE BUILDING, DRAINAGE BMPs, AND OTHER AREAS AS INDICATED ON THE PLANS. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS. TOPSOIL STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIERS AND COVERED OR TEMPORARILY SEEDED.
- BEGIN CONSTRUCTION OF THE BUILDING FOUNDATION AND STRUCTURE.
- BEGIN CONSTRUCTION OF DRAINAGE BMPs.
- ONCE THE SITE IS STABILIZED THE DRAINAGE BMPs AND DRAINAGE NETWORK MAY BE BROUGHT ONLINE WITH THE APPROVAL OF THE DESIGN ENGINEER.
- REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS.

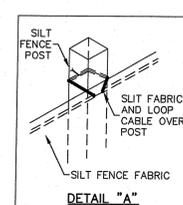
**STRUCTURAL MEASURES**

- RUNOFF WATER QUALITY IS IMPROVED UTILIZING RAIN GARDENS. CONSTRUCTION OF THE BMPs SHALL BE SUPERVISED BY THE PROJECT ENGINEER.
- A STONE STABILIZATION PAD IS LOCATED AT THE SITE ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT OF WAY.
- HAY BALES OR SILT FENCE SHALL BE INSTALLED DOWNSTREAM OUTSIDE THE LIMITS OF ANY PROPOSED CONSTRUCTION AS SHOWN ON THE SITE PLANS AND PRIOR TO THE COMMENCEMENT OF THE PROPOSED ALTERATION.
- TEMPORARY BERMS AND / OR SWALES SHALL BE USED DURING CONSTRUCTION TO DIRECT SURFACE TO TEMPORARY SEDIMENTATION BASINS TO CAPTURE AND TREAT THE MAXIMUM AMOUNT OF STORM WATER.
- THE RAIN GARDEN AREAS ARE NOT TO BE USED AS SEDIMENTATION BASINS DURING CONSTRUCTION AND SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES (I.E. HEAVY MACHINERY) TO PREVENT COMPACTION. THE CONTRACTOR SHALL CONSTRUCT ANY SEDIMENTATION BASINS WHICH ARE REQUIRED TO MEET ALL GUIDELINES IN THE RHODE ISLAND SOIL EROSION SEDIMENT CONTROL HANDBOOK.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE OVERALL RESPONSIBILITY FOR STRUCTURAL MEASURE IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.
- INSTALL ROOF LEADERS TO DIRECT STORMWATER TOWARDS RAIN GARDENS.

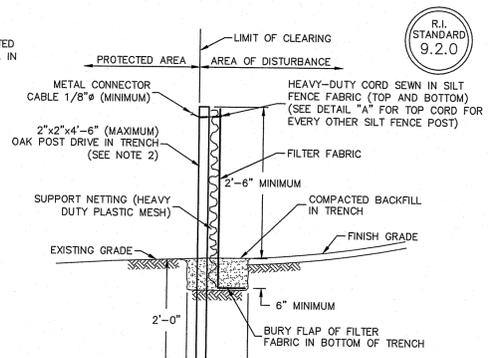
**NON-STRUCTURAL MEASURES**

- CONSTRUCTION TRAFFIC SHALL BE LIMITED TO THE ACCESS ROAD, UTILITY EASEMENTS AND AREAS TO BE GRADED.
- TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE SUBJECT TO APPROVAL BY THE PROJECT ENGINEER. A SEDIMENT BARRIER SHALL SURROUND ALL TOPSOIL STOCKPILES.
- ALL TYPES OF WASTE GENERATED AT THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND TOWN REGULATIONS. CONSTRUCTION DEBRIS SHALL BE DISPOSED OF DAILY TO AVOID EXPOSURE TO PRECIPITATION.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLANT WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.

- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  - 2"x2"x4'-6" (MAXIMUM) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAXIMUM) O.C. IN WETLAND AREAS AND 4'-0" (MAXIMUM) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
  - 1"x1"x4'-6" (MINIMUM) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
  - SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

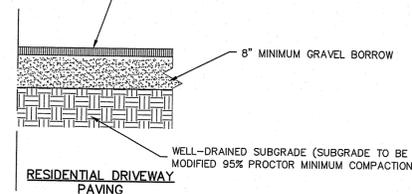


**Silt Fence Detail**  
NOT TO SCALE

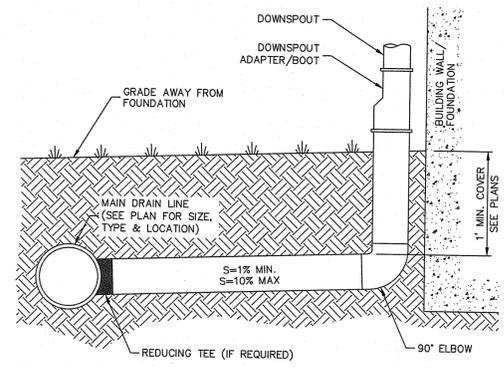


R.I. STANDARD 9.2.0

**NOTE:** THIS PAVEMENT SECTION DETAIL REFLECTS ASSUMED MINIMUM REQUIREMENTS WITHOUT GEOTECHNICAL EVALUATION.



**Typical Residential Driveway Section**  
NOT TO SCALE



**Downspout Connection Detail**  
NOT TO SCALE

**SIZING NOTE:**  
1. RAIN GARDENS SIZED USING TABLE 7 OR 8 OF THE STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT

**SIZING DATA**

SOIL CONDITIONS: SANDY  
RAIN GARDEN DEPTH: 4, 6, OR 8 INCHES

**RAIN GARDEN SIZING CALCULATION:**  
TOTAL ROOF IMPERVIOUS AREA = 720 SF  
RAIN GARDEN (A) SIZING RATIO = 80 SF (RAIN GARDEN SURFACE AREA) X SF = 1,000 SF (IMPERVIOUS SURFACE AREA) 720 = 57.6 SF RAIN GARDEN REQUIRED

TOTAL DRIVEWAY IMPERVIOUS AREA = 925 SF  
RAIN GARDEN (B) SIZING RATIO = 80 SF (RAIN GARDEN SURFACE AREA) X SF = 1,000 SF (IMPERVIOUS SURFACE AREA) 925 = 74 SF RAIN GARDEN REQUIRED

RAIN GARDEN AREA PROVIDED = RAIN GARDEN A = 60 SF  
RAIN GARDEN B = 75 SF

NATIVE PLANTS (REFERENCE PLANTING DESIGN BY LANDSCAPE ARCHITECT)

RAIN GARDEN CROSS SECTION  
NATIVE SOIL OR STRUCTURAL FILL | LEVEL BOTTOM | 2'-4" AMENDED SOIL | 4'-6" | 2'-3" MULCH

**Detail Sheet**  
**Spring Grove Road**  
Glocester, Rhode Island  
AP 3 Lot 27B  
Applicant: **Robert D. Kershaw**  
100 Spring Grove Road  
Chesterfield, Rhode Island 02824  
SHEET 2 OF 2

**Diprete Engineering**  
Two Stafford Court, Cranston, RI 02920  
Tel: 401-943-1000 Fax: 401-464-6006 www.diprete-eng.com  
Boston • Providence • Newport

**JASON P. CLOUGH**  
No. [Signature]  
REGISTERED PROFESSIONAL ENGINEER CIVIL

This plan set was prepared by the undersigned for the project described herein. It is the responsibility of the undersigned to ensure that the design complies with all applicable laws, regulations, codes, and standards. The undersigned is not responsible for any errors or omissions in this plan set. The undersigned is not responsible for any damage to property or injury to persons resulting from the use of this plan set. The undersigned is not responsible for any delay in the construction of the project. The undersigned is not responsible for any cost overruns or other financial issues related to the project. The undersigned is not responsible for any other matters not specifically mentioned in this plan set.

No.	Date	Description	By	Design By: S.R.
1	1/14/2021	REVISION: PROPOSED TO COMMENTS	S.R.	
2	12/22/2020	REVISION: SUBMISSION	S.R.	

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