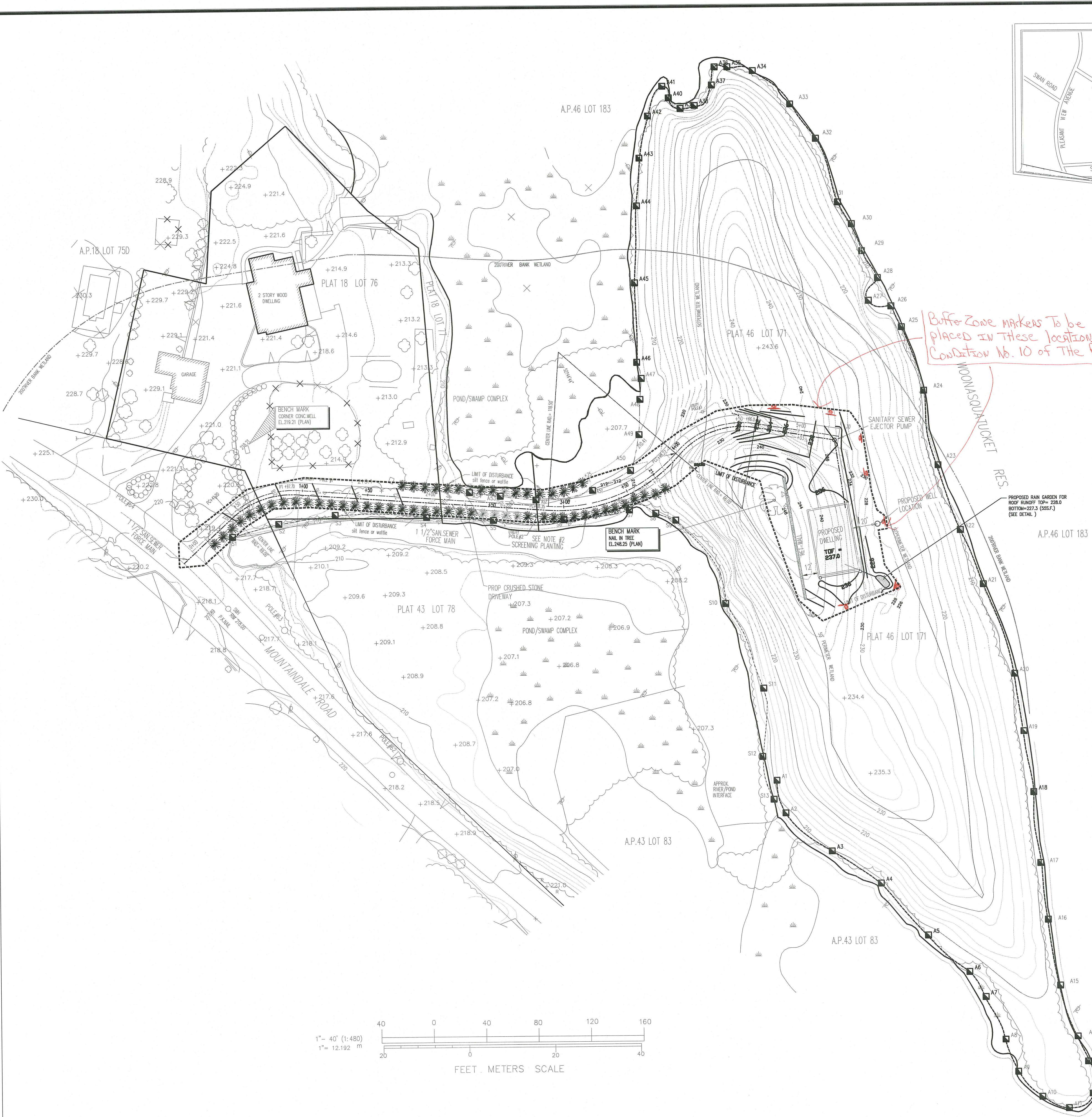


LOCUS PLAN
NOT TO SCALE

Buffer Zone markers to be placed in these locations per Condition No. 10 of the Permit.

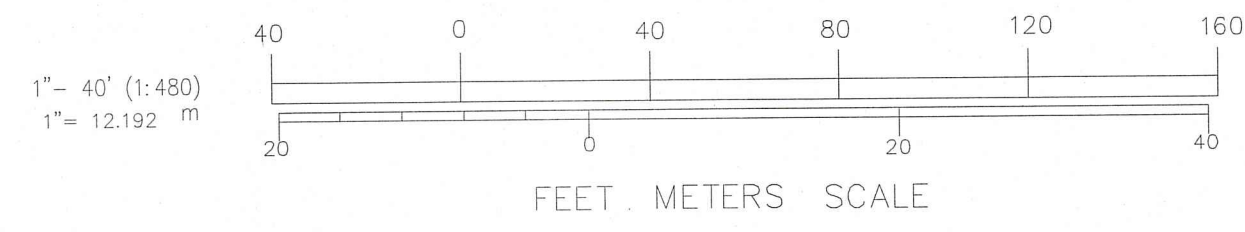


LEGEND

- CB CATCH BASIN
- POLE #1 UTILITY POLE
- SIGN STREET SIGN
- SMH SEWER MANHOLE
- HYD FIRE HYDRANT
- LIGHT
- FENCE
- WG WATER GATE
- GG GAS GATE
- 220— EXISTING CONTOURS
- SPOT ELEVATION
- POINT OF APPLICATION
- TREE
- TREE LINE
- A23— WETLAND EDGE OF POND
- S12— WETLAND EDGE OF STREAM
- DUMPED RIP RAP
- CONTINUOUS HAY BALE OR SILT FENCE EROSION CONTROL ALSO LIMIT OF DISTURBANCE
- POND/SWAMP COMPLEX
- APPROX. PROPERTY LINE (NO GROUND SURVEY WAS PERFORMED)
- 200' RIVER BANK WETLAND
- 50' PERIMETER WETLAND
- EXISTING CONTOUR —
- DEPICTING WORK PERFORMED UNDER DEM NO. 06-0063

GENERAL NOTES:

1. FLOOD PLAN ELEVATIONS
NORMAL POND ELEV. 207 +/-
ONE HUNDRED YEAR 210 +/-
FIVE HUNDRED YEAR 218.6 +/-
2. SCREENING PLANTING
NORTHERN WHITE CEDAR
(TRILIA OCCIDENTALIS) - 4FT HIGH
AFTER PLANTING - 8' FLOW CENTER
NORTH SIDE STA. 1+50 TO 4+50
SOUTH SIDE STA. 0+25 TO 3+50
3. THERE WILL BE NO FILL WITHIN THE FLOOD PLAN.
ALL FILL WILL BE ABOVE ELEVATION 210.00.



SURVEY NOTE:

PROPERTY LINES BY INTERNATIONAL MAPPING & SURVEYING, INC. SMITHFIELD, RI

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAY 16 2019 FILE # 18-0152
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

SITE PLAN
WETLANDS APPLICATION
A.P. 18 LOTS 76, 77 & AP 46 LOT 171
305 MOUNTAINDALE RD SMITHFIELD, RI

PREPARED FOR:
RICHARD D CESARO
305 MOUNTAINDALE ROAD SMITHFIELD, RI

NICHOLAS J. PIAMPIANO
No. 6512
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

NO.	DATE	DESCRIPTION
1	9/18/18	PER RIDEM
2	10/10/18	PER RIDEM
3	10/30/18	PER RIDEM

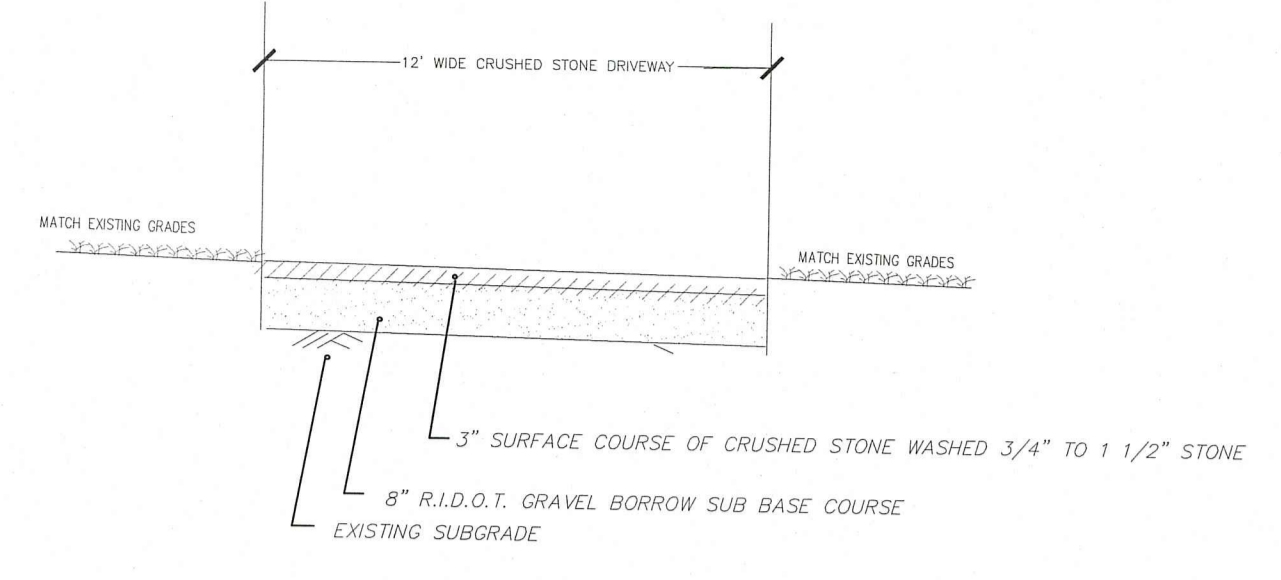
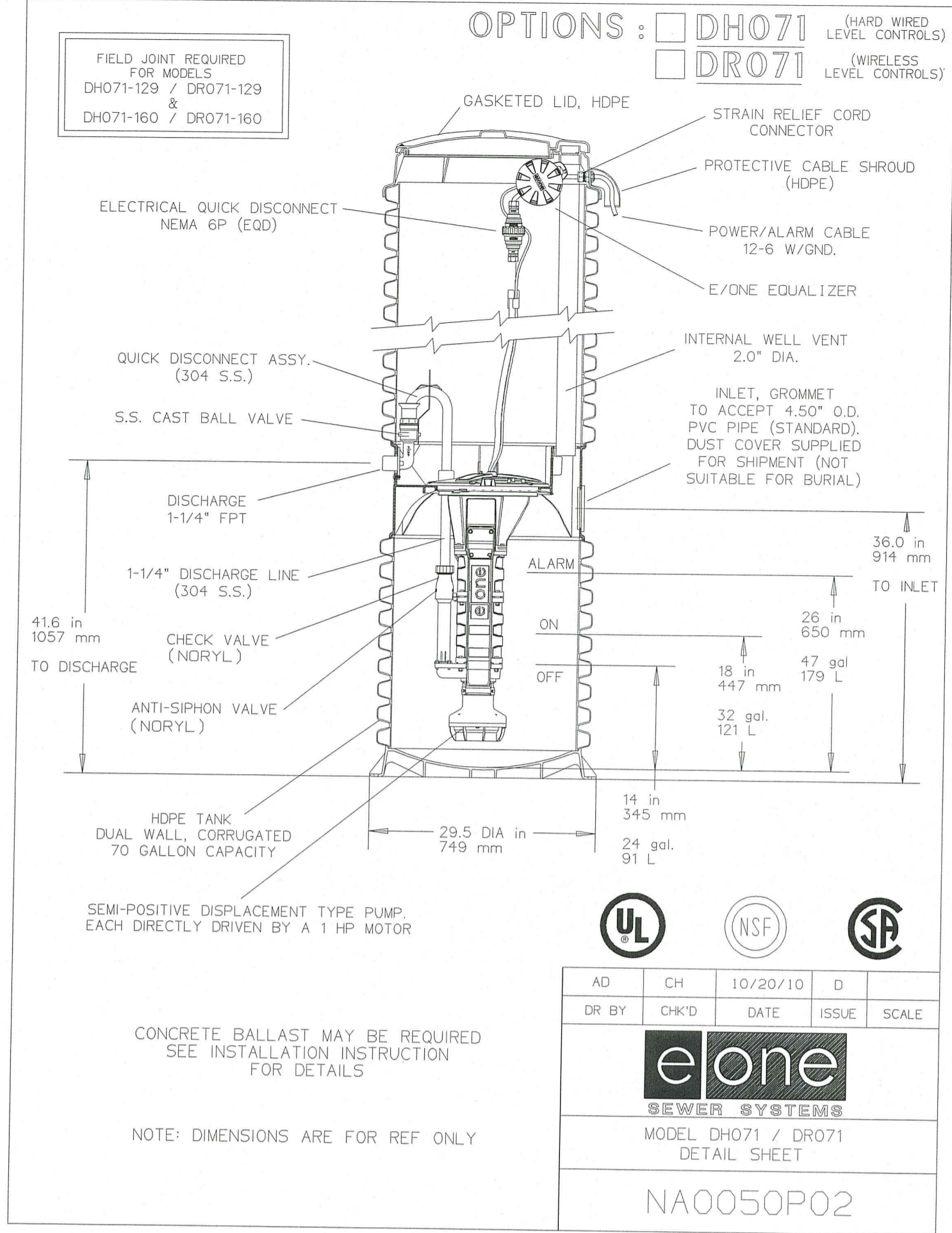
DATE: MAY 5, 2018
SCALE: AS NOTED
DESIGN/CHECK BY: C.S.R.

ADVANCED CIVIL DESIGN, INC.
CIVIL ENGINEERS

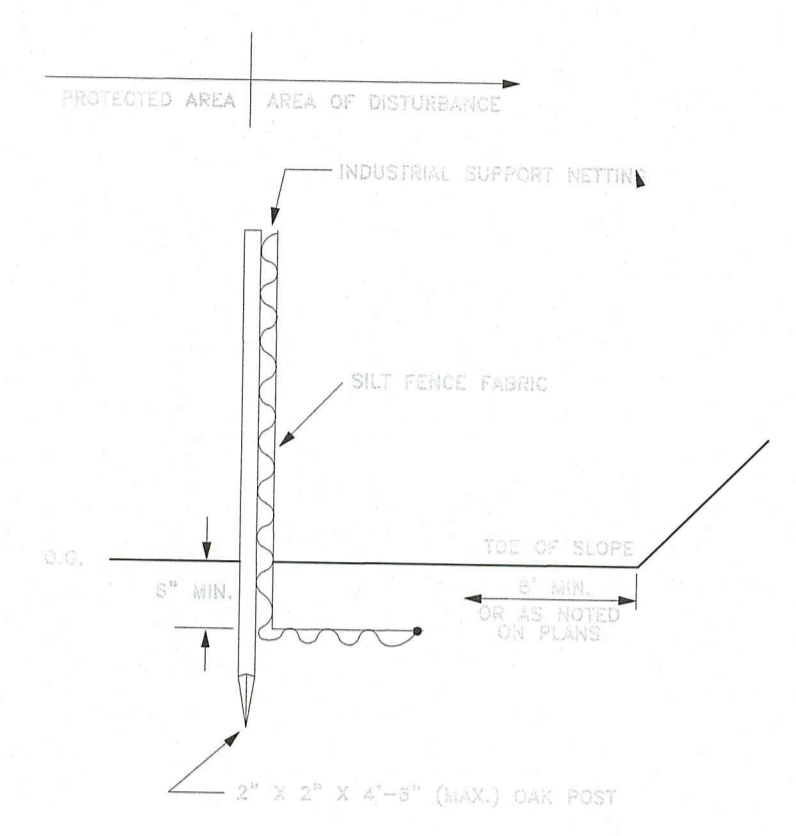


7 COUNTRYSIDE LANE
SCITUATE, RI 02857

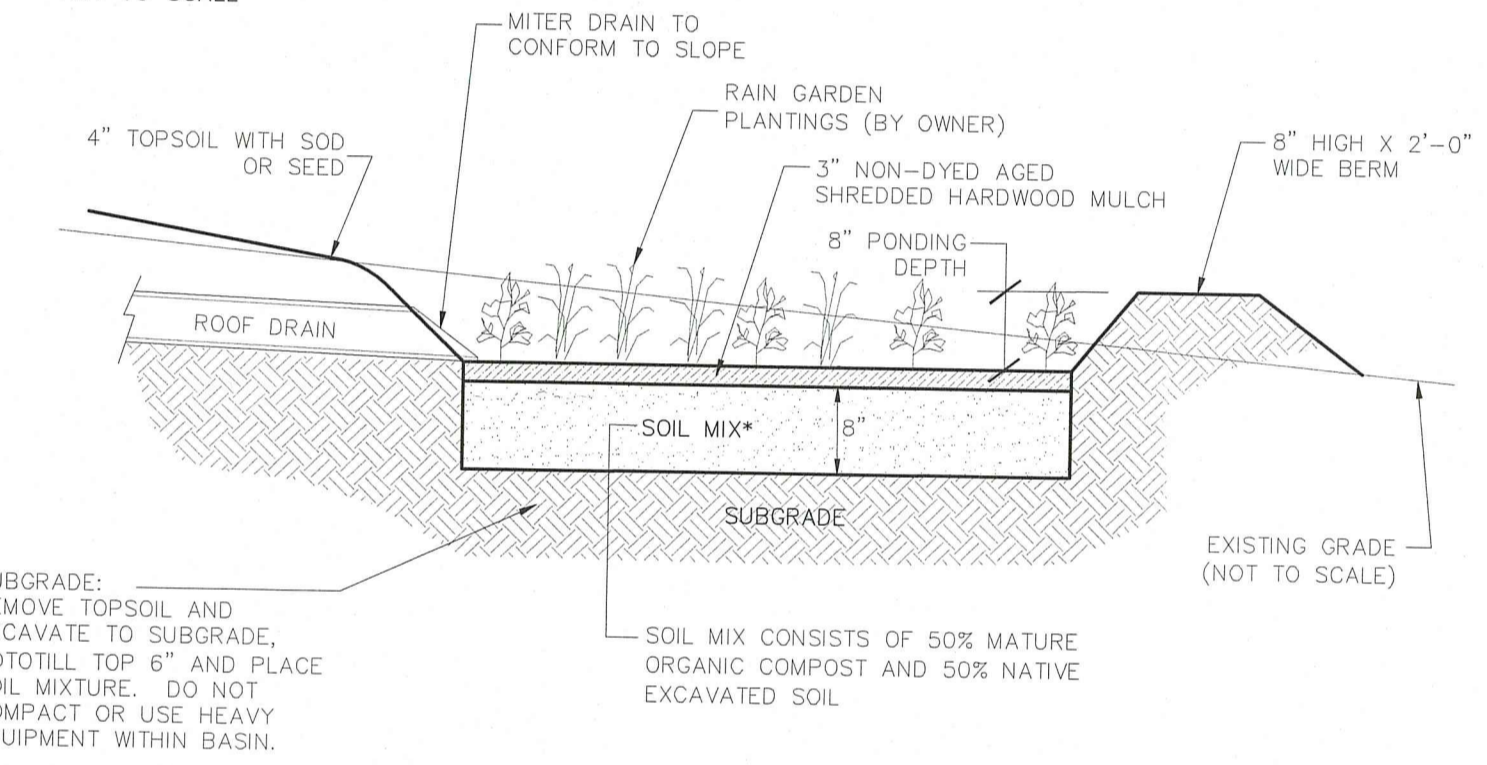
P1: (401) 644-8656
P2: (401) 473-4404



TYPICAL DRIVEWAY CROSS SECTION
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE



RAIN GARDEN SECTION DETAIL
NOT TO SCALE

STORMWATER TREATMENT PRACTICE

IMPERVIOUS SURFACE	AREA	METHOD	AREA REQ'D	AREA PROVIDED
ROOF TOP	1,498 S.F.	RAIN GARDEN	32 S.F.	56 S.F.

* PER SOIL EVALS FSL

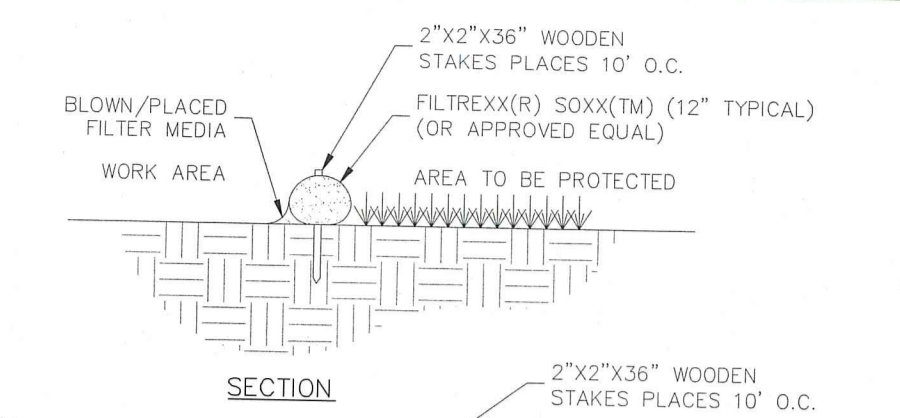
SITework CONTRACTOR NOTES

- CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
- AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED. SEE LANDSCAPE PLANS.
- ALL CONSTRUCTION WITHIN THE STATE RIGHT-OF-WAY SHALL CONFORM TO PROCEDURES AND SPECIFICATIONS DELINEATED IN THE "STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND STANDARD DETAILS" INCLUDING ALL REVISIONS AS APPROVED BY THE DEPARTMENT AT THE TIME OF THE PHYSICAL ALTERATION PERMIT SUBMISSION.
- TRAFFIC CONTROL, SIGNAGE, AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) 2003 INCLUDING ALL REVISIONS.
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DOCUMENTS DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECTED MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
- CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
- DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED OR PROTECTED.
- PLANTABLE SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM WITH RHODE ISLAND'S STANDARD SPECIFICATIONS, AS AMENDED.
- THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

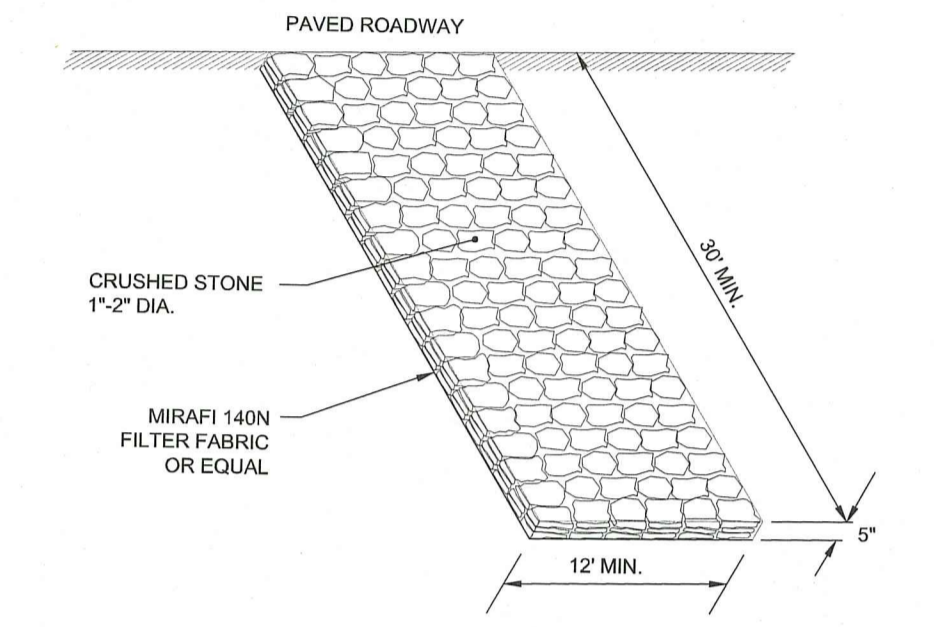
TYPE	LB5/ACRE
CREeping RED FESCUE	75
KENTUCKY BLUE GRASS	15
COLONIAL BENT GRASS	5
PERENNIAL RUE GRASS	5
- EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZER AS REQUIRED BY SOIL TESTING TO COMPENSATE OR UPSHAPE EXISTING CONDITIONS. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING WITH APPROPRIATE INOCULUM FOR EACH VARIETY. THE RECOMMENDED SEEDING DATES ARE APRIL 1ST THROUGH JUNE 15TH AND AUGUST 15TH THROUGH SEPTEMBER 30TH.
- TEMPORARY TREATMENTS SHALL CONSIST OF NORTH AMERICAN GREEN 5150 EROSION CONTROL BLANKET OR EQUAL. THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- ALL TEMPORARY EROSION 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 THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR ANY WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED OR STABILIZED.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE 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 A PERIOD OF SIX (6) MONTHS AND SHALL DO SO AT NO ADDITIONAL EXPENSE.
- MAXIMUM GRATED SLOPE TO BE 3:1 UNLESS NOTED OTHERWISE ON THE PLANS.
- REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY USDA SOIL CONSERVATION SERVICE AS A GUIDE.



NOTES:

- ALL MATERIAL TO MEET FILTERREX(R) SPECIFICATIONS
- FILTER MEDIA(TM) FILL TO MEET APPLICATION REQUIREMENTS
- COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER
- STAKES ARE NOT TO BE USED IN PAVEMENT AREAS
- SELF HEIGHT OF FILTERREX SYSTEM IS ADEQUATE TO PREVENT SYSTEM OF MOVEMENT ONCE POSITIONED ALONG AREA SHOWN IN PLAN ABOVE
- CONTRACTOR TO PLACE FILTERREX SEDIMENT CONTROL OR EQUAL AROUND ALL CURB INLET LOCATIONS AS SPECIFIED ON PLANS.

STRAW WATTLE or Approved Equal
NOT TO SCALE



STONE CONSTRUCTION ENTRANCE
NOT TO SCALE

Maintenance Notes:

- THE RAIN GARDEN 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 AN 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 VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
- GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
- FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN RAIN GARDENS.
- SWALES SHALL BE INSPECTED ANNUALLY AND SHOULD BE INSPECTED AFTER LARGE STORM EVENTS.
- ERODED SIDE SLOPES AND CHANNEL BOTTOMS SHALL BE STABILIZED AS NECESSARY.

Rain Garden Plantings:

LATIN NAME	COMMON NAME	SIZE	SPACING
GRASSES / PERENNIALS			
FESTUCA OVINE GLAUCA	BLUE FESCUE	1 GAL	18" O.C.
PANICUM VIRGATUM	SWITCHGRASS	1 GAL	18" O.C.
PENNISETUM ALOPURIROIDES	FOUNTAIN GRASS	1 GAL	18" O.C.
RUDEBECKIA HIRTA	BLACK EYED SUSAN	1 GAL	18" O.C.
SHRUBS			
CEPHALANTHUS OCCIDENTALIS	COMMON BUTTONBUSH		
COMPIONIA PEREGRINA	SWEET FERN		
LEDUM GROENLANDICUM	LABRADOR TEA		
PHOTINIA MELANOCARPA	BLACK CHOKEBERRY		

* FINAL PLANTINGS TO BE CHOSEN AND INSTALLED BY OWNER OR OWNER REPRESENTATIVE. REFERENCE THE RHODE ISLAND COASTAL PLANT GUIDE AT www.uri.edu/coast/cesec/coastalplants/coastalplantguide.

ROOF RAIN GARDEN SIZING CALCULATIONS

- Impervious Roof Area = 1,498 s.f.
- Soil type: Sand
- Design Coefficient of Permeability = 3.5 ft/day
- Intensity = 1-inch
- Water Quality Volume Needed: 1,498 s.f. x 0.083 (1") = 124 c.f.
- Proposed Rain Garden Depth = 8-inches or 0.7-feet

Surface Area at Bottom of the Garden:

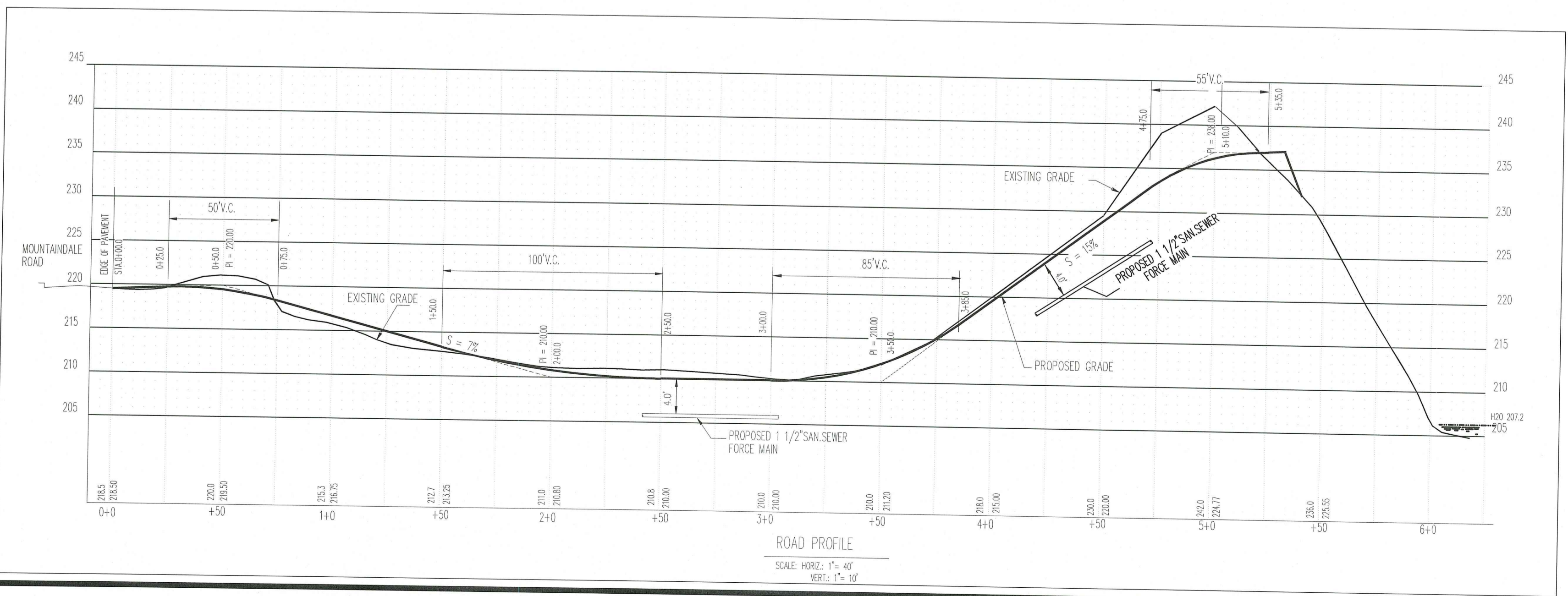
$$A(f) = (WQv)(df) / [(K)(hf) + d](1.0)$$

Where:

- A(f) = surface area of the filter bed (ft²)
- df = Filter bed depth (ft) = 1.5 ft
- K = coefficient of permeability of the filter media (use 3.5 ft/day)
- h(f) = Average height of water above the dry swale (ft) (use 0.7 ft)
- tf = design filter bed drain time (assume 1 day for design purposes)

$$A(f) = (124)(1.5) / [(3.5)(0.7 + 1.0) (1.0)]$$

$$A(f) = 32 \text{ s.f. use } 36 \text{ s.f.}$$



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PREPARED FOR:
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 305 MOUNTAINDALE ROAD SMITHFIELD, RI

NICHOLAS J. PIAMPANO
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