



Jacob Cline Beebalm Monardia Didyma "Jacob Cline"



Shenandoah Switchgrass Panicum Virgatum "Shenandoah"



Goldstrum Black Eyed Susan Rudbeckia Fulgida "Goldstrum"



Stella de Oro Daylily Hemercallis "Stella de Oro"

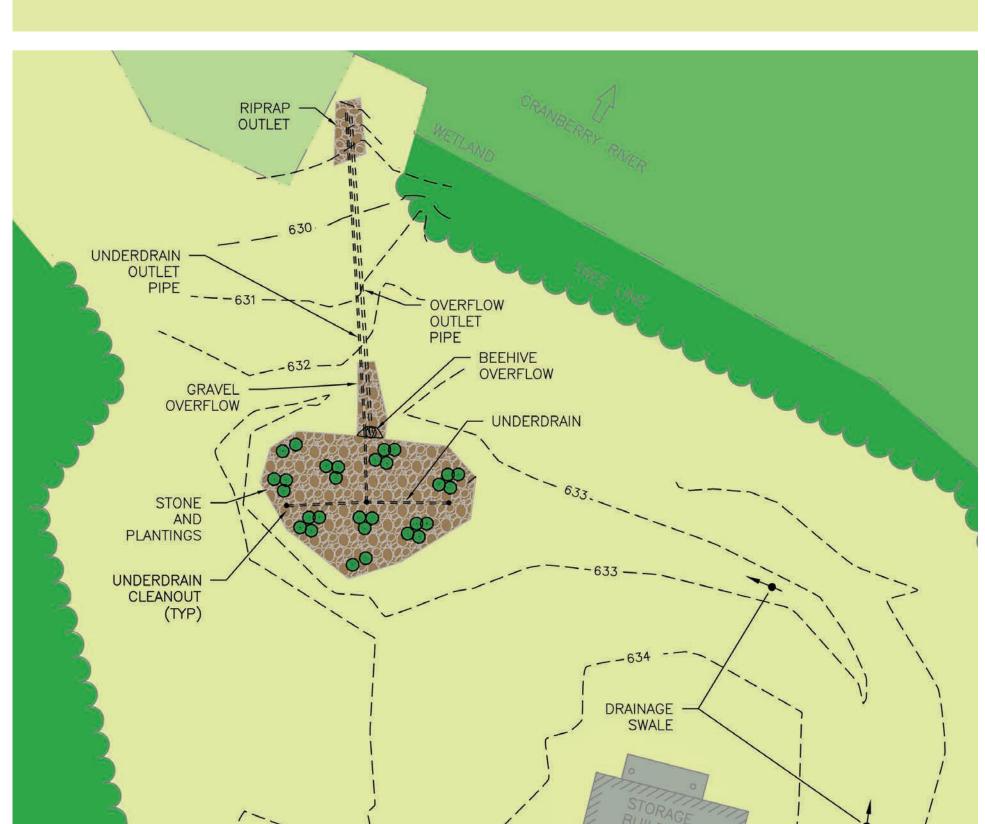


Coneflower Echinacea purporea

NATIVE PLANTINGS

TO SUPPORT POLLINATORS

Reduce pollutants from stormwater runoff prior to discharging filtered BENEFIT stormwater to Cranberry River.



- DOUBLE WASHED PEASTON - DOUBLE WASHED PEASTONE 12" NYLOPLAST . BEEHIVE OVERFLOW — DOUBLE WASHED PEASTONE 1.5' BIORETENTION SOIL MIX **OVERFLOW** 3" DOUBLE WASHED PEASTONE - IMPERMEABLE LINER SOLID UNDERDRAIN -- 6" DOUBLED WASHED CRUSHED STONE PERFORATED UNDERDRAIN - UNDERDRAIN CONNECTION UNDISTURBED SOIL

QUALITY ACTIONS

The soils and plants in this rain garden remove stormwater pollutants through (1) filtering larger sediment particles, (2) uptake of phosphorus and nitrogen, and (3) microbial activity within the roots and soil.

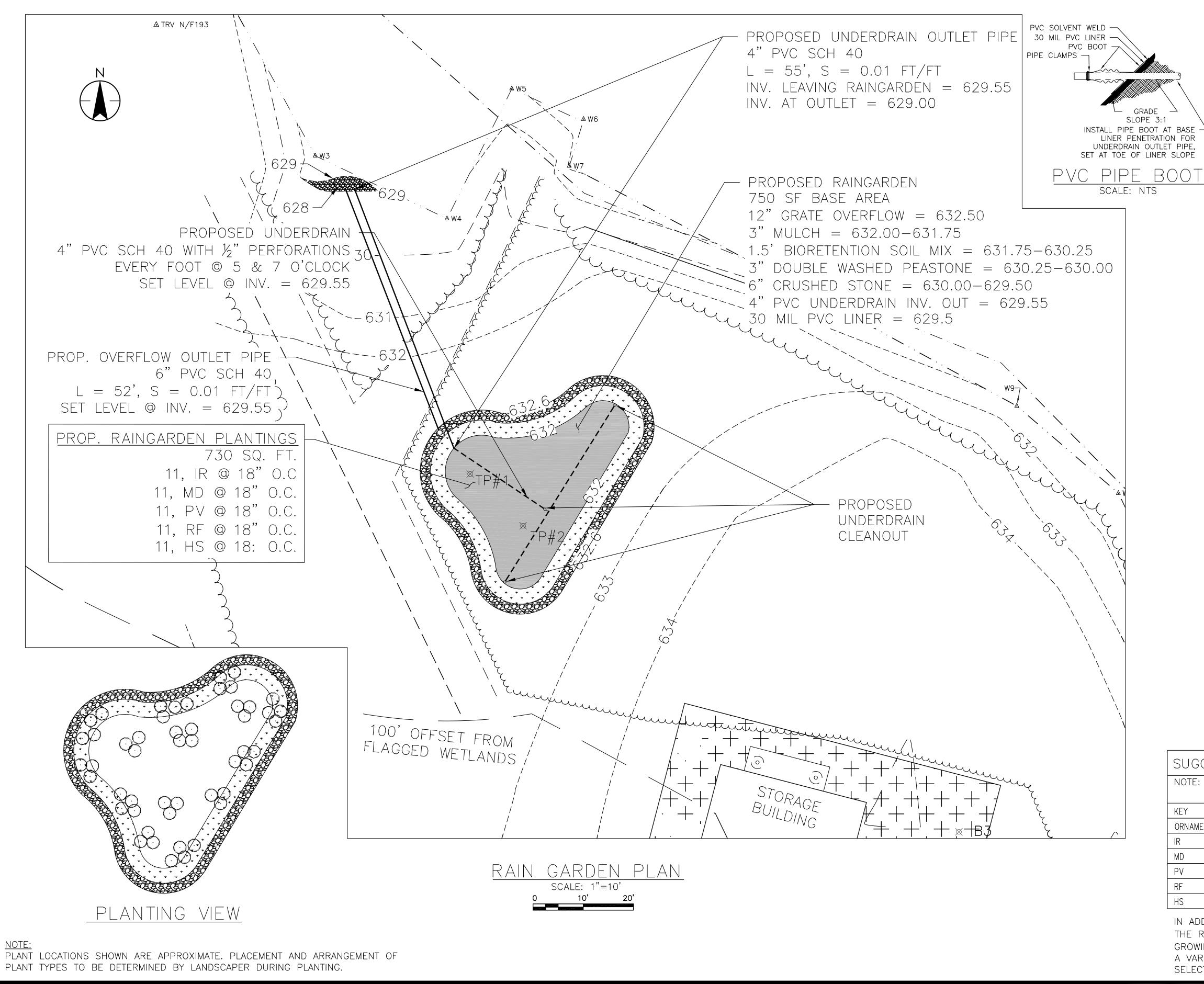






DESIGN

This rain garden has an impermeable liner due to high groundwater at the site. Runoff reaching garden travels through the plant roots and soil prior to reaching the underdrain which then discharges filtered stormwater to Cranberry River. The rain garden was sized to filter the first 0.5 inch of rain from the tributary area. The native plants were selected based on the site conditions such as light exposure and tolerance to wet/dry environment.



CRUSHED STONE ON FILTER FABRIC

3' GRASS FILTER STRIP 3" HARDWOOD MULCH WHERE PLANTINGS ARE INDICATED. OTHERWISE, USE LOAMY SOIL AMENDED WITH COMPOST FOR - 12" NYLOPLAST BEEHIVE OVERFLOW AREAS TO BE SEEDED. EL. 632.5 PROPOSED OVERFLOW 6" PVC SCH 40 EL. 629.55 -1.5' BIORETENTION SOIL MIX -3" DOUBLE WASHED PEASTONE -6" DOUBLE WASHED 30 MIL PVC GEOMEMBRANE CRUSHED STONE PROPOSED SOLID UNDERDRAIN -(IMPERMEABLE LINER) PROPOSED UNDERDRAIN 4" PVC SCH 40 TOP EL. 631.5 UNDERDRAIN EL. 629.55 BOTTOM EL. 629.50 (1/2" HOLES) S = 0.01

1. THE BIORETENTION SOIL MIX SHALL CONSIST OF A OF ROCKS AND PROTRUSIONS, THEN APPROPRIATE UNIFORM MIXTURE OF TWO PARTS (40% BY VOLUME) BEDDING SHOULD BE USED TO PROTECT THE LINER. COARSE SAND (MASSHIGHWAY DEPARTMENT MATERIAL APPROPRIATE BEDDING SHOULD BE SAND AS SPECIFICATION M1.04.0 TYPE A), TWO PARTS (40% BY TYPICALLY USED FOR SEPTIC SYSTEMS IN THE STATE VOLUME) TOPSOIL (MHD SPECIFICATION M1.05.0 OR OF MASSACHUSETTS (A.K.A. TITLE 5 SAND) PLACED M1.06.1) AND ONE PART (20% BY VOLUME)

2. THE LARGEST STONE SIZE SHALL BE 2" DIAMETER PUNCTURE PROTECTION. IN THE TOPSOIL.

3. 30 MIL PVC LINER PROTECTION LINER SUBGRADE SHALL BE FREE OF ROCKS, STONES, ANY ORGANICS,

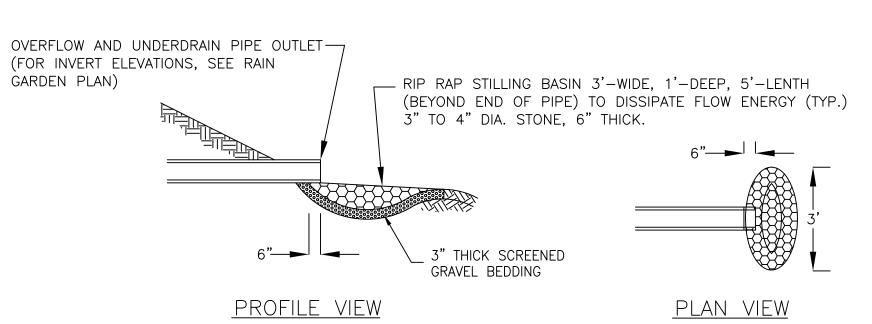
VEGETATION OR FOREIGN MATERIAL, STICKS, SHARP 5. PEASTONE SHOULD BE DOUBLE WASHED AND OBJECTS, NODULES, SUBSURFACE VOIDS, SOFT AREAS, CONFORM TO MASSDOT SPECIFICATION M2.01.6. PROTRUSIONS, OR DEBRIS OF ANY KIND. UNLESS EXISTING SUBGRADE CONSISTS OF SANDY SOILS FREE 6. SCREENED GRAVEL SHOULD CONFORM TO MASSDOT SPECIFICATION M2.01.4.

RAIN GARDEN CROSS-SECTION

WITH A DEPTH OF 6" MIN .: AND WHERE BEDDING

4. CRUSHED STONE SHOULD BE DOUBLE WASHED AND

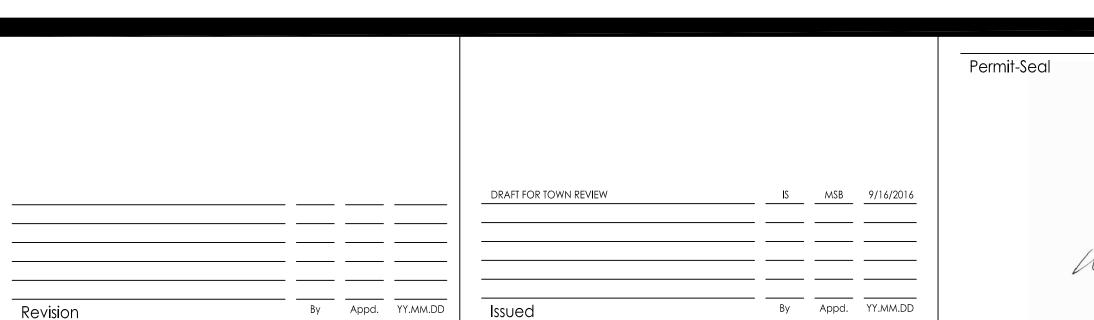
SAND IS NOT AVAILABLE, USE A LAYER OF 16 OZ. NON-WOVEN GEOTEXTILE DESIGNED FOR

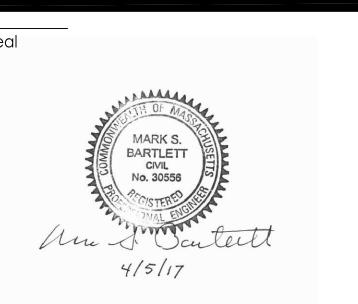


RIP RAP APRON AT RAIN GARDEN OVERFLOW AND UNDERDRAIN OUTLETS SCALE: NTS

SUGGESTED PLANT LIST NOTE: PROPOSED PLANTINGS AND LOCATIONS TO BE FINALIZED BY THE TOWN AFTER REVIEW AND DISCUSSION WITH TOWN'S LANDSCAPE SUPPLIER. KEY QTY. BOTANICAL NAME COMMENTS COMMON NAME SIZE ORNAMENTAL GRASSES AND PERENNIALS 11 | IRIS VERSICOLOR BLUE FLAG IRIS 1 GAL 11 | MONARDIA DIDYMA 'JACOB CLINE' JACOB CLINE BEEBALM 1 GAL 11 | PANICUM VIRGATUM 'SHENANDOAH' SHENANDOAH SWITCHGRASS 1 GAL RUDBECKIA FULGIDA 'GOLDSTURM' GOLDSTURM BLACK EYED SUSAN 1 GAL HEMEROCALLIS 'STELLA DE ORO' STELLA DE ORO DAYLILY 1 GAL

IN ADDITION TO THE ABOVE NOTED PLANTINGS, SET IN MULCH BED AREAS (SEE PLANTING VIEW), THE RAINGARDEN SHALL BE LOAMED & SEEDED WITH A WILDFLOWER SEED MIX SUCH AS THE "LOW GROWING MEADOW MIX" FROM PRAIRIE NURSERY (WWW.PRAIRIENURSERY.COM). A SEED MIX ALLOWS A VARIETY OF SPECIES TO ADAPT TO THE SITE SPECIFIC ENVIRONMENT THROUGH NATURAL SELECTION, WHICH RESULTS IN A MORE ROBUST RAIN GARDEN PLANT GROWTH.





Consultants

Stantec

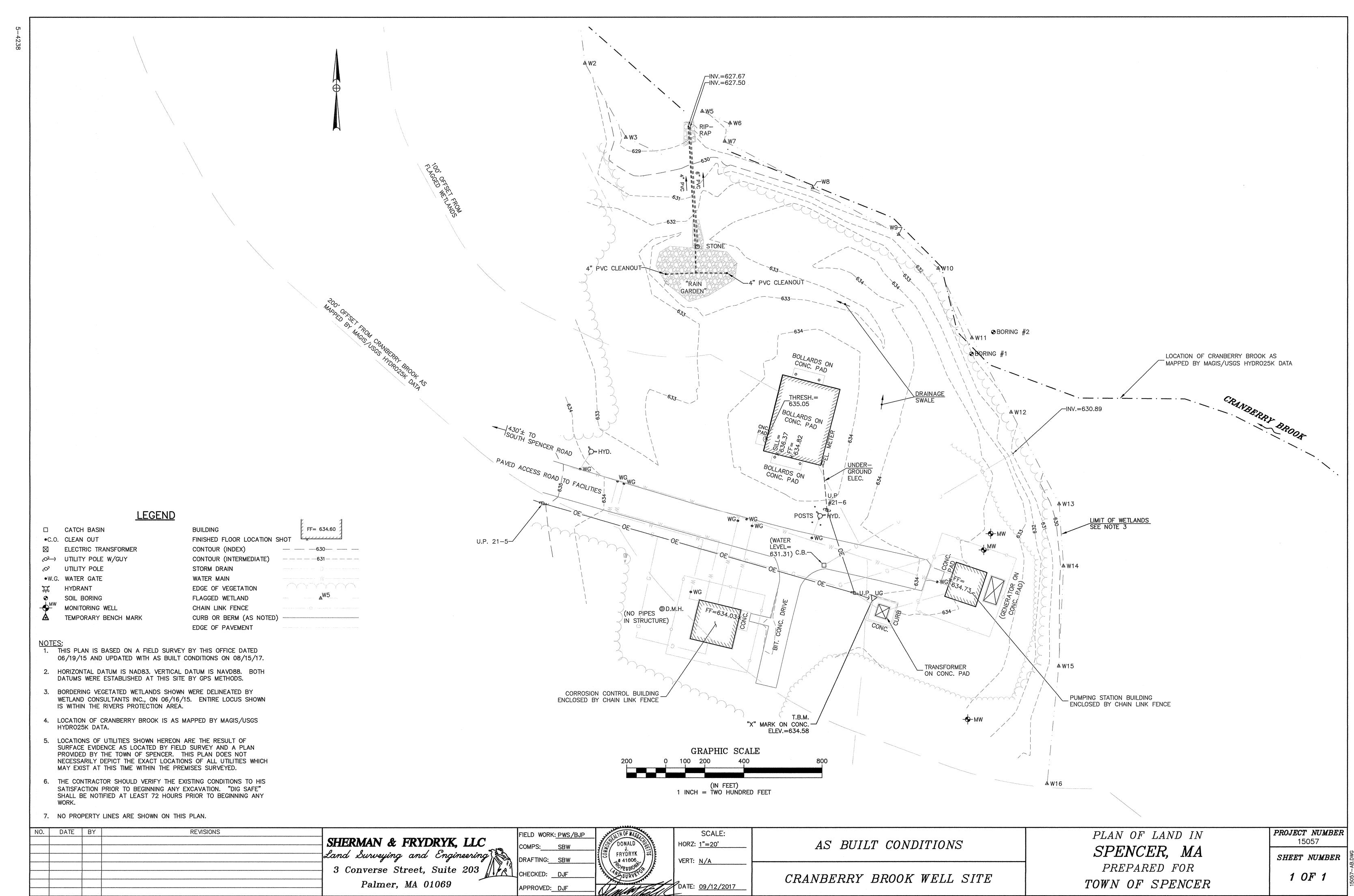
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Client/Project	Title		
TOWN OF SPENCER	RAIN GARI	DEN DESIGN	
STORMWATER IMPROVEMENTS AT CRANBERRY MEADOW WELL			
SPENCER, MA	Project No. 195150340	Scale AS SHOWN	
	Drawing No.	Sheet	Revision
File Name: Cranberry Well Rain Garden Design IS DLD IS 16.08.07	1		

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Dwn. Chkd. Dsgn. YY.MM.DD 1 of 1



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