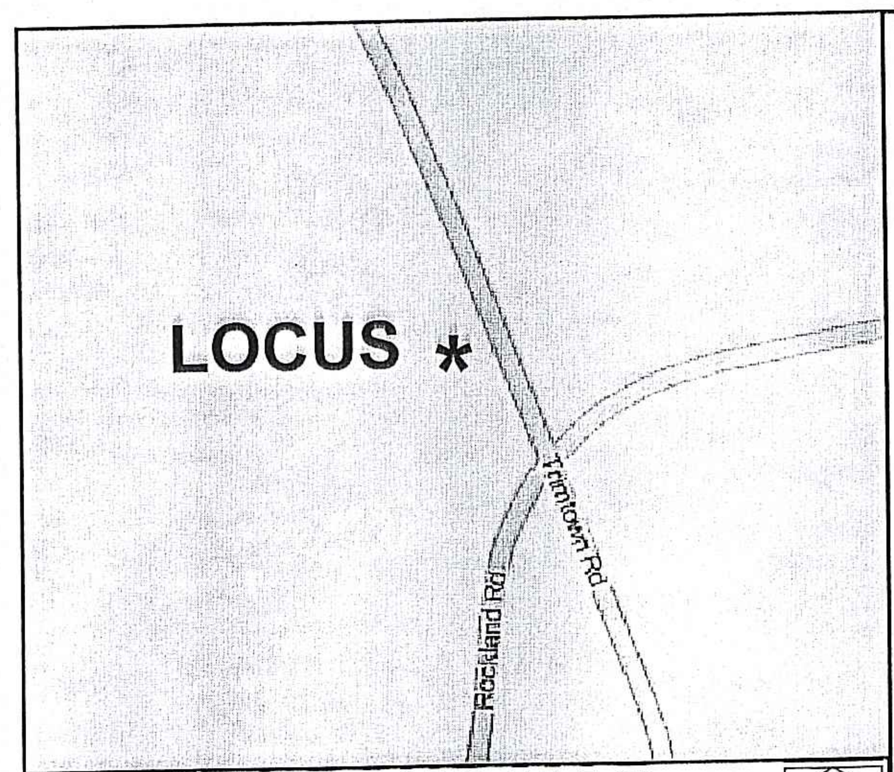


LOCUS MAP
NOT TO SCALE

GENERAL NOTES:

1. WETLANDS SHOWN HEREIN WERE DELINEATED BY MASON & ASSOCIATES, INC. 771 PLAINFIELD PIKE, NORTH SCITUATE, RI.

2. THIS SITE DOES NOT LIE WITHIN ANY KNOWN AGRICULTURAL USE, SILVICULTURAL USE, NATURAL HERITAGE OR FARMLAND CONSERVATION AREAS.

3. THERE ARE NO KNOWN EASEMENTS OR RIGHTS OF WAY WITHIN OR ADJACENT TO THIS PARCEL.

4. THE CONTOURS SHOWN HEREIN ARE BASED UPON THE NAVD 88 DATUM.

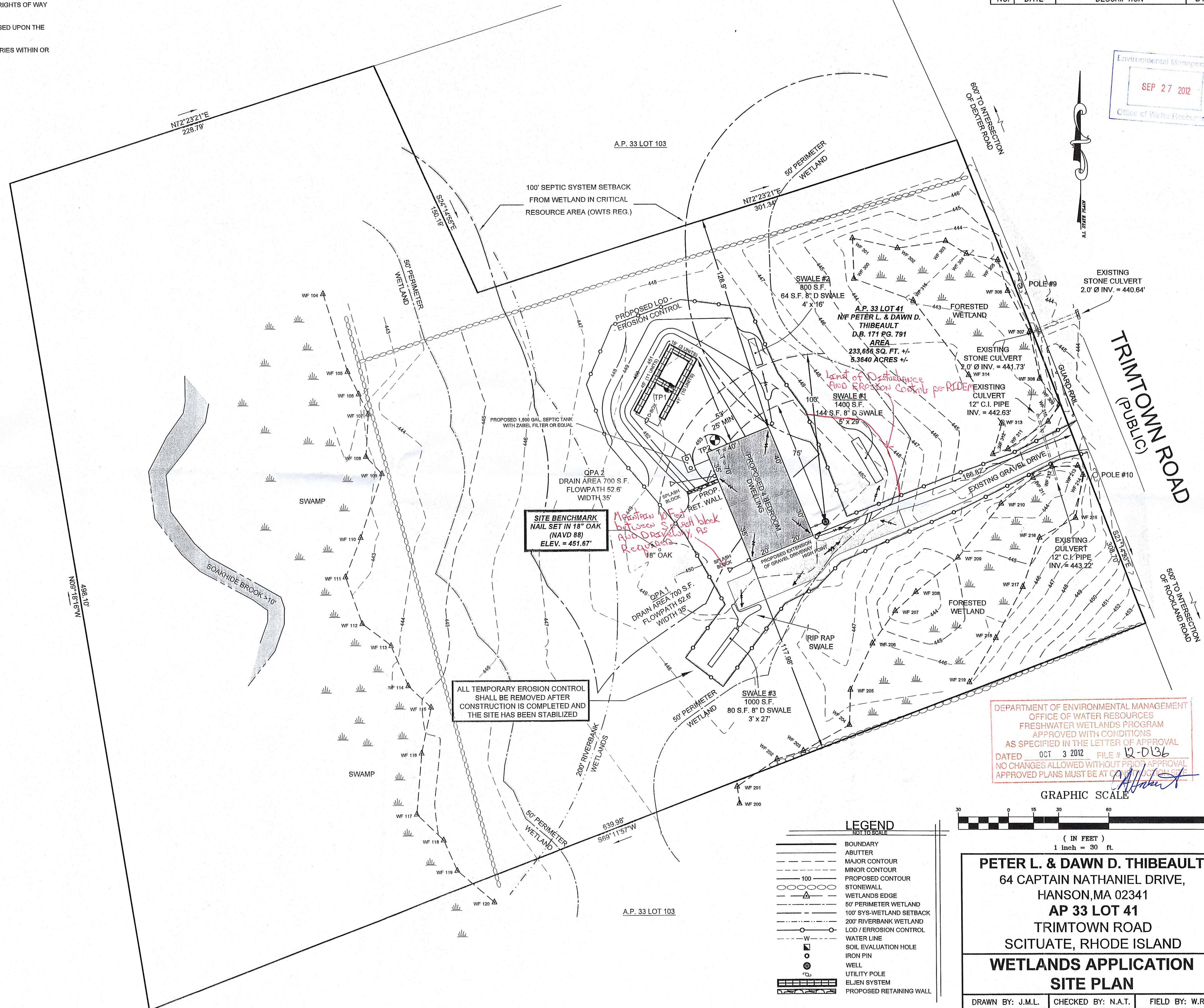
5. THERE ARE NO KNOW HISTORIC CEMETERIES WITHIN OR IMMEDIATELY ADJACENT TO THIS PARCEL.

GENERAL NOTES:

6. THIS SITE LIES IN ZONE X AS SHOWN ON THE FIRM MAP FOR THE TOWN OF SCITUATE, RI COMMUNITY PANEL NO.44007C0280G, MAP REVISED MARCH 2, 2009.

NO.	DATE	DESCRIPTION	BY
3.	9-26-12	PROPOSED DRAINAGE	J.M.L.
2.	8-1-12	REV. OWTS TO 4 BEDROOM	J.M.L.
1.	7-11-12	REV. PER BIOLOGIST REVIEW	J.M.L.

Environmental Management
SEP 27 2012
Office of Water Resources



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED OCT 3 2012 FILE # 12-0136
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND
NOT TO SCALE

- BOUNDARY
- ABUTTER
- MAJOR CONTOUR
- MINOR CONTOUR
- 100 PROPOSED CONTOUR
- STONEWALL
- WETLANDS EDGE
- 50' PERIMETER WETLAND
- 100' SYS-WETLAND SETBACK
- 200' RIVERBANK WETLAND
- LOD / ERROSION CONTROL
- W WATER LINE
- SOIL EVALUATION HOLE
- IRON PIN
- WELL
- UTILITY POLE
- ELJEN SYSTEM
- PROPOSED RETAINING WALL

PETER L. & DAWN D. THIBEAULT
64 CAPTAIN NATHANIEL DRIVE,
HANSON,MA 02341
AP 33 LOT 41
TRIMTOWN ROAD
SCITUATE, RHODE ISLAND

WETLANDS APPLICATION SITE PLAN

DRAWN BY: J.M.L.	CHECKED BY: N.A.T.	FIELD BY: W.R.
JUNE 2012	JOB No. 2012-54	SHEET 1 OF 2

NORBERT A. THERIEN
No. 1739
PROFESSIONAL LAND SURVEYOR

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

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BY: ______________
NORBERT A. THERIEN P.L.S.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

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

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

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

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

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

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

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

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

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

BMP MAINTENANCE SCHEDULE:

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

INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF ½ INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.

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

SITE PLAN NOTES:

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

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

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

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

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

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

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

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

ESTABLISHMENT OF VEGETATIVE COVER:

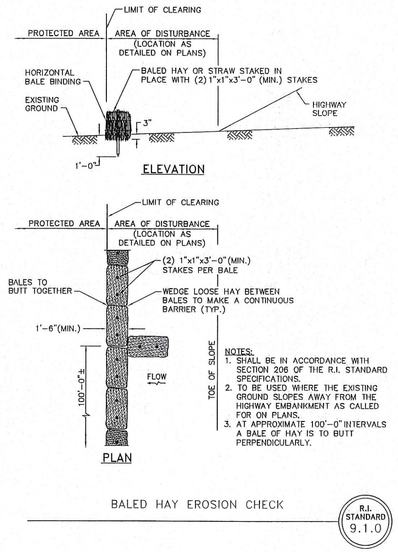
ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I. STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.

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

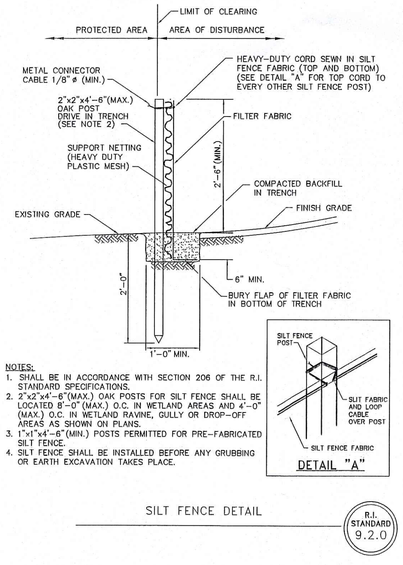
THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATION M.20.

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

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



BALED HAY EROSION CHECK — R.I. STANDARD 9.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

SILT FENCE DETAIL — R.I. STANDARD 9.2.0

NO.	DATE	DESCRIPTION	BY
3.	9-26-12	PROPOSED DRAINAGE	J.M.L.
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B. Vegetated Swales

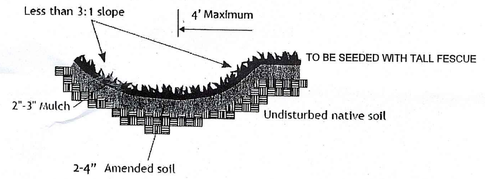
Vegetated swales are open vegetated channels that are designed to capture and treat stormwater runoff. They are similar in concept and construction to a rain garden, except for their long, narrow shape and longitudinal slope. They are typically vegetated with grasses. They may be used as a stand-alone stormwater management practice or as a conveyance to other practices.

Table 4. Required Elements for Vegetated Swales on Single-Family Residential Lots

Conveyance	☐ Vegetated swales shall be designed with moderate side slopes flatter than 3:1 for most conditions. ☐ Vegetated swales shall have a maximum longitudinal slope of 4% (e.g. 4 foot drop over a horizontal distance of 100 feet).
Treatment	☐ The average surface ponding depth shall be no more than a 8 inches deep. ☐ The bottom width shall be no less than 2 feet and no greater than 8 feet wide ☐ A maximum ponding depth of 1 ft should be maintained at the longitudinal midpoint of the vegetated swale and a maximum depth of 18 inches at the end point. ☐ Swales should contain a 2 – 4 inch amended soil layer and a 2 – 3 inch mulch layer. ☐ The amended soil layer of a rain garden should be a 50/50 mixture of the excavated native soils and mature organic compost.
Vegetation	☐ Grasses or sedges are typically used in vegetated swales, but other native plants can be used as well. Please refer to the RI Coastal Plant Guide (www.uri.edu/ecls/ceoc/coastalPlants/CoastalPlantGuide.htm) and modify the selection for native plants suited to rain gardens.
Maintenance	☐ Vegetated swales shall be inspected annually and should be inspected after large storm events.

	☐ Eroded side slopes and channel bottoms shall be stabilized as necessary. ☐ If the surface of the dry swale becomes clogged to the point that standing water is observed on the surface 48 hours after precipitation events, the bottom shall be roto-tilled or cultivated to break up any hard-packed sediment, and then reseeded. ☐ Vegetation in dry swales shall be mowed as required to maintain minimum grass heights in the 4-6 inch range. ☐ Every five years, the channel bottom of dry swales should be scraped to remove sediment and to restore original cross section and infiltration rate, and should be seeded to restore ground cover, where necessary.

Figure 2. Vegetated Swale, Typical Cross-Section



(Figure adapted from Vermont Department of Environmental Conservation's Vermont LID Guide for Residential and Small Sites www.vtwaterquality.org/planning/docs/pl_LID%20Guide.pdf)

Sizing a Vegetated Swale:

Determine the area (in square feet) of impervious surface that will drain to the swale. This is the drainage area. Use Table 5 below to choose a pre-calculated size for an 8 inch deep swale based on the drainage area and soil texture. To do this, you may need to round up your drainage area size (don't round down to avoid under-sizing your swale). Remember that your swale should be at least 2 but less than 8 feet wide at the bottom, and the sides should have a slope no steeper than 3:1. The sizing recommendations below are based on sizing guidance in the University of Wisconsin Extension publication "Rain Gardens: a how-to manual for homeowners," which can be accessed at www.dnr.state.wi.us/runoff/pdf/rg/rgmanual.pdf. For additional sizing information see Chapter 5 of the RI Stormwater Design and Installation Standards Manual at http://www.dem.ri.gov/pubs/regs/regs/water/swmanual.pdf.

Table 5. Vegetated Swale Sizing Guidance

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

QPA 1:
ROOF AREA 20' x 35' = 700 S.F.
FLOW PATH LENGTH = 52.6'
FLOW WIDTH 35'
SANDY SOIL

QPA 2:
ROOF AREA 20' x 35' = 700 S.F.
FLOW PATH LENGTH = 52.6'
FLOW WIDTH 35'
SANDY SOIL

VEGETATED SWALE 1:
ROOF AREA 20' x 30' = 600 S.F.
DRIVEWAY 60' x 12' 720 S.F.
TOTAL AREA 1320 S.F. = 112 S.F. SWALE AREA 8" DEEP
5' x 22.4' = 112 S.F. SWALE
SANDY SOIL

VEGETATED SWALE 2:
ROOF AREA 20' x 40' = 800 S.F.
64 S.F. SWALE AREA 8" DEEP
4' x 16' = 64 S.F. SWALE
SANDY SOIL

VEGETATED SWALE 3:
DRIVEWAY AREA 17' x 56' = 952 S.F.
80 S.F. SWALE AREA 8" DEEP
3' x 27' = 81 S.F. SWALE
SANDY SOIL

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64 CAPTAIN NATHANIEL DRIVE,
HANSON,MA 02341
AP 33 LOT 41
TRIMTOWN ROAD
SCITUATE, RHODE ISLAND

WETLANDS APPLICATION DETAILS

DRAWN BY: J.M.L.	CHECKED BY: N.A.T.	FIELD BY: W.R.
JUNE 2012	JOB No. 2012-54	SHEET 2 OF 2