

#### NOTES:

1. THE PROJECT WILL BE SERVICED BY A PUBLIC SEWER & PUBLIC WATER BY KENT COUNTY WATER AUTHORITY; OVERHEAD AERIAL ELECTRIC SERVICE BY NATIONAL GRID; TELECOM BY CHOC.
2. SOILS ON-SITE ARE CLASSIFIED AS URBAN DEVELOPMENT (UD). ADJACENT SOILS ARE HINCKLEY SERIES, USDA HYDROLOGICAL SOIL GROUP "A".
3. THIS SITE IS NOT LOCATED WITHIN A NATURAL HERITAGE AREA OR CRITICAL RESOURCE AREA AS DEFINED BY CRAC OR RIDEM.
4. ACCORDING TO FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 4403C0129 G REVISED 12/3/2010, A PORTION OF THIS SITE LIES WITHIN FLOOD ZONE AE. ELEVATION 13. THE BUILDABLE PORTION OF THIS SITE IS LOCATED OUTSIDE THIS AREA.
5. THIS PARCEL LIES IN AN INDUSTRIAL MIXED-USE DEVELOPED NEIGHBORHOOD COMPRISED OF BOTH LIGHT INDUSTRIAL & COMMERCIAL BUILDINGS.
6. PROPERTY LINE INFORMATION BASED UPON A CLASS 1 SURVEY BY OCEAN STATE PLANNERS, INC. ENTITLED "TAL SUBDIVISION, DAWN ESTATES - SECTION 2, ASSESSORS PLAT 244 / LOT 268, WARWICK RHODE ISLAND, SCALES 1"=60' - REVISED APRIL 2002, AND RECORDED IN THE LAND EVIDENCE RECORDS OF THE CITY OF WARWICK ON PLAT CARD 1119.
7. EXISTING CONDITIONS AS OF APRIL 1, 2013. LOCATIONS OF EXISTING UTILITIES ARE SHOWN APPROXIMATE FOR PRELIMINARY PLANNING. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS WITH "DIG SAFE". ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

#### BIO-RETENTION CONSTRUCTION NOTES:

1. THE BIORETENTION AREA SHALL BE CONSTRUCTED FOLLOWING THE COMPLETION AND STABILIZATION OF OTHER SITE WORK. COMPACTION OF THE RAIN GARDEN AREA PRIOR TO AND DURING CONSTRUCTION MUST BE AVOIDED. EXCAVATION SHALL BE COMPLETED USING LIGHT EQUIPMENT WITH WIDE TRACKS. IF THE AREA DOES BECOME COMPACTED, SOIL MUST BE TILLED TO A MINIMUM DEPTH OF 12".
2. IF SPECIFIED, UNDERDRAINS SHALL BE PLACED ON A MINIMUM OF 3" WIDE SECTION OF FILTER CLOTH, OVERLAIN BY GRAVEL BEDDING FREE FROM FINES. PIPE SHALL BE SLOPED A MINIMUM OF 0.5%.
3. FOLLOW SOIL SPECIFICATIONS TO PROVIDE A PLANTING MEDIA WITH ADEQUATE NUTRIENTS. PLANTING MEDIA SHALL BE PLACED IN 12" LIFTS.

#### MATERIALS

- PLANTING MEDIA - THE MATERIAL TO BE FURNISHED SHALL BE A UNIFORM MIX FREE OF SUBSOIL, REFUSE, STUMPS, ROOTS, ROCKS, BRUSH, WEEDS OR OTHER MATERIAL WHICH WOULD PREVENT THE FORMATION OF A SUITABLE SEED BED. THE MEDIA SHALL CONSIST OF THE 4 PARTS PLANTING SOIL & 1 PART WELL AGED, AERATED, LEAF COMPOST.
- PLANTING SOIL:  
SAND: 65-80%  
SOIL FINES: 0-12% (NO MORE THAN 2% CLAY)  
ORGANIC MATTER: -5%
- A TEXTURAL ANALYSIS IS REQUIRED TO ENSURE THE BIORETENTION SOIL MEETS THE SPECIFICATION LISTED ABOVE. THE BIORETENTION SOIL SHOULD ALSO BE TESTED FOR THE FOLLOWING CRITERIA:
- PH RANGE 5.2 - 7.0
  - NITROGEN NOT TO EXCEED 3 PPM
  - PHOSPHORUS P205 NOT TO EXCEED 69 PPM
  - POTASSIUM K2O NOT TO EXCEED 70 PPM
  - SOLUBLE SALTS NOT TO EXCEED 300 PPM

- ALL BIORETENTION AREAS SHOULD HAVE A MINIMUM OF ONE TEST. EACH TEST SHOULD CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY. ALL TESTING RESULTS SHOULD COME FROM THE SAME TESTING FACILITY.
- SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

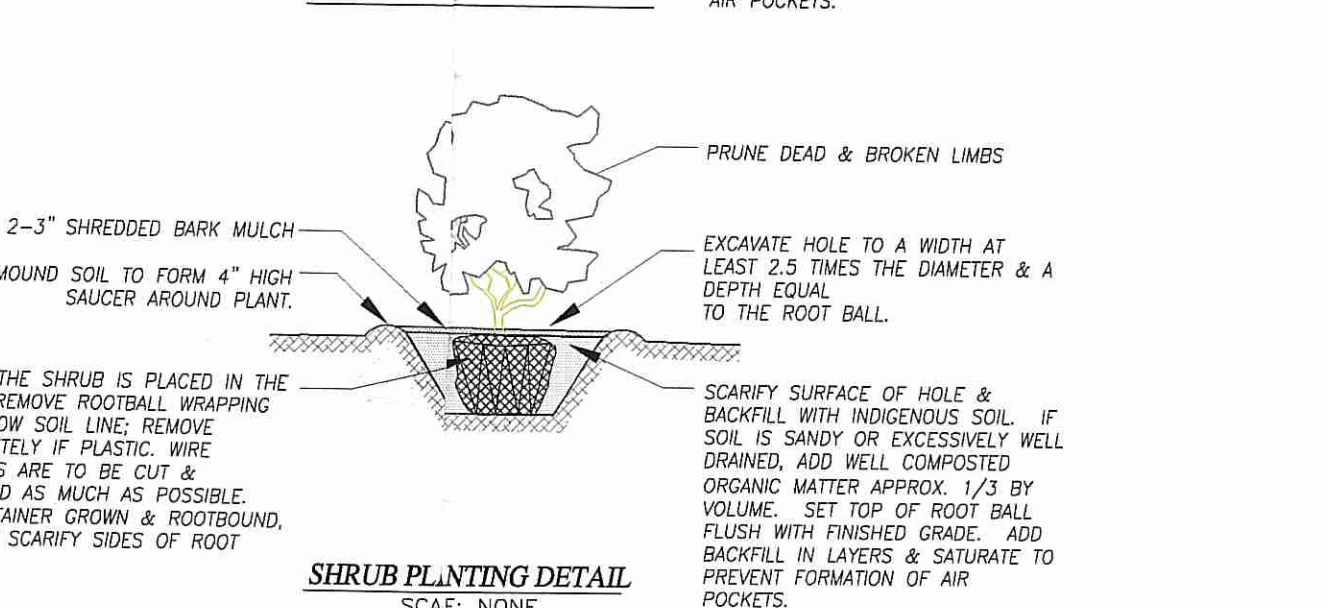
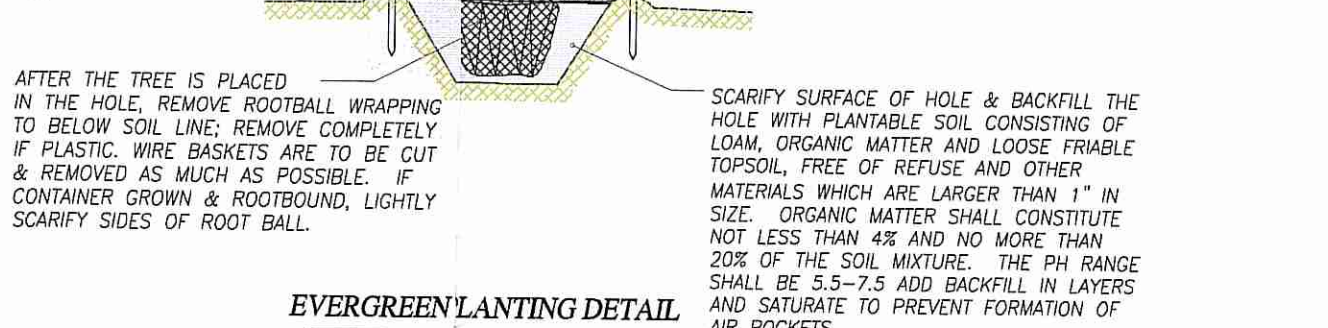
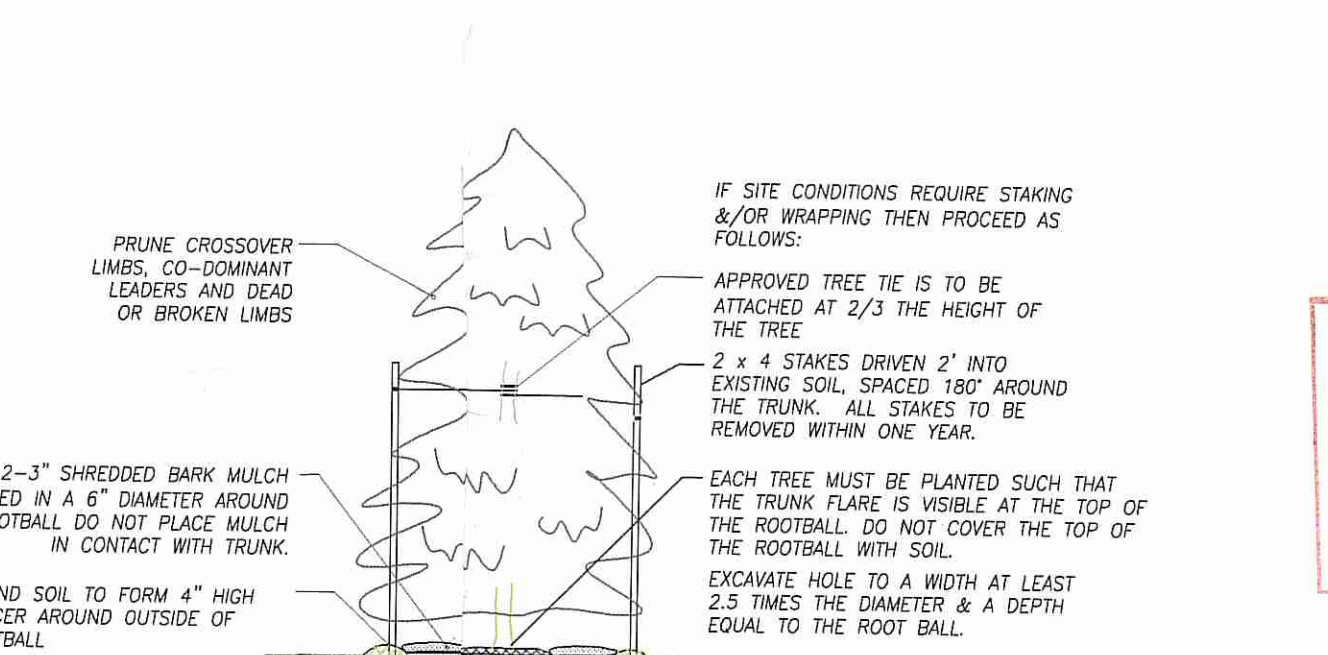
- MULCH LAYER SPECIFICATIONS:  
A FINELY SHREDDED, WELL-AGED ORGANIC HARDWOOD MULCH IS THE PREFERRED ACCEPTED MULCH. A FINELY SHREDDED, WELL-AGED ORGANIC DARK PINE MULCH MAY BE ACCEPTED ON A CASE-BY-CASE BASIS. BARK DUST MULCHES AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE.
- SHREDDED MULCH MUST BE WELL AGED (6-12 MONTHS) FOR ACCEPTANCE.  
MIX APPROXIMATELY 1/3 THE SPECIFIED MULCH LAYER INTO THE PLANTING SOIL TO A DEPTH OF APPROXIMATELY 4 INCHES TO HELP FOSTER A HIGHLY ORGANIC SURFACE LAYER.

#### INSTALLATION

1. IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREA IS EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MASH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYRE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES ARE NOT ACCEPTABLE.
2. COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLow, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE PERFORMED TO REFRACATURE THE SOIL PROFILE THROUGHOUT THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
3. TREES SHOULD BE BRACED USING 2 IN X 2 IN STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. GRASSES AND LEGUME SEED SHOULD BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH.

#### PLANT INSTALLATION

1. THE PLANT ROOT BALL SHOULD BE PLANTED 30 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE.
2. ROOT STOCK OF THE PLANT MATERIAL SHOULD BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
3. TREES SHOULD BE BRACED USING 2 IN X 2 IN STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. GRASSES AND LEGUME SEED SHOULD BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH.



#### LOT DEVELOPMENT NOTES

- EXISTING CONDITIONS:  
LOT AREA: 38,051 S.F. (0.87 ACRES)  
BUILDING COVERAGE:  
EX. BUILDING: 4,465 SF (11.7%)
- PROPOSED CONDITIONS:  
BUILDING COVERAGE:  
OFFICE BUILDING: 4,465 SF  
EX. GARAGE: 1,260 SF  
TOTAL: 5,725 SF (15.0%)

- PARKING REQUIREMENTS:  
REQUIRED PARKING LOT SIZE: 300 SF/STALL  
STALL DIMENSIONS: 18'X9'

- REQUIRED PARKING STALLS:  
WHOLESALE BUSINESS AND STORAGE:  
1 SPACE PER 500 SF OF GROSS FLOOR AREA

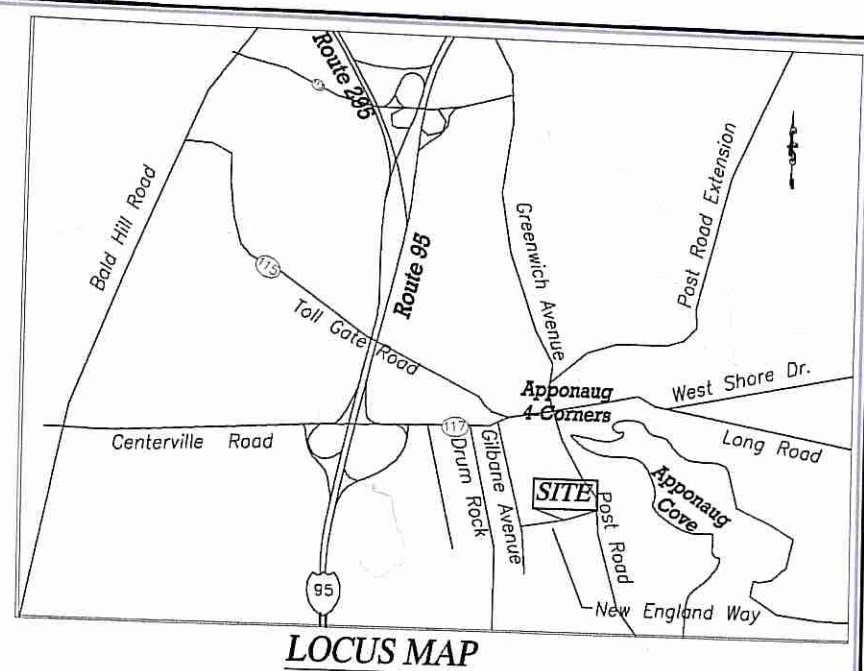
- PROPOSED GFA:  
EXISTING BUILDING AREA: 4,465 SF  
PROPOSED BUILDING AREA: 1,260 SF  
TOTAL GFA: 5,725 SF

- REQUIRED STALLS: 5,725 SF / 500 SF = 11.45 STALLS  
PROVIDED PARKING SPOTS: 12 STALLS

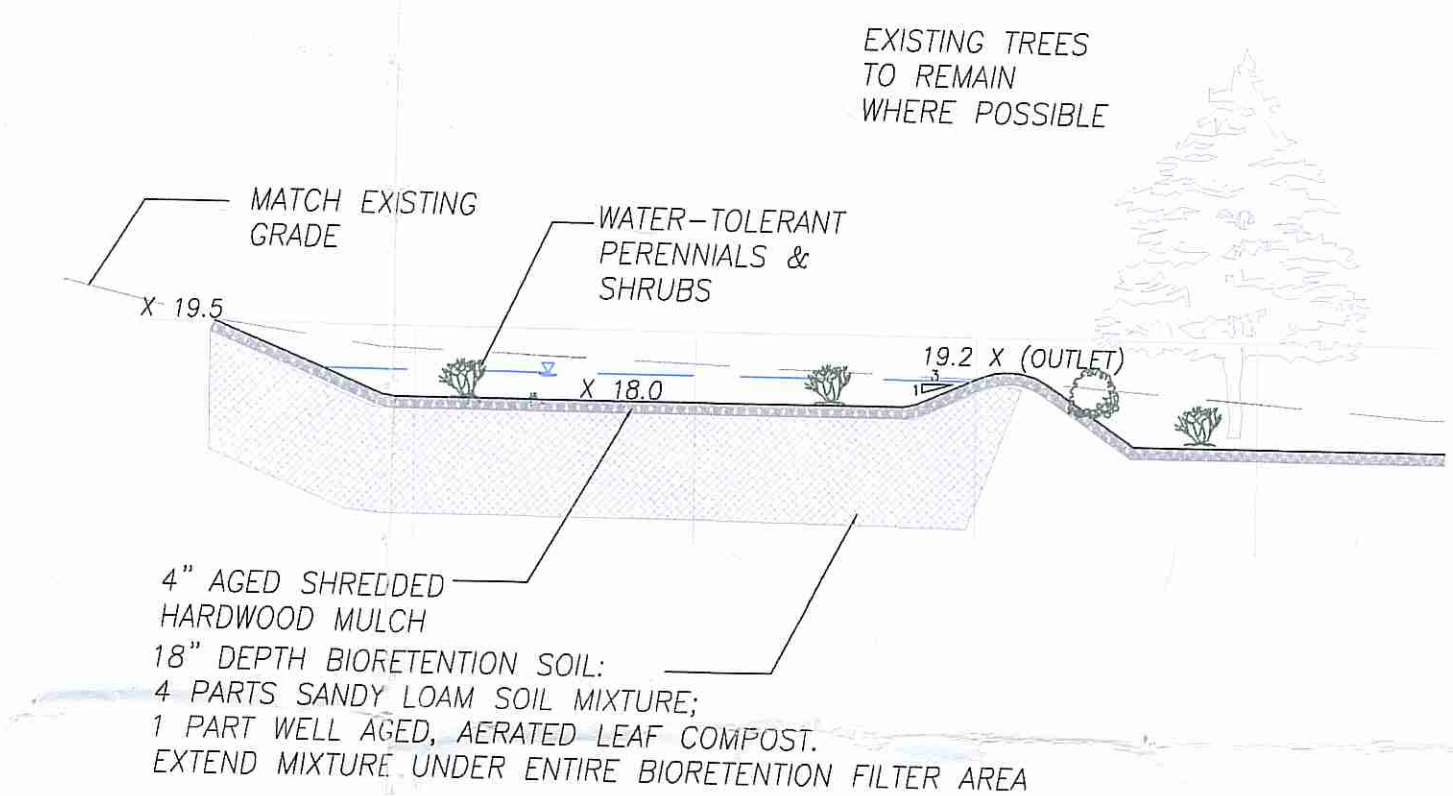
#### DIMENSIONAL REGULATIONS

EXISTING ZONING DISTRICT: LIGHT INDUSTRIAL

REQUIRED LOT SIZE:	REQUIRED:	PROVIDED:
REQUIRED LOT FRONTAGE:	6,000 SF	38,051 SF
REQUIRED LOT WIDTH:	60'	259.15'
MINIMUM YARD SETBACKS:		154.02'
MAIN STRUCTURE:		
FRONT	25 FT.	44 FT.
CORNER SIDE	25 FT.	20 FT.
REAR	20 FT.	20 FT.
SIDE	15 FT.	8 FT.
* SIDE: EXISTING NON-CONFORMING STRUCTURE		
MAXIMUM BUILDING HEIGHT (FT)	40 FT.	20+ FT.
MINIMUM LANDSCAPED OPEN SPACE:	10%	20%



JUN 28 2013



NOTE:  
GRADE ALONG PAVEMENT TO ENSURE LINEAR FLOW FROM DRIVEWAY. BOTTOM AREAS TO BE CONSTRUCTED FLAT. SEE GRADING PLAN

#### BIO-FILTRATION POND DETAIL

#### EROSION & SEDIMENT CONTROL NOTES:

1. EXTREME CARE SHALL BE EXERCISED TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING A WETLAND, STREET, OR NEIGHBORING PROPERTY. THE CONTRACTOR SHALL IMMEDIATELY CLEAN AND RESTORE ANY DISTURBED AREAS.
2. ALL EROSION CONTROL METHODS, MATERIALS, AND MAINTENANCE SHALL BE ACCOMPLISHED ACCORDING TO THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ALL TEMPORARY EROSION AND SEDIMENT CONTROLS, AS SHOWN ON THE PLANS AND DIRECTED BY THE ENGINEER. ALL RUNOFF SHALL BE CONTROLLED. IN NO CASE SHALL ANY DIRECT RUNOFF BE ALLOWED TO ENTER ONTO ADJUTING PROPERTIES OR INTO THE WETLAND BUFFERS.
4. HAYBALES/SITTINGEN SHALL BE PLACED IMMEDIATELY DOWN SLOPE OF SOIL DISTURBANCE AREAS AS SHOWN ON THE PLANS. BAILED HAY EROSION CHECKS SHALL BE PLACED AT ALL DRAINAGE STRUCTURE INLETS, EXISTING AND PROPOSED, DURING CONSTRUCTION. ADDITIONAL HAYBALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
5. SPOIL AND STOCKPILE MATERIALS REMAINING EXPOSED FOR LONGER THAN 30 DAYS SHALL BE ENCIRCLED WITH SILT FENCING OR HAYBALES AND COVERED WITH EROSION CONTROL MIX (NOTE 9).
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS UNTIL ALL AREAS ARE STABILIZED. CONTROLS SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF VEGETATION IS ESTABLISHED.
7. SEEDING - SEED IS TO BE DISTRIBUTED EVENLY OVER THE TOP 1 INCH OF TOPSOIL. SEED SHALL BE UR #2, OR APPROVED EQUAL, APPLY AT A RATE OF 3-7 # / 1,000 S.F.
8. SLOPE PROTECTION BLANKETS USED AT THIS PROJECT SHALL BE THE 100% DEGRADABLE STRAW AND COCONUT FIBER BLANKETS WHICH SHALL DISINTEGRATE IN-PLACE, NOT REQUIRING FUTURE MAINTENANCE.
9. EROSION CONTROL MATERIALS SHOULD THE VEGETATION PLANTING SEASON BE PASSED, WINTER MULCHING OF ALL EXPOSED SURFACES SHALL BE COMPLETED BY DECEMBER 1. WINTER MULCHING SHALL CONSIST OF THE FOLLOWING EROSION CONTROL MIX:  
EROSION CONTROL MIX  
USE EROSION CONTROL MIX AS A LONG-TERM SOIL COVER THAT WILL EVENTUALLY ALLOW THE GROWTH OF VEGETATION, IF DESIRED.  
• EROSION CONTROL MIX INCLUDES SHREDDED OR COMPOSTED BARK, STUMP GRONINGS, OR OTHER COMPOSTED WOOD PRODUCTS. WOOD CHIPS, GRASS CONSTRUCTION DEBRIS, OR PROCESSED WOOD ARE NOT ACCEPTABLE.  
• APPLY THE EROSION CONTROL MIX AS A LAYER AT LEAST THREE INCHES THICK. DO NOT COMPACT THE MIX WITH EQUIPMENT.  
HAY MULCH  
• USE HAY MULCH AS A TEMPORARY MEASURE TO PROTECT BARE SOILS OR TO COVER NEWLY SEEDED AREAS.  
• APPLY AT A RATE OF TWO SQUARE BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE.  
• ANCHOR THE HAY MULCH USING ONE OF THE FOLLOWING METHODS:  
• STAPLE LIME OR PLASTIC NETTING OVER THE MULCH ACCORDING TO THE NET OR JUTE MANUFACTURER'S RECOMMENDATION.  
• STRETCH TINE BETWEEN PEGS IN A CROSS-CROSS PATTERN OVER THE MULCH (4-6 PEGS PER 30 YD).  
• MULCHING SHALL FOLLOW GUIDELINES IN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 4 & CHAPTER 5. A TEMPORARY MULCHING, STRAW / HAY SHALL BE APPLIED AT 90# / 1,000 S.F. FREE FROM WEEDS AND ANCHORED WITH MULCH NETTING.

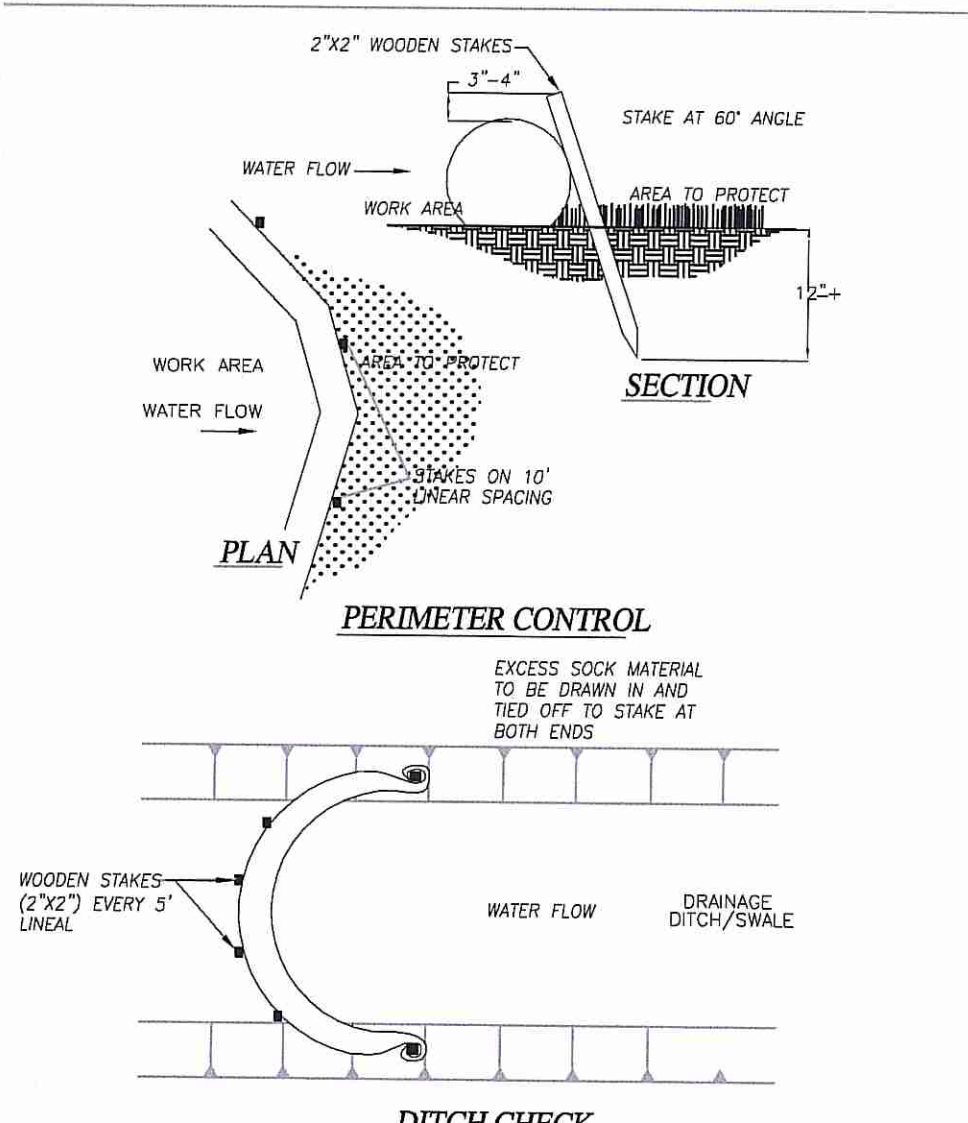
#### SEQUENCE OF CONSTRUCTION:

1. READ ALL PERMIT REQUIREMENTS PRIOR TO STARTING CONSTRUCTION. POST A SIGN WITH THE PERMIT NUMBER IN A VISIBLE LOCATION.
2. INSTALL PERMIT SEDIMENT CONTROL MEASURES:  
A. PERFORM SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION  
B. INSTALL SILT FENCE/HAYBALES PER R.I. STATE STANDARD AROUND L.O.D.  
C. INSTALL CONSTRUCTION ENTRANCE  
D. INSTALL SILT FENCING ALONG PERIMETER OF R.O.W. WORK ZONE  
E. PROVIDE HAYBALE INLET PROTECTION AT CATCHBASINS IF REQUIRED.
3. CLEAR AND GRUB AREA WITHIN PERMITTED WORKZONE.
4. STRIP & STOCKPILE TOPSOIL, AS NECESSARY. PROVIDE TEMPORARY STABILIZATION AROUND STOCKPILE (SEED PILE AND INSTALL SILT FENCE AROUND TOE OF SLOPE).
5. CONSTRUCT SITE AGENCIES (BUILDING FOUNDATION, UTILITIES) AND TEMPORARY SEDIMENTATION BASIN.
6. CONSTRUCT INFILTRATION SYSTEM BENEATH PARKING LOT, PROVIDE MEASURES TO PROTECT SYSTEM FROM RECEIVING RUNOFF UNTIL THE SITE IS FULLY STABILIZED.
7. PERFORM MAINTENANCE INSPECTIONS OF HAYBALES AND SILT FENCE CONDITIONS WEEKLY AND AFTER EVERY RAINFALL EVENT WITH 1/2" OR MORE. REPLACE OR REPAIR THE CONTROLS AS REQUIRED AND REMOVE ANY SEDIMENT WHICH ACCUMULATES UP TO ONE-HALF THE HEIGHT OF THE BALE/FENCE.
8. TEMPORARILY OR PERMANENTLY STABILIZE ALL DISTURBED AREAS WITHIN 7 DAYS OF CEASING WORK.
9. CONSTRUCT BIOFILTER AND FINAL LANDSCAPING.
10. PERMANENTLY STABILIZE LOT. ONCE AREA IS STABILIZED, INFILTRATION SYSTEMS SHOULD BE BROUGHT ONLINE.
11. REMOVE ALL TEMPORARY SOIL AND SEDIMENT EROSION CONTROLS AFTER THE SITE IS FULLY STABILIZED WITH VEGETATION.

#### NOTES:

1. SEDIMENT CONTROL SHOULD BE INSTALLED PARALLEL TO THE BASE OF THE SLOPE OR OTHER DISTURBED AREA IN EXTREME CONDITIONS (I.E., 2:1 SLOPES). A SECOND SEDIMENT CONTROL SHALL BE CONSTRUCTED AT THE TOP OF THE SLOPE.
2. EFFECTIVE SOIL HEIGHT IN THE FIELD SHOULD BE AS FOLLOWS:  
• 12" DIAMETER SEDIMENT CONTROL = 6.5' HIGH  
• 18" DIAMETER SEDIMENT CONTROL = 9.5' HIGH  
• 24" DIAMETER SEDIMENT CONTROL = 14.5' HIGH  
• 36" DIAMETER SEDIMENT CONTROL = 19' HIGH
3. STAKES SHALL BE INSTALLED THROUGH THE MIDDLE OF THE SEDIMENT CONTROL ON 10 FT. (10M) CENTERS, USING 2 IN (50MM) BY 2 IN (50MM) BY 3 FT (1M) HARDWOOD STAKES IN THE EVENT STAKING IS NOT POSSIBLE. I.E. WHEN SEDIMENT CONTROL IS USED ON PAVEMENT, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SEDIMENT CONTROL TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.
4. STAKING DEPTH FOR SAND AND SILT LOAM SOILS SHALL BE 12 IN (300MM), AND 8 IN (200MM) FOR CLAY SOILS.
5. SOIL IS TYPICALLY FILLED WITH 100% INERT, WEED/SEED/DISEASE FREE RECYCLED KILN-DRYED INDUSTRIAL WOOD WASTE BUT CAN ALSO BE FILLED WITH LOCALLY PRODUCED COMPOST OR CHIPPED TIMBER DEBRIS. FOLLOW MANUFACTURER'S INSTRUCTIONS.

#### COMPOST FILTER SOCK (OPTIONAL EROSION CONTROL)



### EROSION CONTROL & STORMWATER PLAN

#### PROPOSED BUILDING EXPANSION - METRO LOBSTER

8 NEW ENGLAND WAY  
PLAT 244 / LOT 268  
WARWICK, RHODE ISLAND

PREPARED BY:  
**JEFFREY J. CAMPOPIANO P.E.**  
16 WEST MAIN STREET  
WICKFORD, RHODE ISLAND 02852  
PHONE: (401) 295-3037 / FAX: (401) 295-1118

OWNER/APPLICANT:  
**METRO LOBSTER**  
8 NEW ENGLAND WAY  
WARWICK, RHODE ISLAND 02886  
PHONE: (401) 737-3230

DATE: 4/25/13  
SCALE: 1" = 30'

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