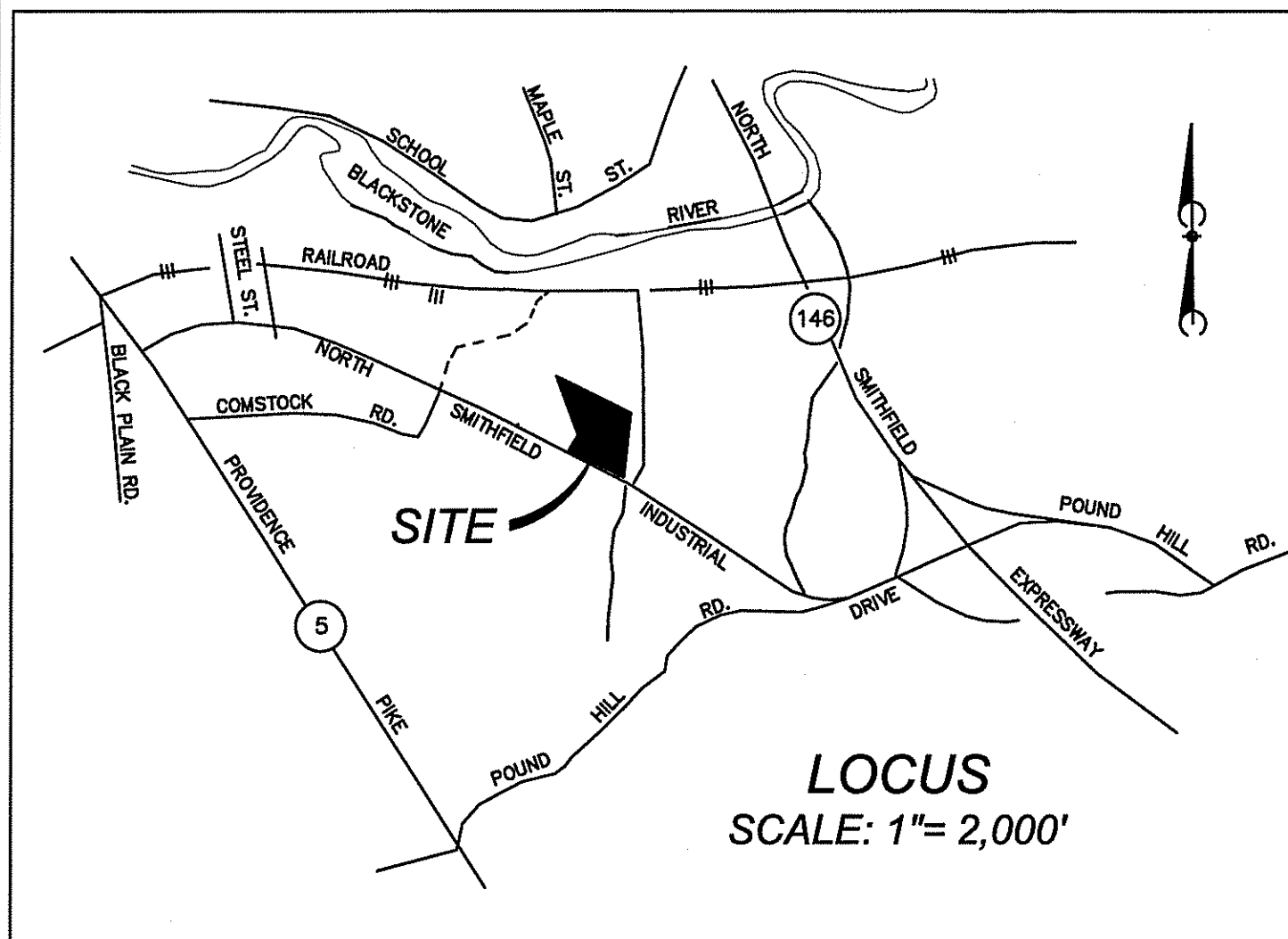
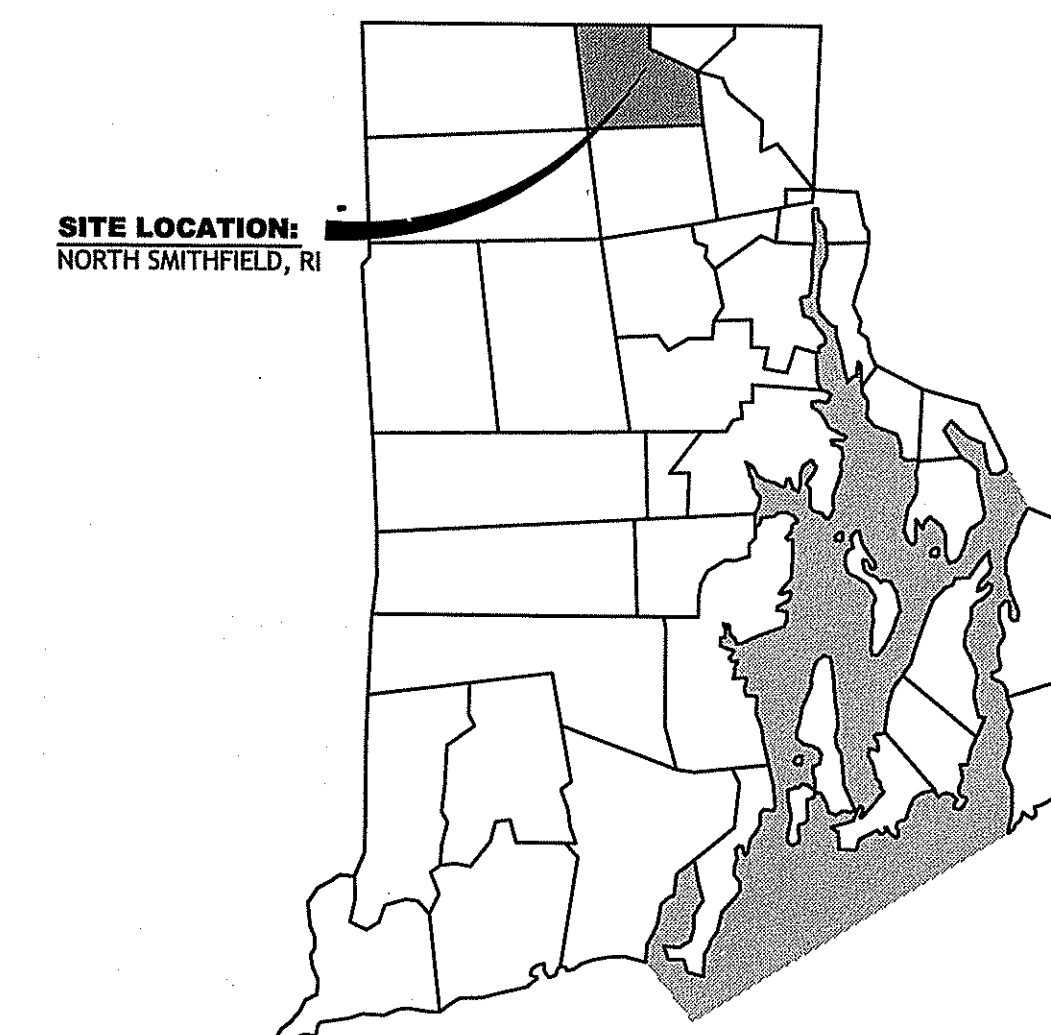


LOCUS MAP (NOT TO SCALE)



STATE WIDE MAP



# PERMIT PLANS FOR PROPOSED PARKING LOT ADDITIONS

for

# NEW ENGLAND TRUCK SOLUTIONS

## A.P. 5, LOT 488

## 140 INDUSTRIAL DRIVE NORTH SMITHFIELD, RHODE ISLAND

### ZONING DISTRICT - M (MANUFACTURING)

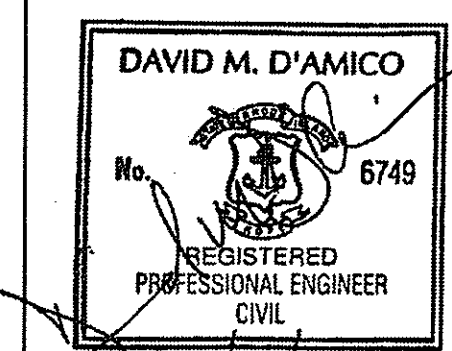
#### PROJECT TEAM

**OWNER:** JARVIS PROPERTIES, LLC  
C/O JASON JARVIS  
P.O. BOX 7541  
CUMBERLAND, RI 02864  
PHONE: (401) 659-0020

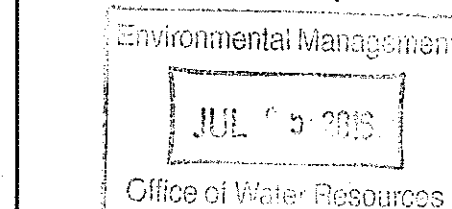
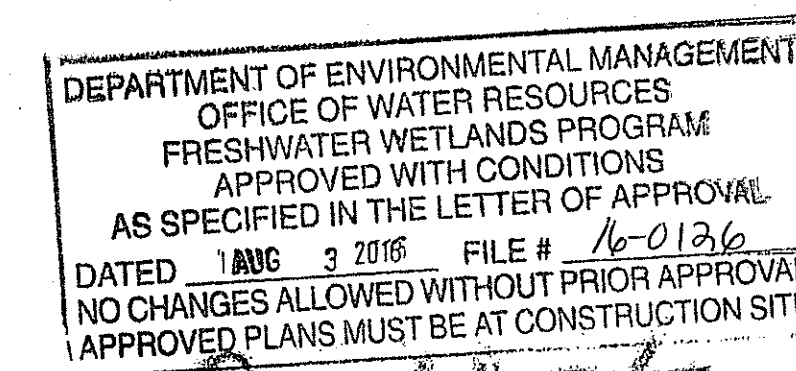
**CIVIL:** D'AMICO ENGINEERING TECHNOLOGY, INC  
2080 MINERAL SPRING AVE.  
NORTH PROVIDENCE, RI 02911  
PHONE: (401) 622-1470  
FAX: (401) 353-1190

**SURVEYOR:** MARC N. NYBERG ASSOCIATES, INC  
501 GREAT ROAD, UNIT 104  
NORTH SMITHFIELD, RI 02896  
PHONE: (401) 762-2870  
FAX: (401) 762-2871

**D'Amico Engineering Technology, Inc.**  
Civil - Transportation - Land Use  
2080 Mineral Spring Ave., North Providence, RI 02911  
(401) 622-1470 (401) 353-1190 fax www.damicoengineering.com



PROPOSED PARKING LOT  
ADDITIONS  
140 INDUSTRIAL DRIVE  
NORTH SMITHFIELD, RHODE ISLAND  
AP 5, LOT 488



| NO. | DATE   | DESCRIPTION                     |
|-----|--------|---------------------------------|
| 1.  | 7-1-16 | RIDEM COMMENTS OF JUNE 22, 2016 |

#### INDEX OF DRAWINGS

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| 2         | GENERAL NOTES & LEGEND    |
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| 4         | SITE PLAN                 |
| 5         | GRADING AND DRAINAGE PLAN |
| 6         | DETAIL PLAN NO. 1         |
| 7         | DETAIL PLAN NO. 2         |

DESIGNED BY: DMD  
DRAWN BY: DMD  
CHECKED BY: DMD  
DATE: MAY, 2016  
PROJECT NO: 15-0001-06

PERMIT PLAN - NOT FOR CONSTRUCTION

**COVER SHEET**

**SHEET 1 OF 7**

N:\D'Amico Engineering Technology, Inc\15-0001 Marc N Nyberg\06 Industrial Drive NS Sublot A\Plans\Industrial Drive Sublot 4 Design Plan Set 6-30-16.dwg Jul. 01, 2016 5:41pm

GENERAL NOTES:

1. 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 CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.

SITE NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
2. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
3. ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
5. ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
6. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ACTUAL SIZE OF THE PROPOSED BUILDING.
7. WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
8. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER OR ENGINEER.
9. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
10. THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
11. ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
12. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AT COMPLETION OF EACH DAYS WORK.
13. WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
14. ALL LEDGE TO BE REMOVED BY MECHANICAL MEANS.
15. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
16. REFER TO PLUMBING PLANS FOR CONTINUATION OF ALL UTILITIES WITHIN 5' (FIVE) FEET OF THE BUILDING.
17. ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

MISCELLANEOUS UTILITY NOTES:

- 1. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. NO EXTRA PAYMENT TO THE CONTRACTOR DUE TO RELOCATIONS WILL BE AUTHORIZED.
2. THE UTILITY PLAN DOES NOT DEPICT THE NECESSARY ELECTRICAL CONDUIT/WIRING TO SERVICE THE PROPOSED LIGHTING AND SIGNS, WHICH WILL BE PERFORMED BY THE CONTRACTOR FOR NO ADDITIONAL COST.
3. OVERHEAD ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THERE OPERATIONS.
5. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT HIS OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR TOWN.
6. EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.

DRAINAGE SYSTEM NOTES:

- 1. ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES
2. THE DESIGN ENGINEER MUST SUBMIT AN AS BUILT PLAN AND A CERTIFICATION TO THE TOWN ENGINEER THAT THE CONSTRUCTION IS IN COMPLIANCE WITH THE DESIGN PLANS FOR ALL ELEMENTS OF THE STORM OR DRAINAGE SYSTEM PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

PROPOSED PAVEMENT STRUCTURE:

- ON-SITE (PAVEMENT TYPE A)
1.5" BITUMINOUS CONCRETE SURFACE COURSE CLASS I-1
1.5" BITUMINOUS CONCRETE BASE COURSE
12" GRAVEL BORROW SUBBASE

ASPHALT EMULSION TACK COAT TO BE PLACED PRIOR TO SURFACE COURSE PAVING IF BINDER COURSE IS OPENED TO VEHICULAR USE, OR IF BINDER COURSE IS GREATER THAN 30 DAYS OLD.

PROPOSED PAVEMENT STRUCTURE:

- TOWN/RIDOT (PAVEMENT TYPE B)
2" BITUMINOUS CONCRETE SURFACE COURSE CLASS TYPE I-1
2" BITUMINOUS CONCRETE BASE COURSE
12" GRAVEL BORROW SUBBASE COURSE

ASPHALT EMULSION TACK COAT TO BE PLACED ON ALL BITUMINOUS COURSES PRIOR TO PAVING.

LAYOUT NOTE:

THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- 1. 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.)
2. 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.
3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHT-OF-WAY.
4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC, SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. 1988 EDITION. INCLUDING REVISION 3, SEPTEMBER 3, 1993 AND SUBSEQUENT ADDENDA.
5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

DRAINAGE AND SUBSURFACE DRAINAGE SYSTEM MAINTENANCE SCHEDULE:

UPON PROJECT COMPLETION, THE PROPERTY OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE PLAN AND SCHEDULE:

- 1. CATCH BASINS, MANHOLES AND DRAIN LINES: AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
\* DAMAGE TO GRATE/ COVERS
\* EVIDENCE OF STANDING WATER
\* DEBRIS REMOVAL
\* STRUCTURAL ALIGNMENT/ INTEGRITY
\* OIL/WATER SEPARATORS
2. IF SEDIMENT OR ORGANIC DEBRIS BUILD-UP HAS LIMITED THE INFILTRATION CAPABILITIES OF THE UNDERGROUND INFILTRATION CHAMBERS OR TRENCHES TO BELOW THE DESIGN RATE THE SYSTEM MUST BE REMOVED AND RE-CONSTRUCTED. THE SYSTEMS BOTTOM SHOULD BE RESTORED ACCORDING TO ORIGINAL DESIGN SPECIFICATIONS.
3. SEDIMENT REMOVAL: ALL REMOVED SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE, AND FEDERAL REGULATIONS.
4. THE PROPERTY OWNER IS RESPONSIBLE FOR ANY SOIL AND GROUNDWATER CONTAMINATION RESULTING FROM THE USE OF THE STORMWATER RUNOFF SUBSURFACE DRAINAGE SYSTEM.
5. THE EXISTENCE OF THE SUBSURFACE DRAINAGE SYSTEM SHOULD BE RECORDED ON THE PROPERTY DEED AT THE LOCAL MUNICIPAL OFFICE. ALL OPERATIONAL AND MAINTENANCE REQUIREMENTS, INCLUDING LEGAL RESPONSIBILITIES, WHERE APPLICABLE, SHOULD ALSO BE RECORDED ON THE TITLE.
6. UNDERGROUND INFILTRATION CHAMBERS AND TRENCHES SHALL BE INSPECTED ANNUALLY AND AFTER STORMS EQUAL TO OR GREATER THAN THE 1-YEAR, 24 HOUR TYPE III STORM EVENT (APPROXIMATELY 2.7").
7. THE SUBSURFACE DRAINAGE SYSTEM SHOULD BE INSPECTED OFTEN DURING THE FIRST MONTHS OF OPERATION AND CLEANED AT LEAST YEARLY THEREAFTER WITH ALL OIL AND DEBRIS REMOVED AND DISPOSED OF PROPERLY IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS. CLEANING OF THE STORMTECH SYSTEM WILL BE CONDUCTED BY VACUUM TRUCK DESIGN SPECIFICALLY TO REMOVE STORMWATER RUNOFF SEDIMENT. IN THE CASE OF AN OIL OR BULK POLLUTANT RELEASE, THE SYSTEM SHOULD BE CLEANED IMMEDIATELY FOLLOWING THE SPILL AND THE RIDEM DIVISION OF SITE REMEDIATION SHOULD BE NOTIFIED. FOR THE PURPOSE OF OIL REMOVAL A LICENSED CONTRACTOR MAY BE NECESSARY FOR THE REMOVAL, TRANSPORT, AND DISPOSAL OF WASTE OIL PRODUCTS TO A PROPERLY LICENSED FACILITY.

RIDOT

- 1. ALL WORK WITHIN THE STATE RIGHT-OF-WAY, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AMENDED AUGUST 2013 (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).
2. PAVEMENT CUT AND MATCH LONGITUDINAL TERMINUS MUST BE LOCATED AT SHOULDER OR TRAVEL LANE EDGE LINES AND SHOULD NOT TERMINATE WITHIN A TRAVEL LANE.

REQUIRED INFILTRATION SETBACKS

- 1. THE PROPOSED INFILTRATION SYSTEMS MEETS THE 3' MINIMUM SEPARATION DISTANCE BETWEEN THE DESIGN BOTTOM OF THE STRUCTURE AND THE SEASONAL HIGH WATER TABLE.
2. THE PROPOSED INFILTRATION SYSTEM MEETS THE 5' MINIMUM SEPARATION DISTANCE BETWEEN THE DESIGN BOTTOM OF THE STRUCTURE AND BEDROCK.
3. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 25 FEET OF ANY SEPTIC SYSTEM COMPONENT.
4. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 400 FEET OF A PUBLIC WELL.
5. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 100 FEET OF A PRIVATE WELL.
6. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 200 FEET OF ANY SURFACE DRINKING WATER SUPPLIES AND THEIR RESPECTIVE TRIBUTARIES.
7. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 150 FEET OF ANY COASTAL FEATURE.
8. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 50 FEET OF ANY SURFACE WETLAND OR COASTAL WETLAND.
9. THE PROPOSED INFILTRATION SYSTEM IS NOT WITHIN 10 FEET OF ANY BUILDING FOUNDATION AND THE PROPOSED FOUNDATION FLOOR ELEVATION IS ABOVE THE INVERT OF THE PROPOSED INFILTRATION SYSTEM.

NOTE:

IF ANY SETBACK IS LESS THAN THE REQUIRED SETBACK AS DETERMINED BY THE GOVERNING AGENCY, THE GOVERNING AGENCY SHALL SUPERSEDE ABOVE BULLETED SETBACK(S). REFER TO THE LOCAL BUILDING OFFICIAL FOR DETAILED SETBACK CRITERIA.

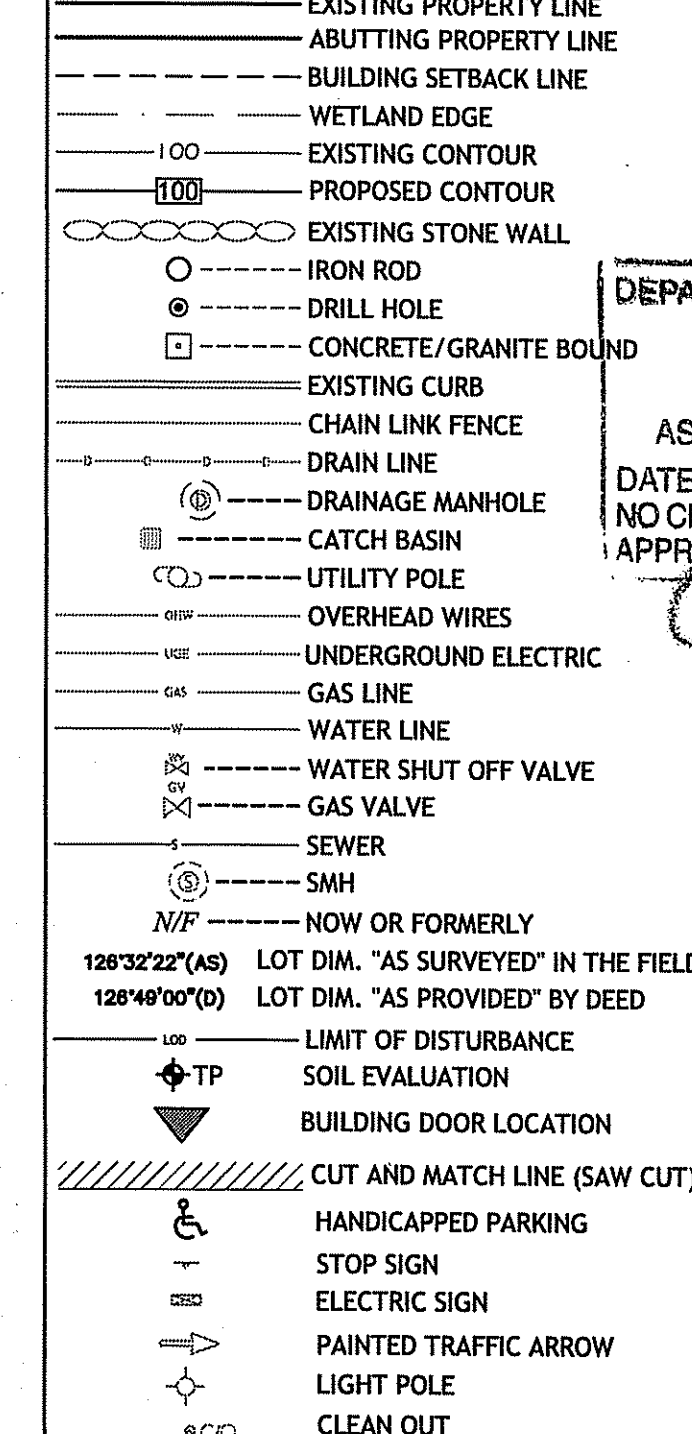
SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. 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.
2. 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.
3. ALL CATCH BASINS AND CULVERTS 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 RIPRAP 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 STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
4. 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 IS MAINTAINED.
5. 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.
6. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
7. 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 HAY-BALES BECOMES FILLED WITH SEDIMENTS.
8. 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.
9. 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

- 1. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE INFILTRATION TRENCH AND/OR SUBSURFACE CHAMBER AREAS TO MINIMIZE COMPACTION OF THE SOIL.
3. MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER DRAINAGE SYSTEMS AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS TO ALL PIPES, INTAKE AND DISCHARGE STRUCTURES (INCLUDING RIP-RAP SPLASH PADS), CATCH BASIN SUMPS, AND MANHOLES.
4. INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY, STABILITY AND EVIDENCE OF SOIL EROSION, SHALL INCLUDE MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BIMONTHLY IF NO RAINFALL EVENT OCCURS.
5. UPON COMPLETION OF PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION, REPAIR ANY VEGETATIVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, (SEEDING, PLANTING, ETC.) WHERE REQUIRED, AND REPAIR (OR REMOVE WHERE APPROPRIATE) ANY TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL DEVICES. AFTER PERMANENT SOIL STABILIZATION ON THE ENTIRE SITE HAS OCCURRED, ALL TEMPORARY CONTROL MEASURES MUST BE REMOVED.
6. AFTER THE COMPLETION OF PROJECT CONSTRUCTION AND THE FINAL STABILIZATION OF THE ENTIRE SITE, THE INSPECTION AND MAINTENANCE OF ALL STORMWATER FACILITIES MUST BE PERFORMED.
7. REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE ENTIRE SYSTEM.
8. ANY TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM ANY WETLAND AREAS, SWALE, AND PIPE OUTLETS.

LEGEND



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG 3 2015 FILE # 16-0136
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DEtec. D'AMICO ENGINEERING TECHNOLOGY, INC.
Civil - Transportation - Land Use
2080 Mineral Spring Ave., North Providence, RI 02911
(401) 622-1470 (401) 353-1190 fax www.dengineerinc.com

DAVID M. D'AMICO
REGISTERED PROFESSIONAL ENGINEER
CIVIL
7/1/16

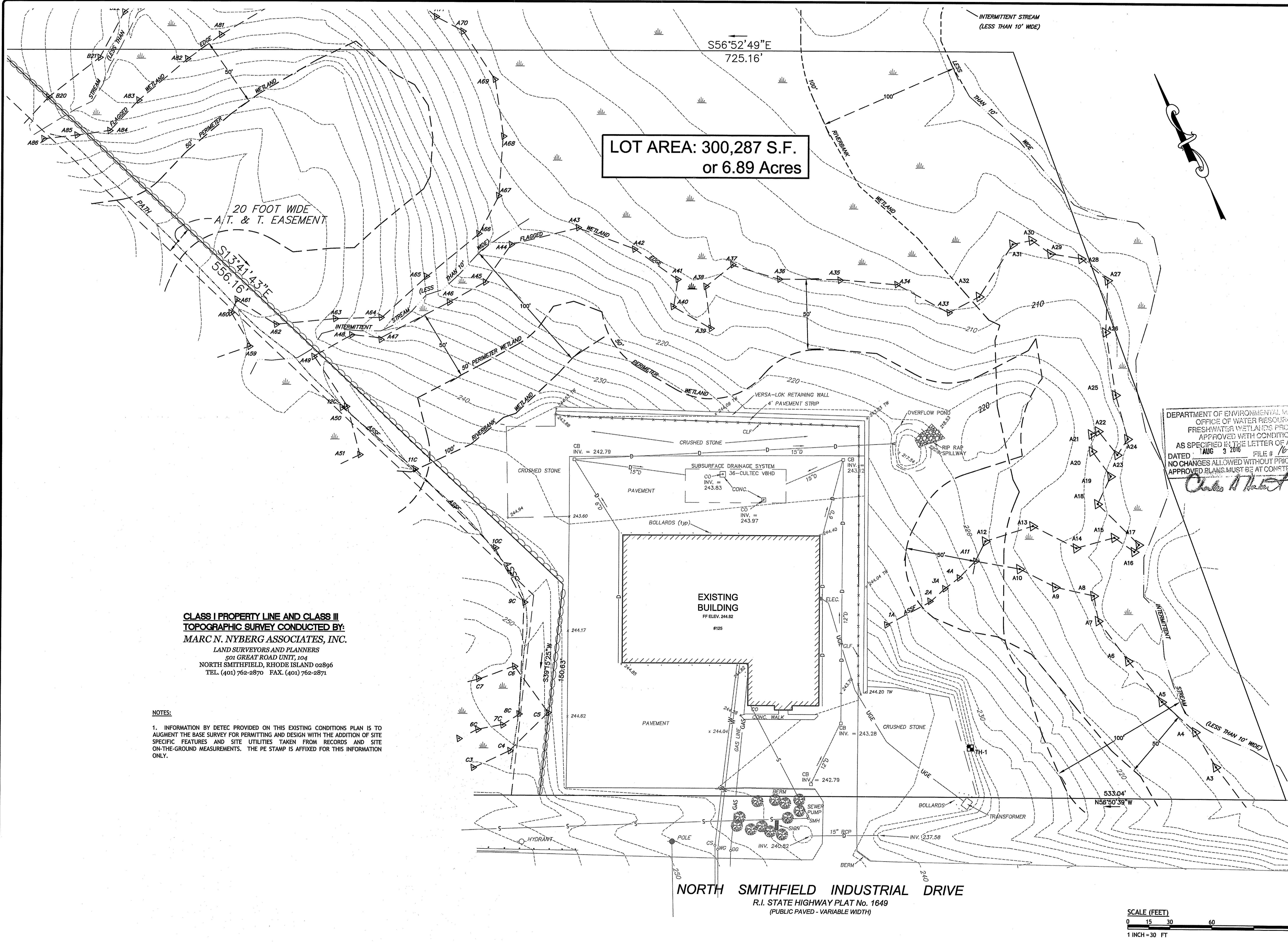
PROPOSED PARKING LOT
ADDITIONS
140 INDUSTRIAL DRIVE
NORTH SMITHFIELD, RHODE ISLAND
AP 5, LOT 488

REVISIONS table with columns NO, DATE, DESCRIPTION. Entry 1: 7-1-16 RIDEM COMMENTS OF JUNE 22, 2016

DESIGNED BY: DMD
DRAWN BY:
CHECKED BY: DMD
DATE: MAY 2016
PROJECT NO: 15-0001-06

PERMIT PLAN - NOT FOR CONSTRUCTION
GENERAL NOTES & LEGEND
SHEET 2 OF 7

N:\D'Amico Engineering Technology, Inc\15-0001 Marc N Nyberg\06 0 Industrial Drive NS Sublot 4\Plans\Industrial Drive S\Blot 4 Design Plan Set 6-30-16.dwg Jul 01, 2016 6:03pm



LOT AREA: 300,287 S.F.  
or 6.89 Acres

**CLASS I PROPERTY LINE AND CLASS III TOPOGRAPHIC SURVEY CONDUCTED BY:**  
**MARC N. NYBERG ASSOCIATES, INC.**  
LAND SURVEYORS AND PLANNERS  
501 GREAT ROAD UNIT, 104  
NORTH SMITHFIELD, RHODE ISLAND 02896  
TEL. (401) 762-2870 FAX. (401) 762-2871

**NOTES:**  
1. INFORMATION BY DETEC PROVIDED ON THIS EXISTING CONDITIONS PLAN IS TO AUGMENT THE BASE SURVEY FOR PERMITTING AND DESIGN WITH THE ADDITION OF SITE SPECIFIC FEATURES AND SITE UTILITIES TAKEN FROM RECORDS AND SITE ON-THE-GROUND MEASUREMENTS. THE PE STAMP IS AFFIXED FOR THIS INFORMATION ONLY.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED AUG 3 2016 FILE # 16-0120  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles H. Haber*

**PROPOSED PARKING LOT ADDITIONS**  
140 INDUSTRIAL DRIVE  
NORTH SMITHFIELD, RHODE ISLAND  
AP 5, LOT 488

Environmental Management  
JUL 05 2016  
Office of Water Resources

**REVISIONS:**

| NO. | DATE   | DESCRIPTION                     |
|-----|--------|---------------------------------|
| 1.  | 7-1-16 | RIDEM COMMENTS OF JUNE 22, 2016 |

DESIGNED BY: DMD  
DRAWN BY: DMD  
CHECKED BY: DMD  
DATE: MAY, 2016  
PROJECT NO: 15-0001-06

PERMIT PLAN - NOT FOR CONSTRUCTION

**EXISTING CONDITIONS**

**SHEET 3 OF 7**

**DEtec.**  
D'AMICO ENGINEERING TECHNOLOGY, INC.  
Civil - Transportation - Land Use  
2080 Mineral Spring Ave., North Providence, RI 02911  
(401) 822-4470 (401) 353-1180 fax www.damicoengineering.com

DAVID M. D'AMICO  
No. 6749  
REGISTERED PROFESSIONAL ENGINEER CIVIL  
7/1/16

S56°52'49"E  
725.16'

20 FOOT WIDE  
A.T. & T. EASEMENT

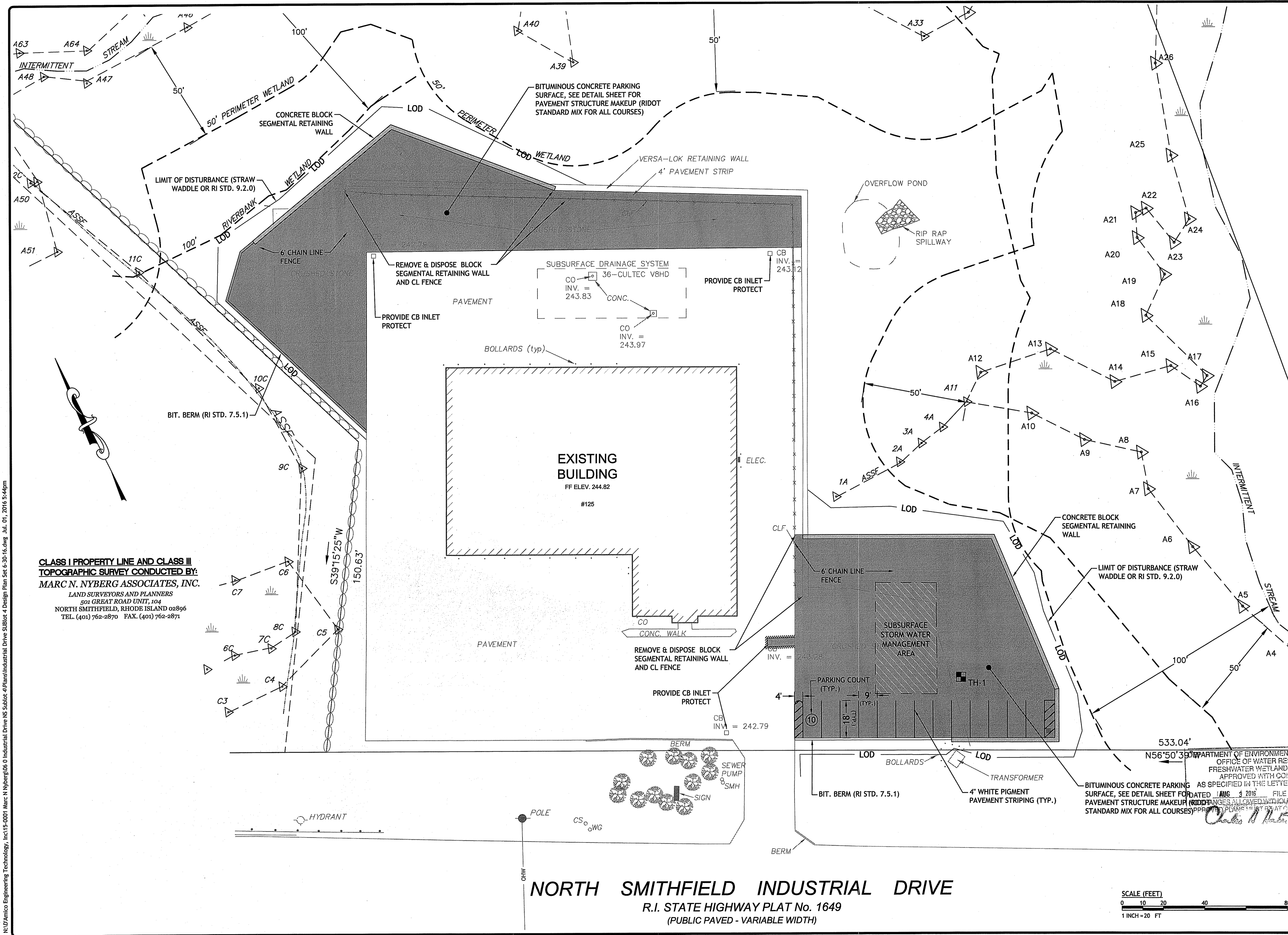
S13°41'43"E  
556.16'

**NORTH SMITHFIELD INDUSTRIAL DRIVE**  
R.I. STATE HIGHWAY PLAT No. 1649  
(PUBLIC PAVED - VARIABLE WIDTH)



N:\D\Amico Engineering Technology, Inc\15-0001 Marc N Nyberg\06 0 Industrial Drive MS Sublot A\Plans\Industrial Drive S\Sublot 4 Design Plan Set 6-30-16.dwg, Jul. 01, 2016 5:44pm

**CLASS I PROPERTY LINE AND CLASS III TOPOGRAPHIC SURVEY CONDUCTED BY:**  
**MARC N. NYBERG ASSOCIATES, INC.**  
 LAND SURVEYORS AND PLANNERS  
 501 GREAT ROAD UNIT, 104  
 NORTH SMITHFIELD, RHODE ISLAND 02896  
 TEL. (401) 762-2870 FAX. (401) 762-2871



**Detec.**  
 D'AMICO ENGINEERING TECHNOLOGY, INC.  
 Civil - Transportation - Land Use  
 2080 Mineral Spring Ave., North Providence, RI 02911  
 (401) 622-1470 (401) 353-1190 fax www.damicoeng.com

DAVID M. D'AMICO  
 No. 6749  
 REGISTERED PROFESSIONAL ENGINEER CIVIL  
 7/1/16

**PROPOSED PARKING LOT ADDITIONS**  
 140 INDUSTRIAL DRIVE  
 NORTH SMITHFIELD, RHODE ISLAND  
 AP 5, LOT 488

Environmental Management  
 JUL 05 2016  
 Office of Water Resources

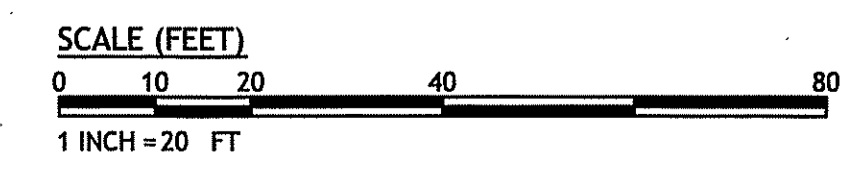
REVISIONS:

| NO. | DATE                        | DESCRIPTION    |
|-----|-----------------------------|----------------|
| 1   | 2-1-16                      | RDDEM COMMENTS |
| 2   | MANAGEMENT OF JUNE 22, 2016 |                |
| 3   | DESIGNED BY: DMD            |                |
| 4   | DRAWN BY: DMD               |                |
| 5   | CHECKED BY: DMD             |                |
| 6   | DATE: MAY, 2016             |                |
| 7   | PROJECT NO: 15-0001-06      |                |

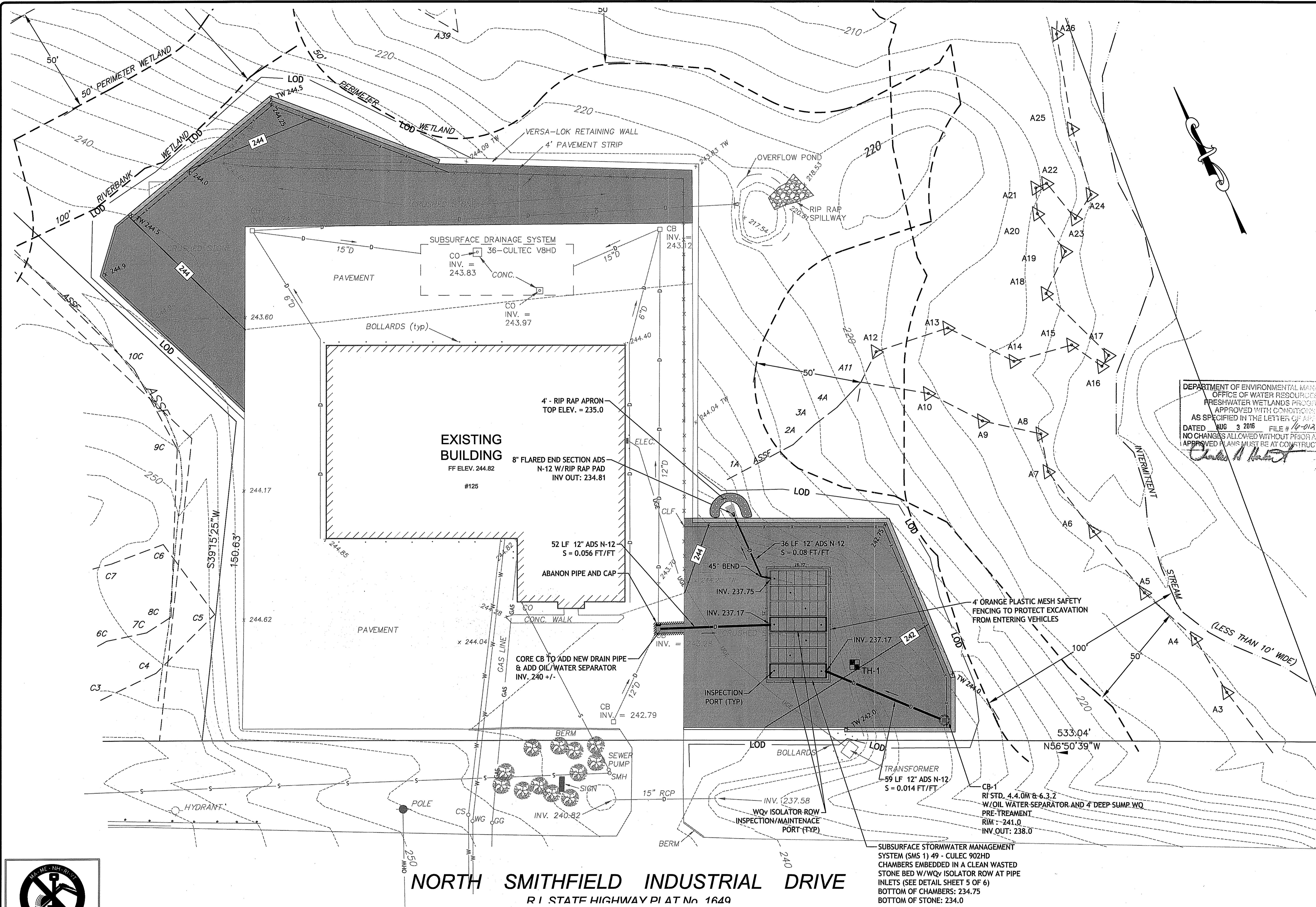
PERMIT PLAN - NOT FOR CONSTRUCTION

**SITE PLAN**  
**SHEET 4 OF 7**

**NORTH SMITHFIELD INDUSTRIAL DRIVE**  
 R.I. STATE HIGHWAY PLAT No. 1649  
 (PUBLIC PAVED - VARIABLE WIDTH)



R:\Damico Engineering Technology, Inc\15-0001 Marc N Nyberg\06 0 Industrial Drive NS Sublot 4 Plans\Industrial Drive SUBLOT 4 Design Plan Set 6-30-16.dwg Jul. 01, 2016 5:45pm



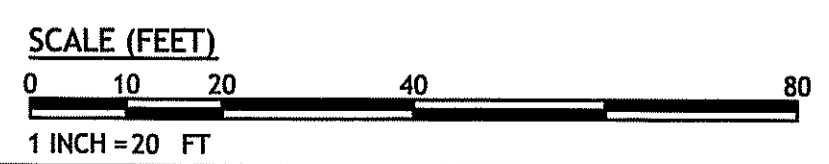
**NORTH SMITHFIELD INDUSTRIAL DRIVE**  
R.I. STATE HIGHWAY PI AT No. 1640

TEST HOLE DATA TABLE

| TH | ELEV  | SHGWT  |
|----|-------|--------|
| 1  | 238.0 | 230.00 |

SOIL EVALUATIONS CONDUCTED BY:  
MARC N. NYBERG D-4043  
MARC N. NYBERG ASSOCIATES, INC.  
501 GREAT ROAD, UNIT 104  
NORTH SMITHFIELD, RI 02896

LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT 1-888-DIG-SAFE 1-888-344-7233



**Petec**  
D'AMICO ENGINEERING TECHNOLOGY, INC.  
Civil - Transportation - Land Use  
2080 Mineral Spring Ave., North Providence, RI 02911  
(401) 622-1470 (401) 353-1180 fax www.damicoengineering.com

DAVID M. D'AMICO  
No. 6749  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
7/1/16

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED AUG 3 2016 FILE # 16-0146  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**PROPOSED PARKING LOT ADDITIONS**  
140 INDUSTRIAL DRIVE  
NORTH SMITHFIELD, RHODE ISLAND  
AP 5, LOT 488

Environmental Management  
JUL 05 2016  
Office of Water Resources

REVISIONS:

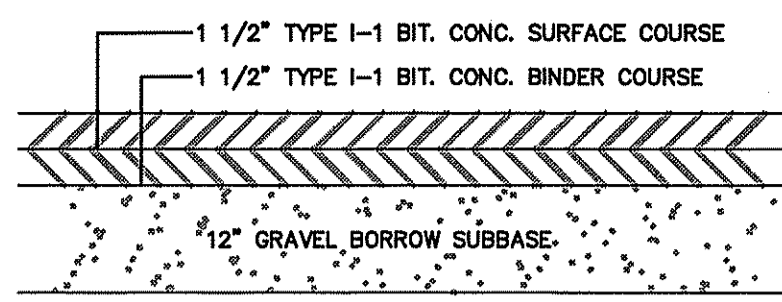
| NO. | DATE   | DESCRIPTION                     |
|-----|--------|---------------------------------|
| 1   | 7-1-16 | RIDEM COMMENTS OF JUNE 22, 2016 |

DESIGNED BY: DMD  
DRAWN BY:  
CHECKED BY: DMD  
DATE: MAY, 2016  
PROJECT NO: 15-0001-06

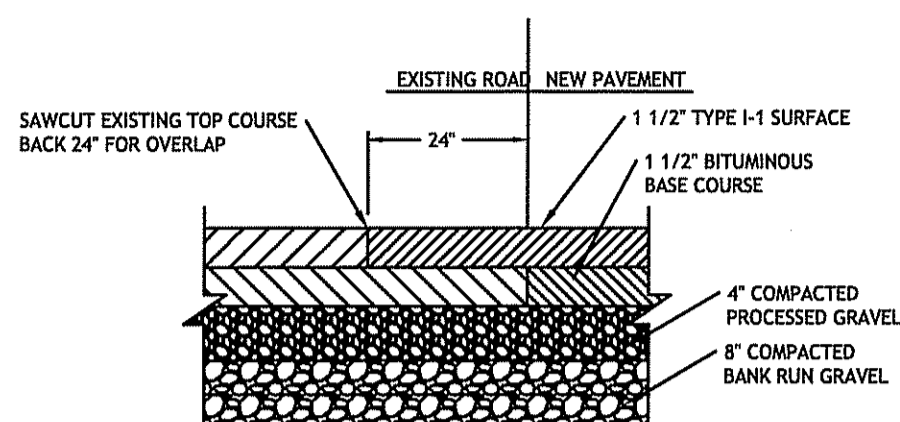
PERMIT PLAN - NOT FOR CONSTRUCTION

**GRADING AND DRAINAGE PLAN**

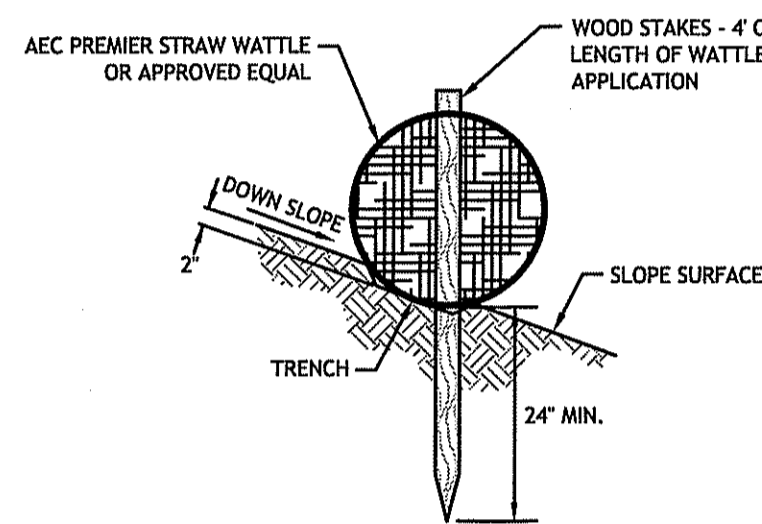
**SHEET 5 OF 7**



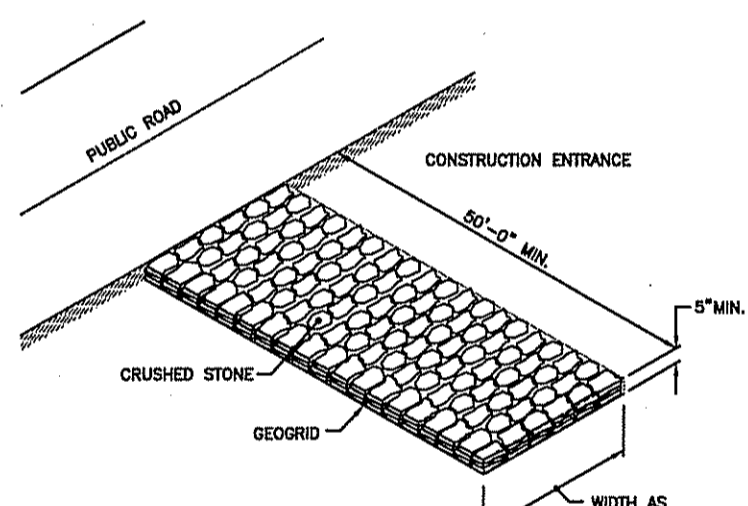
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NOT TO SCALE



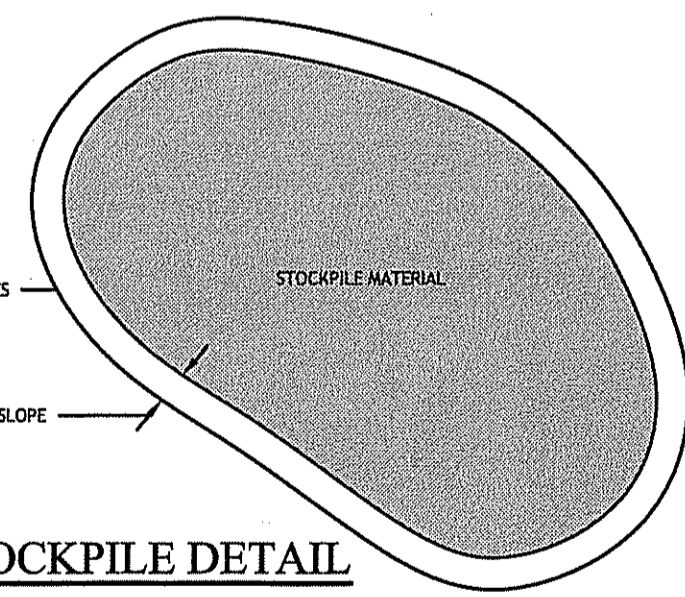
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NOT TO SCALE



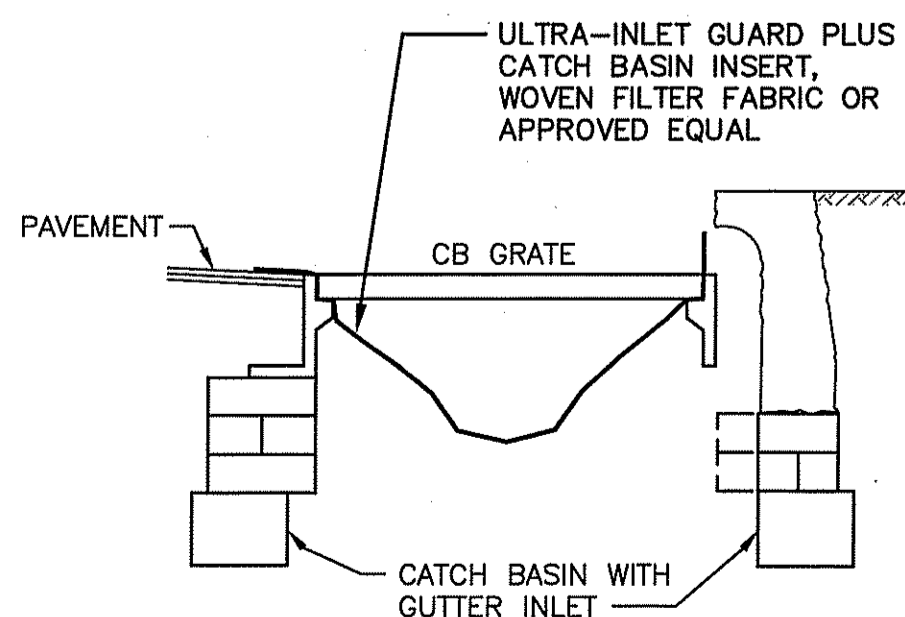
**STRAW WATTLE STAKE DETAIL ON SOIL**  
N.T.S.



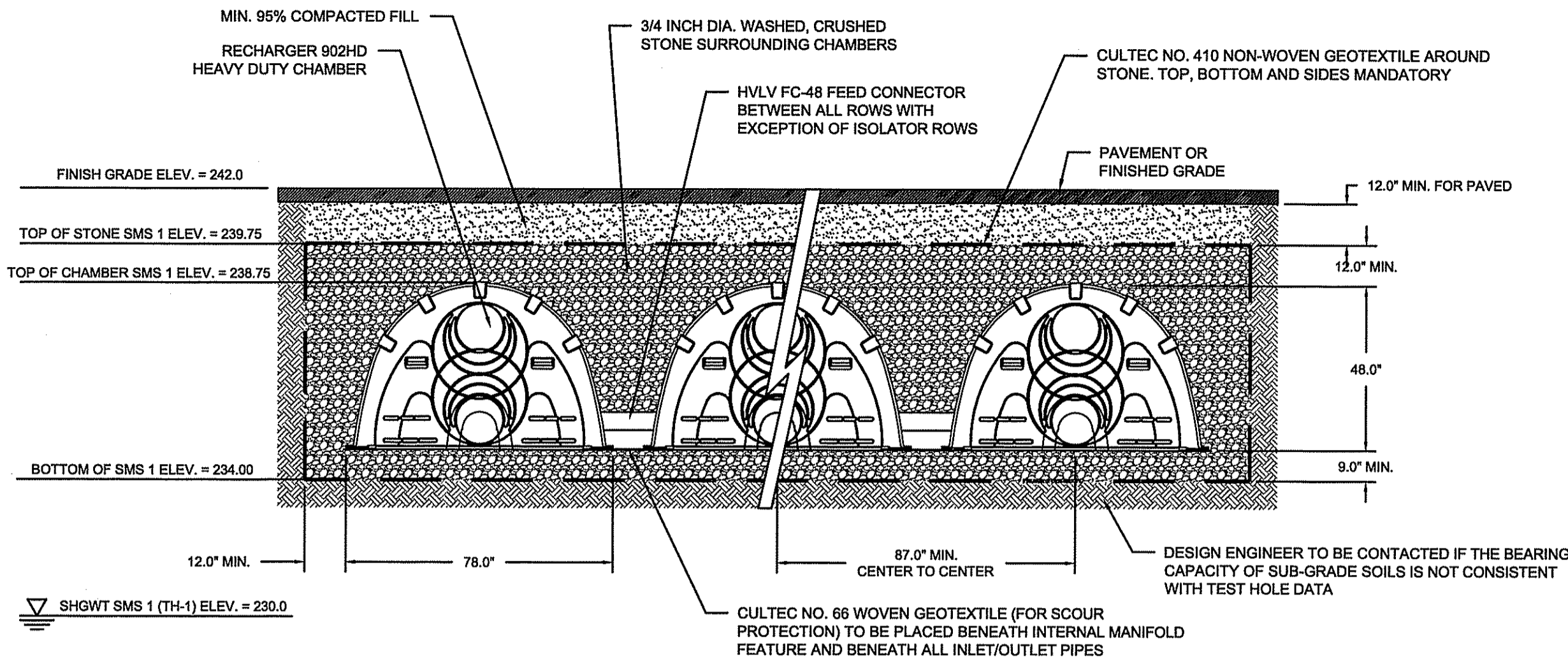
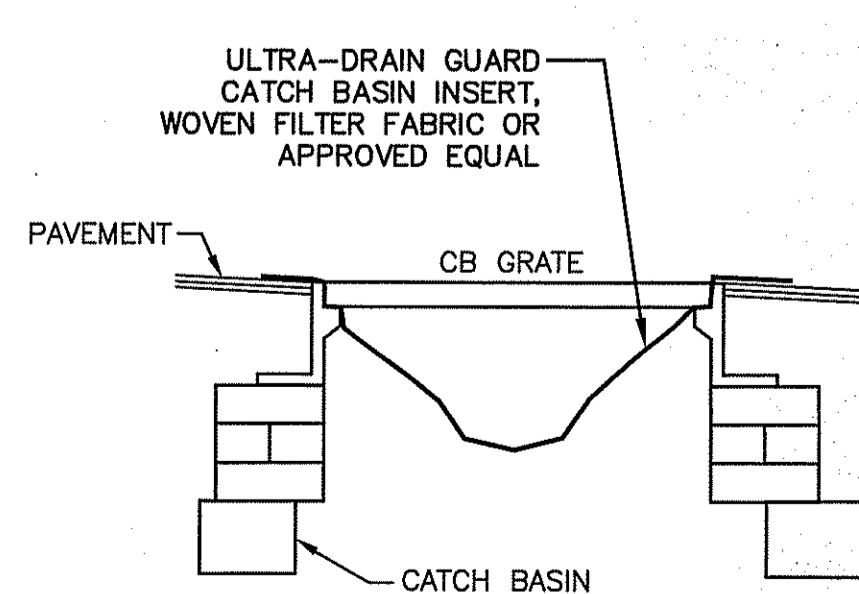
**CONSTRUCTION ACCESS**  
N.T.S.



**STOCKPILE DETAIL**

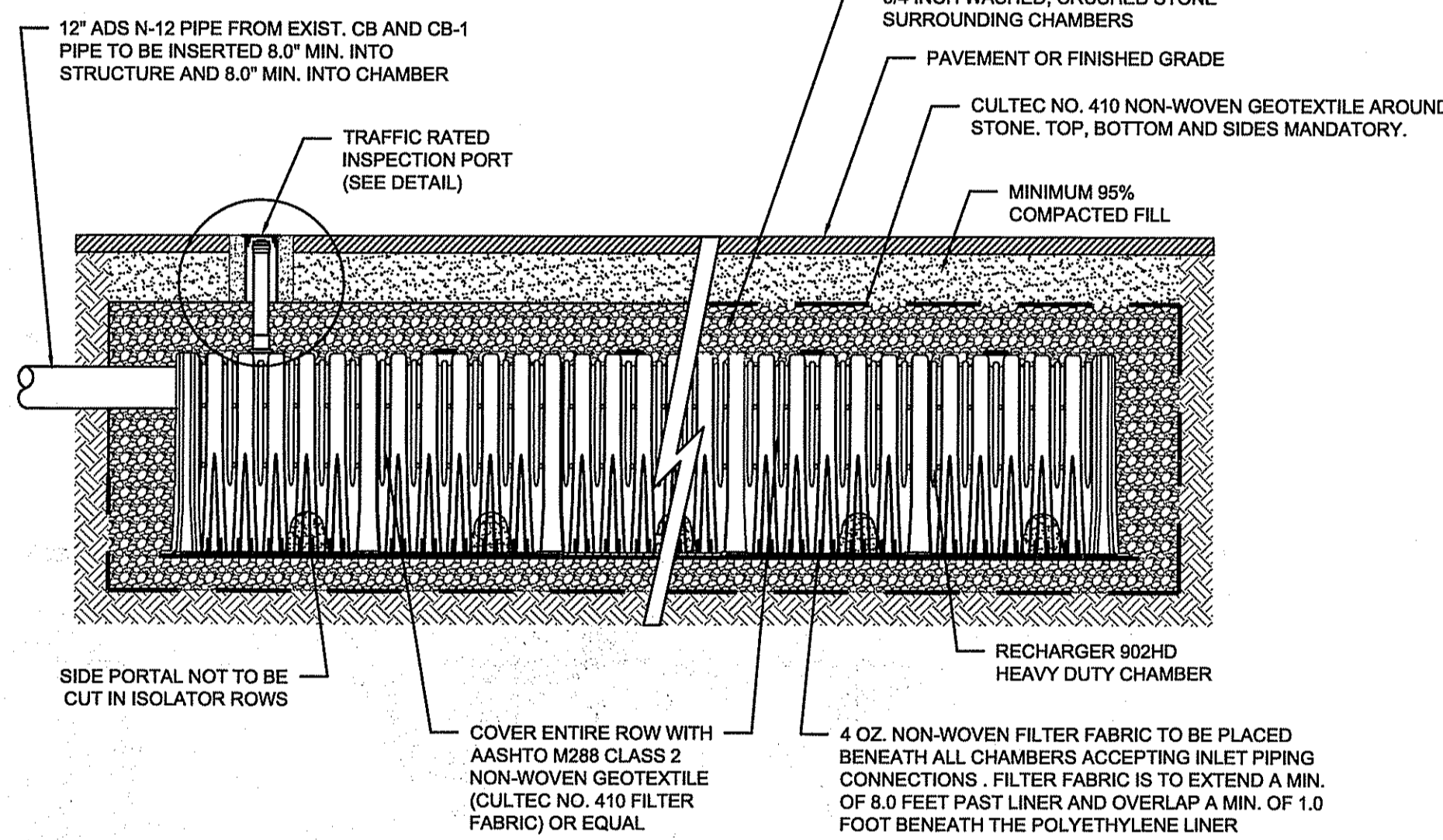


**CATCH BASIN INLET PROTECTION IN CONSTRUCTION AREA**  
NOT TO SCALE

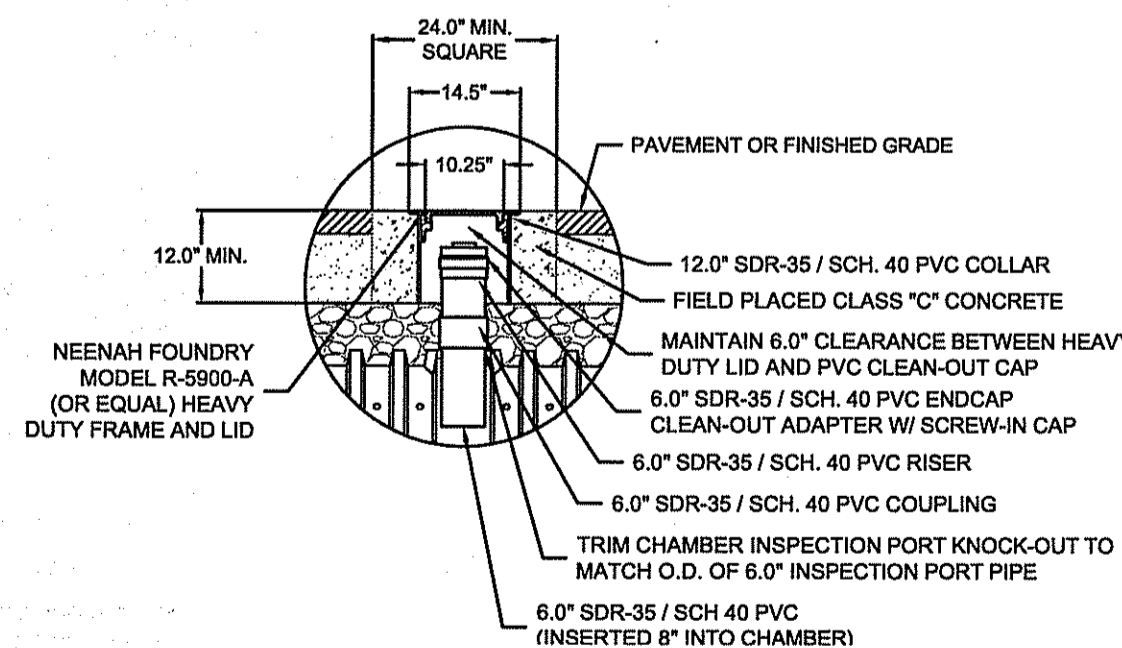


**CROSS SECTION VIEW FOR SMS 1**  
NOT TO SCALE

**GENERAL NOTES**  
RECHARGER 902HD BY CULTEC, INC. OF BROOKFIELD, CT. THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. ALL RECHARGER 902HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.  
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. CALL CULTEC, INC. AT (800) 428-5832 TO ARRANGE A PRE-CONSTRUCTION MEETING. USE RECHARGER 902HD HEAVY DUTY FOR TRAFFIC APPLICATIONS.



**WQv BMP ISOLATOR ROW**  
NOT TO SCALE



**INSPECTION PORT DETAIL**  
NOT TO SCALE

**CULTEC RECHARGER 902HD PRODUCT SPECIFICATIONS**

**GENERAL**  
CULTEC RECHARGER 902HD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

**CHAMBER PARAMETERS**  
1. THE CHAMBERS SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)  
2. THE CHAMBER SHALL BE STRUCTURAL, FOAM INJECTION MOLDED OF BLUE VIRGIN HIGH MOLECULAR WEIGHT IMPACT-MODIFIED POLYPROPYLENE.  
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.  
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.  
5. THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING, HAVING NO SEPARATE COUPLINGS.  
6. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 902HD SHALL BE 48 INCHES (1219 mm) TALL, 78 INCHES (1981 mm) WIDE AND 4.10 FEET (1.25 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 902HD SHALL BE 3.97 FEET (1.21 m).  
7. MULTIPLE CHAMBERS MAY BE CONNECTED TO FORM DIFFERENT LENGTH ROWS. EACH ROW SHALL BEGIN AND END WITH A SEPARATELY FORMED CULTEC RECHARGER 902HD END CAP. MAXIMUM INLET OPENING ON THE END CAP IS 24 INCHES (600 mm).  
8. THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV FC-48 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. MAXIMUM ALLOWABLE PIPE SIZE IN THE SIDE PORTAL IS 11.5 INCHES (292 mm).  
9. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-48 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 49 INCHES (1246 mm) LONG.  
10. THE NOMINAL STORAGE VOLUME OF THE CULTEC RECHARGER 902HD CHAMBER SHALL BE 17.68 FT<sup>3</sup> / FT (1.941 m<sup>3</sup> / m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 902HD SHALL BE 54.75 FT<sup>3</sup> / UNIT (1.554 m<sup>3</sup> / UNIT) - WITHOUT STONE.  
11. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-48 FEED CONNECTOR SHALL BE 0.913 FT<sup>3</sup> / FT (0.085 m<sup>3</sup> / m) - WITHOUT STONE.  
12. THE RECHARGER 902HD CHAMBER SHALL HAVE TWENTY-FOUR DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNITS CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.  
13. THE RECHARGER 902HD CHAMBER SHALL HAVE 7 CORRUGATIONS.  
14. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND AASHTO HS-25 DEFINED LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.  
15. THE CHAMBER SHALL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH NEAR THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.  
16. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.  
17. THE CHAMBER SHALL BE MANUFACTURED IN A FACILITY EMPLOYING CULTEC'S QUALITY CONTROL AND ASSURANCE PROCEDURES.  
18. MAXIMUM ALLOWABLE COVER OVER THE TOP OF THE CHAMBER SHALL BE 8.3 FEET (2.53 m).

**END CAP PARAMETERS**  
1. THE CULTEC RECHARGER 902HD END CAP (REFERRED TO AS 'END CAP') SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)  
2. THE END CAP SHALL BE TWIN-SHEET THERMOFORMED OF BLACK VIRGIN HIGH MOLECULAR WEIGHT POLYPROPYLENE.  
3. THE END CAP SHALL BE JOINED AT THE BEGINNING AND END OF EACH ROW OF CHAMBERS USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS.  
4. THE NOMINAL DIMENSIONS OF THE END CAP SHALL BE 48.5 INCHES (1231 mm) TALL, 78 INCHES (1981 mm) WIDE AND 9.7 INCHES (246 mm) LONG. WHEN JOINED WITH A RECHARGER 902HD CHAMBER, THE INSTALLED LENGTH OF THE END CAP SHALL BE 6.2 INCHES (157 mm).  
5. MAXIMUM INLET OPENING ON THE END CAP IS 24 INCHES (600 mm).  
6. THE END CAP SHALL BE DESIGNED TO WITHSTAND AASHTO HS-25 DEFINED LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

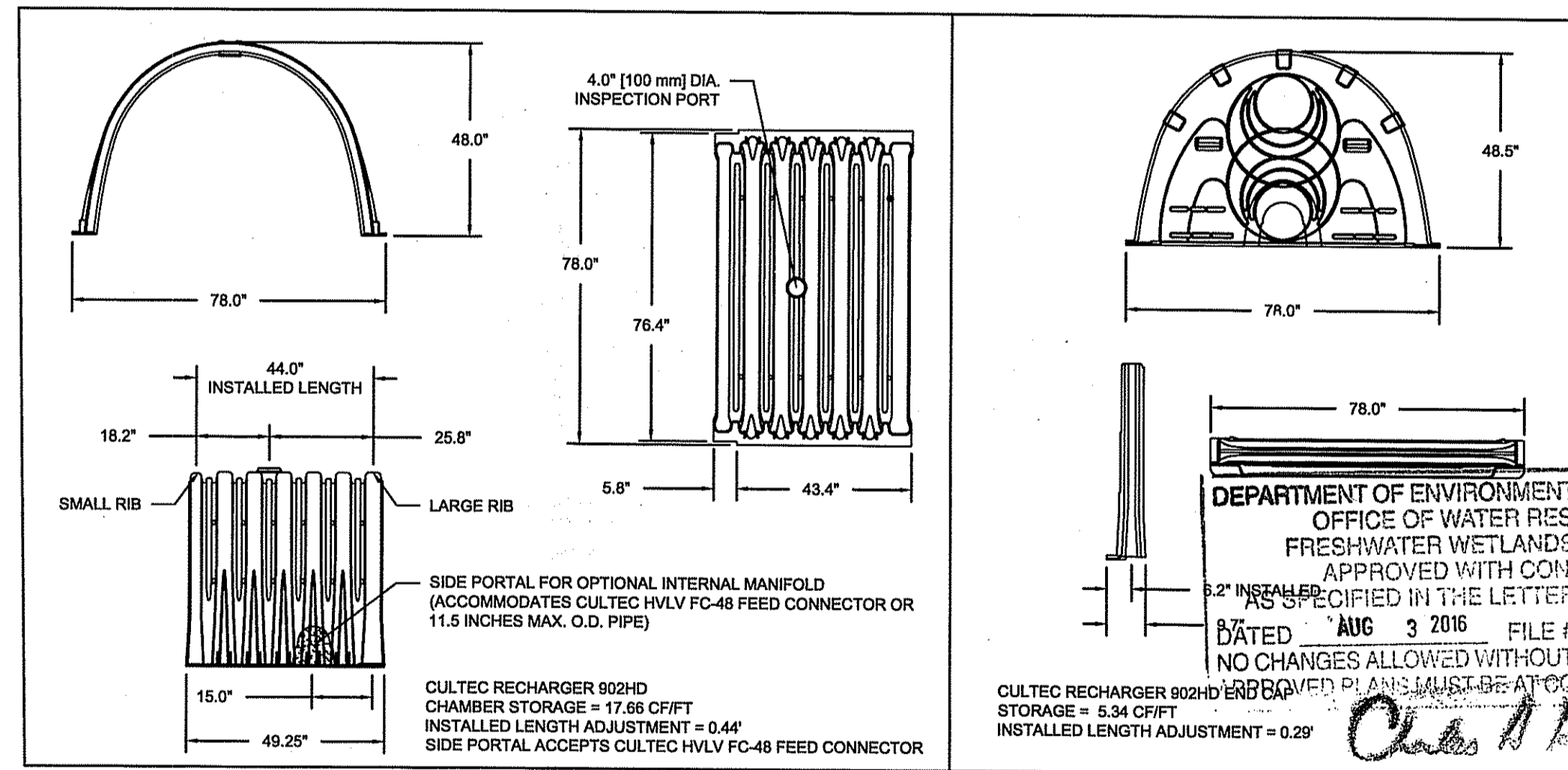
**CULTEC HVLV FC-48 FEED CONNECTOR PRODUCT SPECIFICATIONS**

**GENERAL**  
CULTEC HVLV FC-48 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 902HD STORMWATER CHAMBERS.

**FEED CONNECTOR PARAMETERS**  
1. THE FEED CONNECTOR SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)  
2. THE FEED CONNECTOR SHALL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE).  
3. THE FEED CONNECTOR SHALL BE ARCHED IN SHAPE.  
4. THE FEED CONNECTOR SHALL BE OPEN-BOTTOMED.  
5. THE NOMINAL DIMENSIONS OF THE CULTEC HVLV FC-48 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 49 INCHES (1246 mm) LONG.  
6. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-48 FEED CONNECTOR SHALL BE 0.913 FT<sup>3</sup> / FT (0.085 m<sup>3</sup> / m) - WITHOUT STONE.  
7. THE HVLV FC-48 FEED CONNECTOR SHALL HAVE 4 CORRUGATIONS.  
8. THE HVLV FC-48 FEED CONNECTOR MUST BE FORMED AS A WHOLE UNIT HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.  
9. THE FEED CONNECTOR SHALL BE DESIGNED TO WITHSTAND AASHTO HS-25 DEFINED LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.  
10. THE FEED CONNECTOR SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.  
CULTEC NO. 68 WOVEN GEOTEXTILE

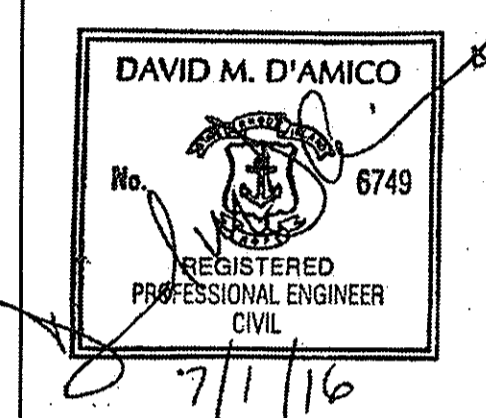
**GENERAL**  
CULTEC NO. 68 WOVEN GEOTEXTILE IS UTILIZED AS AN UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE.

**GEOTEXTILE PARAMETERS**  
1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)  
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.  
3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 315 LBS (1.40KN) PER ASTM D4632 TESTING METHOD.  
4. THE GEOTEXTILE SHALL HAVE A TENSILE ELONGATION RESISTANCE OF 15% PER ASTM D4632 TESTING METHOD.  
5. THE GEOTEXTILE SHALL HAVE A MULLEN BURST RESISTANCE OF 600PSI (4138 KPA) PER ASTM D3786 TESTING METHOD.  
6. THE GEOTEXTILE SHALL HAVE A TEAR RESISTANCE OF 115 LBS (0.51 KN) PER ASTM D4533 TESTING METHOD.  
7. THE GEOTEXTILE SHALL HAVE A PUNCTURE RESISTANCE OF 150 LBS (0.66 KN) PER ASTM D4833 TESTING METHOD.  
8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 900 LBS (4.00 K9) PER ASTM D6241 TESTING METHOD.  
9. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 70% @ 500 HRS. PER ASTM D4355 TESTING METHOD.  
10. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.05 SEC-1 PER ASTM D4491 TESTING METHOD.  
11. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 4 GPM/FT<sup>2</sup> (160 LPM/M<sup>2</sup>) PER ASTM D4491 TESTING METHOD.  
12. THE GEOTEXTILE SHALL HAVE A PERCENT OPEN AREA OF <1% PER CW-02215 TESTING METHOD.  
13. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 MM) PER ASTM D4751 TESTING METHOD.  
14. THE GEOTEXTILE SHALL CONSIST OF A 100% HIGH-TENACITY, SILT-FILM POLYPROPYLENE YARNS.



| PIPE         | A               | B             |
|--------------|-----------------|---------------|
| 6" [150 mm]  | N/A             | N/A           |
| 8" [200 mm]  | N/A             | N/A           |
| 10" [250 mm] | N/A             | N/A           |
| 12" [300 mm] | 29.50" [749 mm] | 2.25" [57 mm] |
| 15" [375 mm] | 26.50" [673 mm] | 2.25" [57 mm] |
| 18" [450 mm] | 23.50" [597 mm] | 2.50" [64 mm] |
| 24" [600 mm] | 16.50" [420 mm] | 3.00" [76 mm] |

**CULTEC RECHARGER 902HD CHAMBER DETAILS**  
NOT TO SCALE



**PROPOSED PARKING LOT ADDITIONS**  
140 INDUSTRIAL DRIVE  
NORTH SMITHFIELD, RHODE ISLAND  
AP 5, LOT 488

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED AUG 3 2016 FILE # 10-0136  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
REVISIONS MUST BE AT CONSTRUCTION SITE

JUL 05 2015  
Office of Water Resources

**REVISIONS:**

| NO. | DATE   | DESCRIPTION                     |
|-----|--------|---------------------------------|
| 1.  | 7-1-16 | RIDEM COMMENTS OF JUNE 22, 2016 |

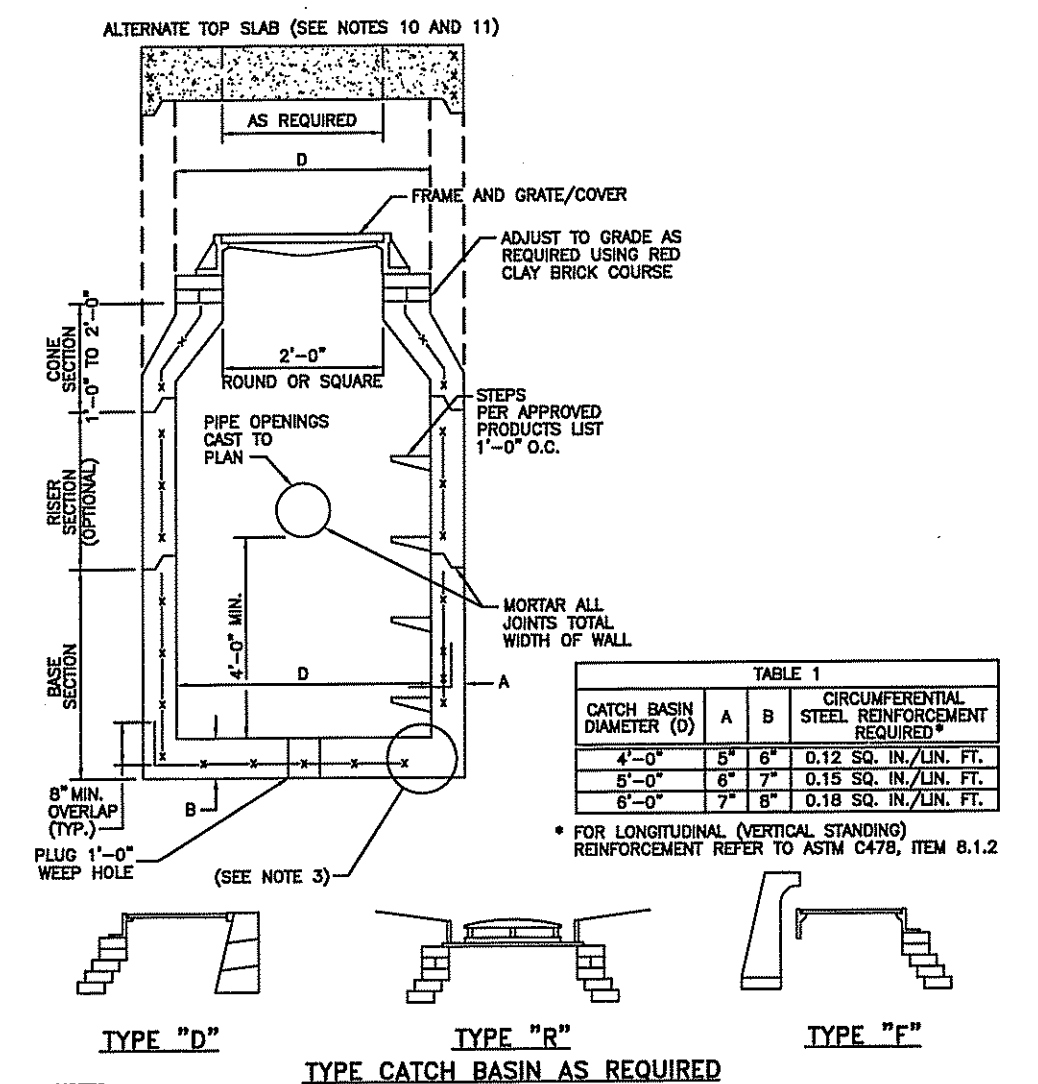
DESIGNED BY: DMD  
DRAWN BY:  
CHECKED BY: DMD  
DATE: MAY, 2016  
PROJECT NO: 15-0001-06

PERMIT PLAN - NOT FOR CONSTRUCTION

**DETAIL PLAN NO. 1**  
SHEET 6 OF 7

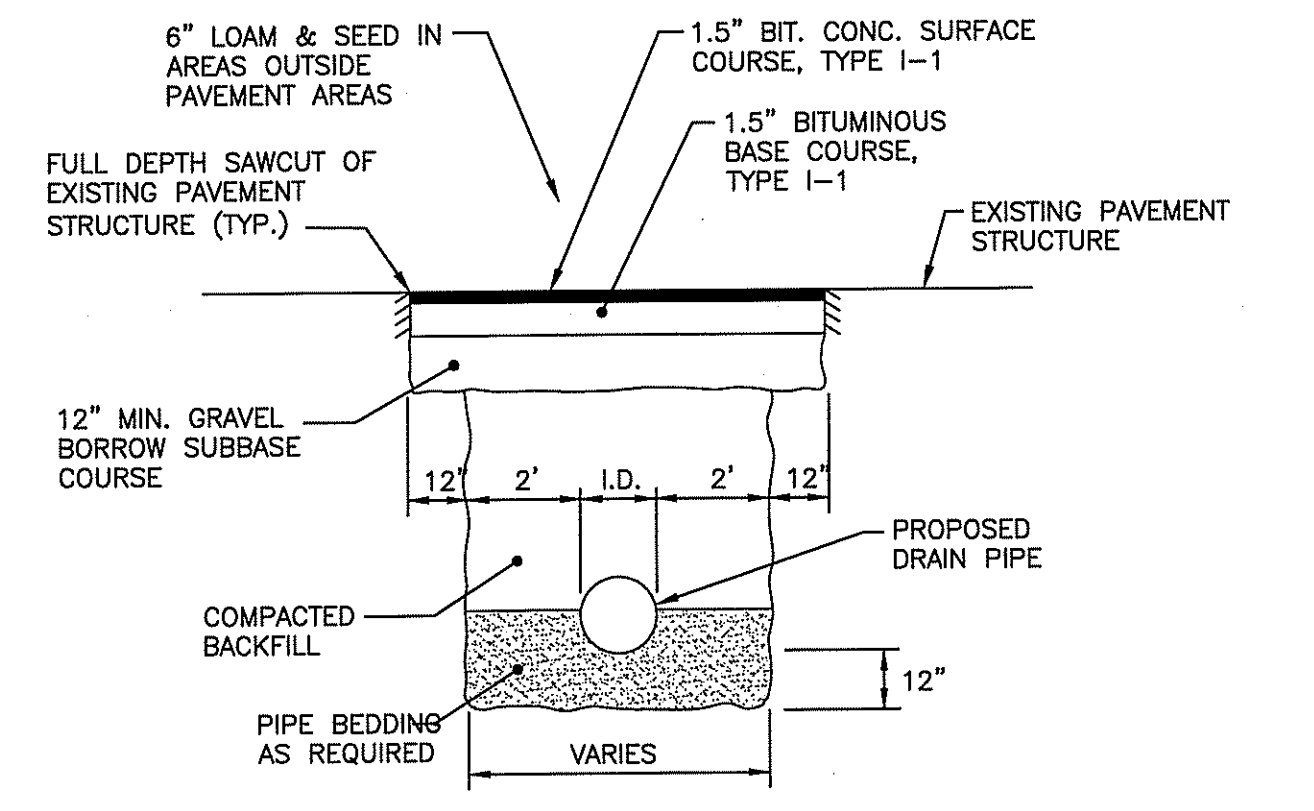
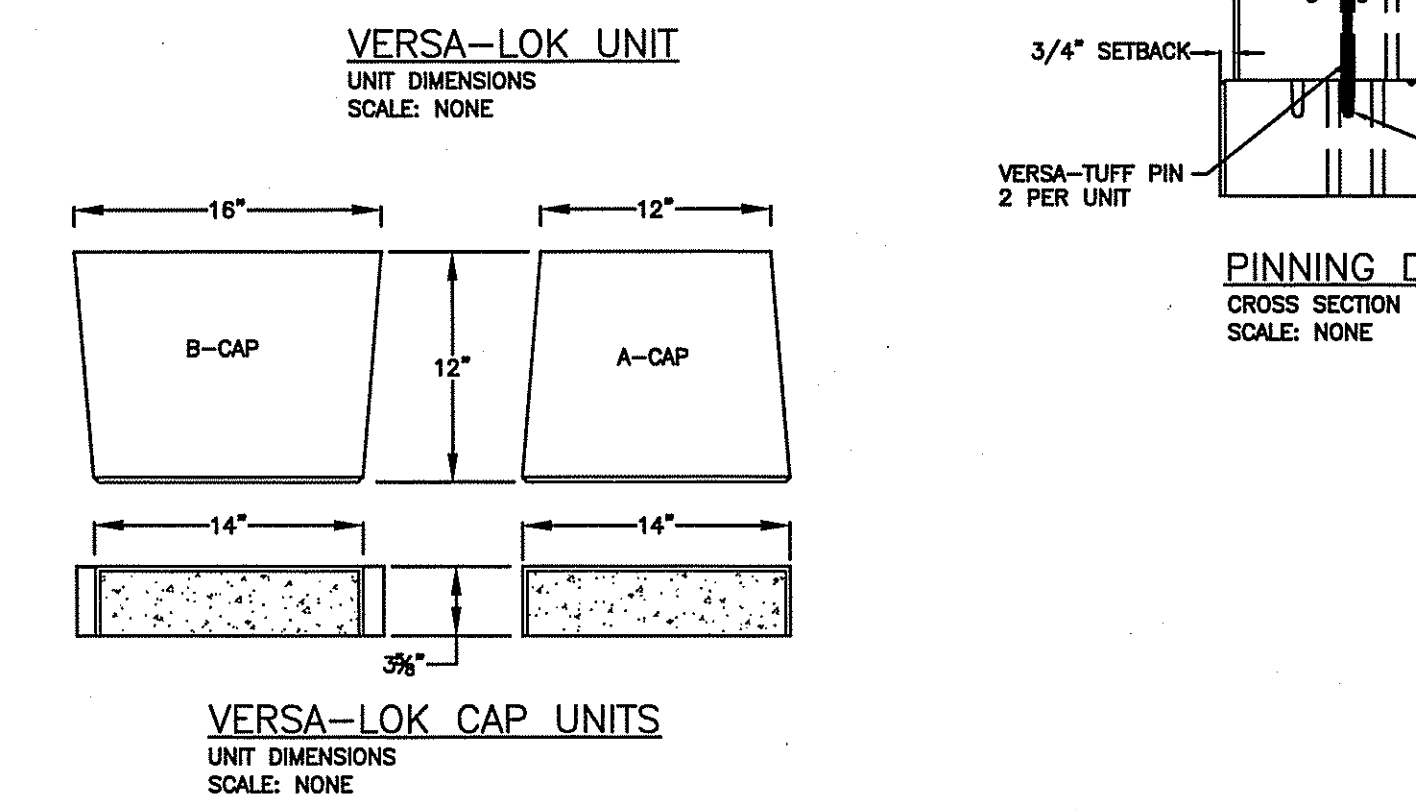
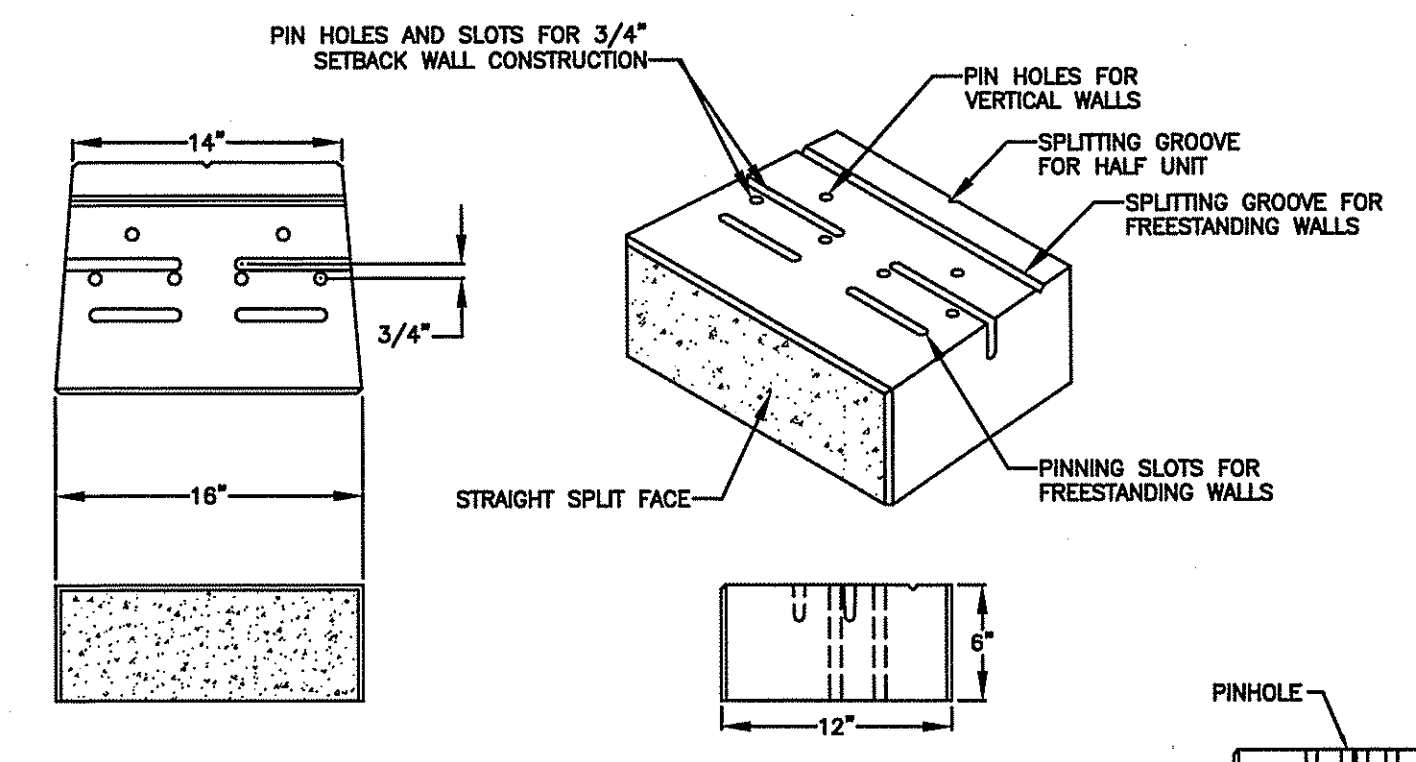
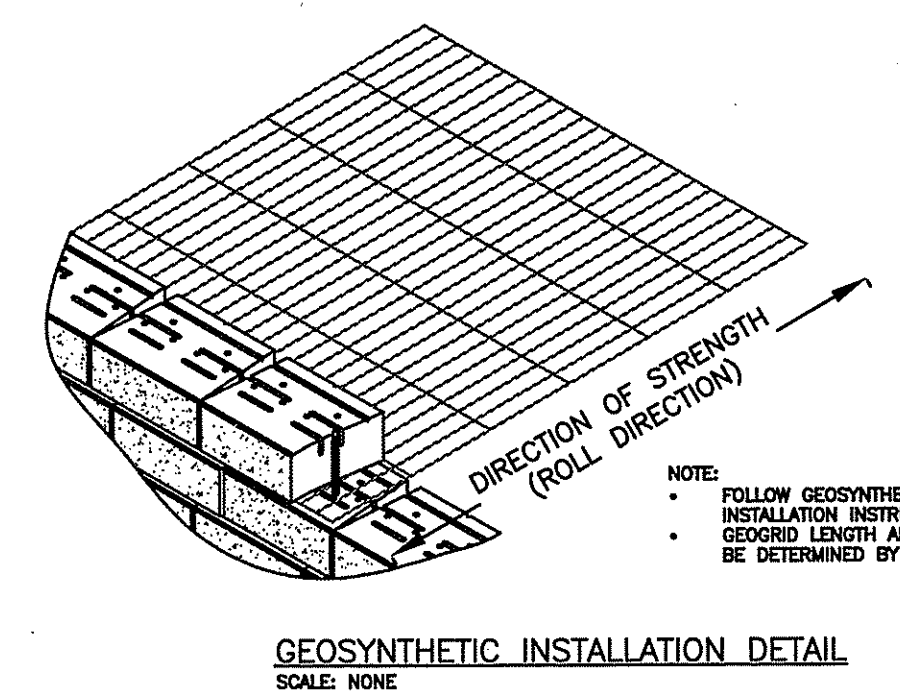
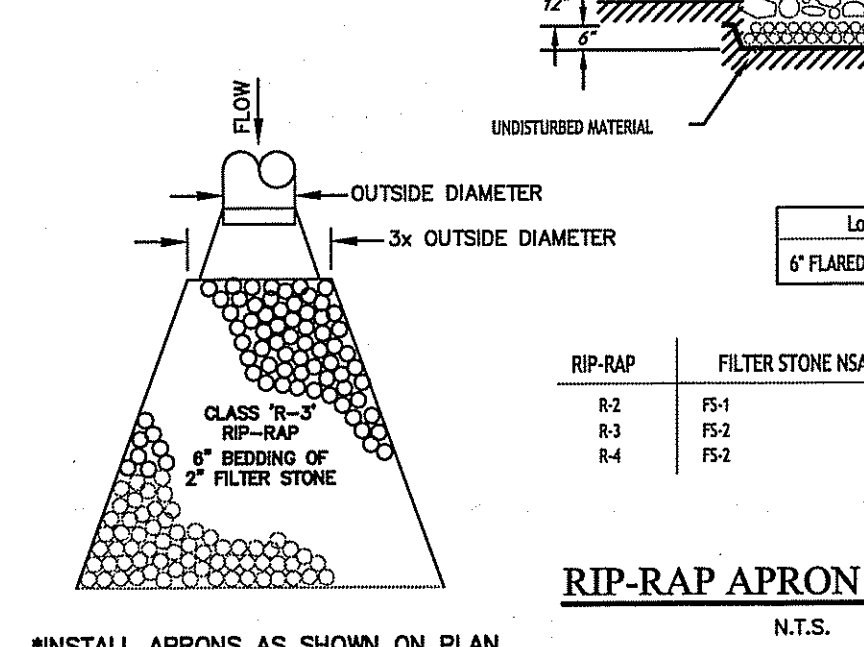
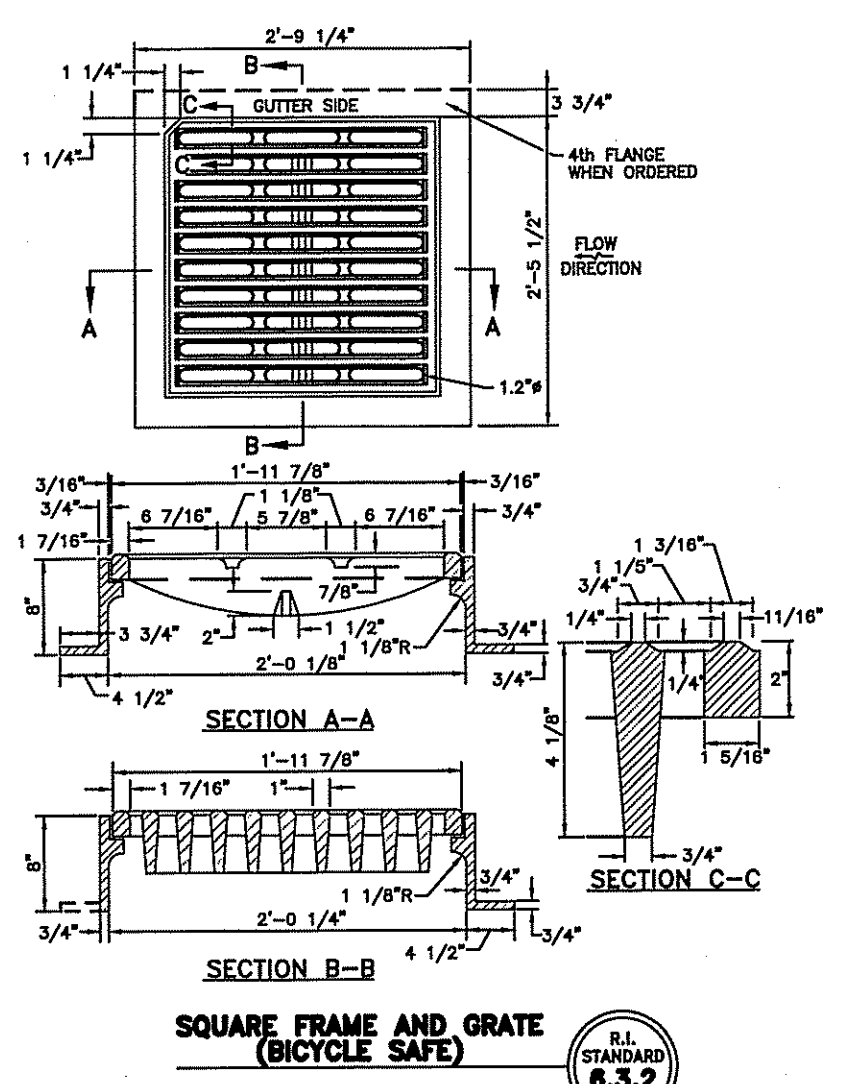
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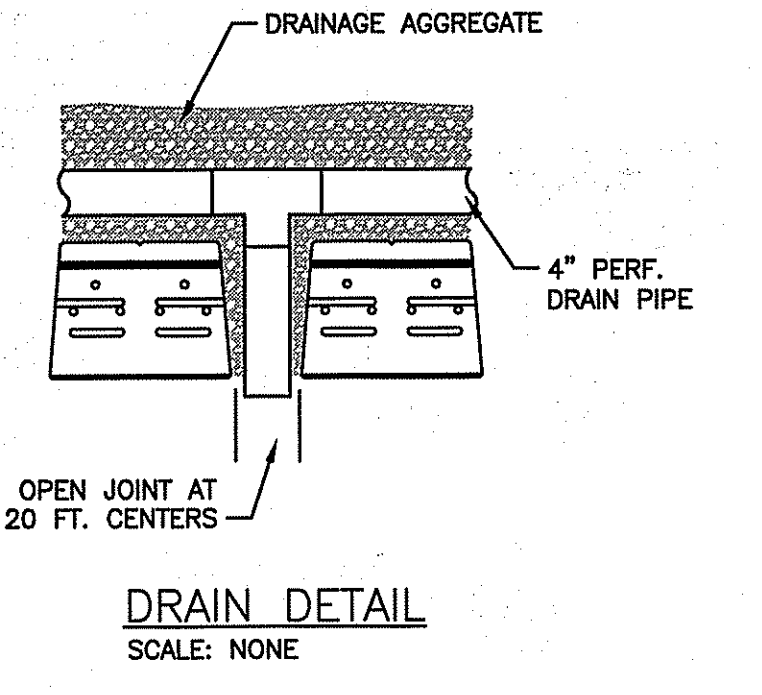
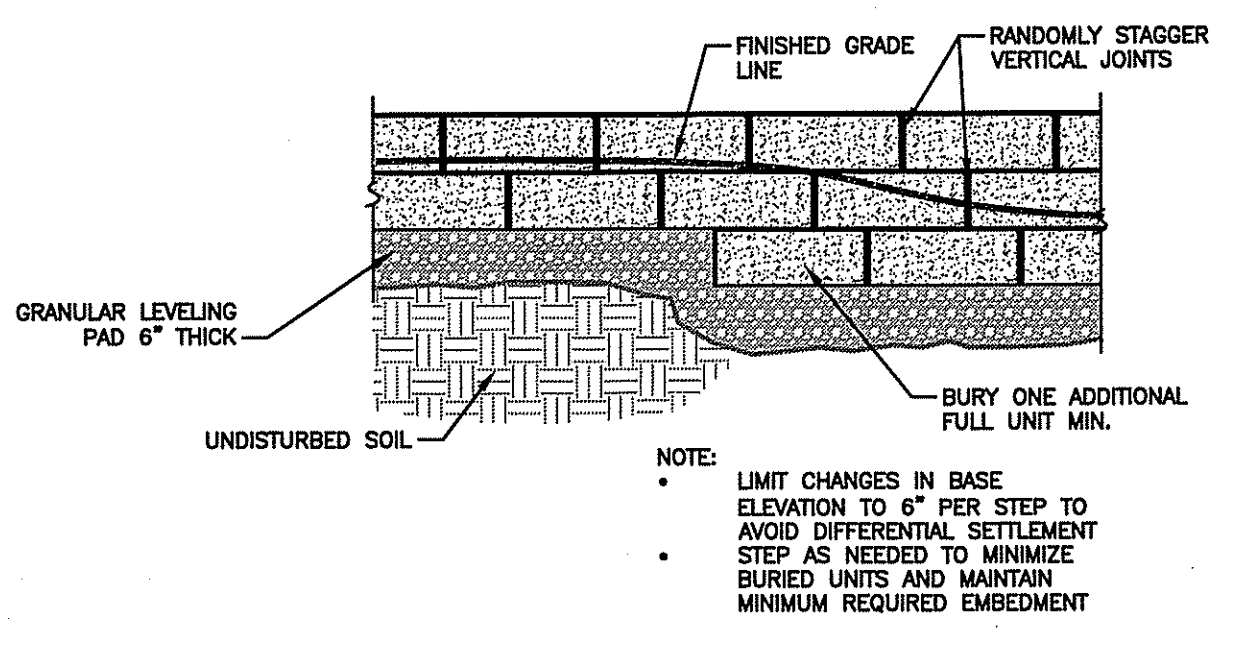


- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
  2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
  3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
  4. STEPS SHALL CONFORM TO STD. S.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
  5. ONE FOUR MONOLITHIC BASE SECTION.
  6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
  7. CORBELS MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
  8. FOR CATCH BASIN TYPES "D" AND "E" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
  9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
  10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED 11/28 LOADS (SEE STD. 4.7.3).
  11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
  12. REFER TO STD. S.3.0 FOR MAXIMUM PIPE SIZES.

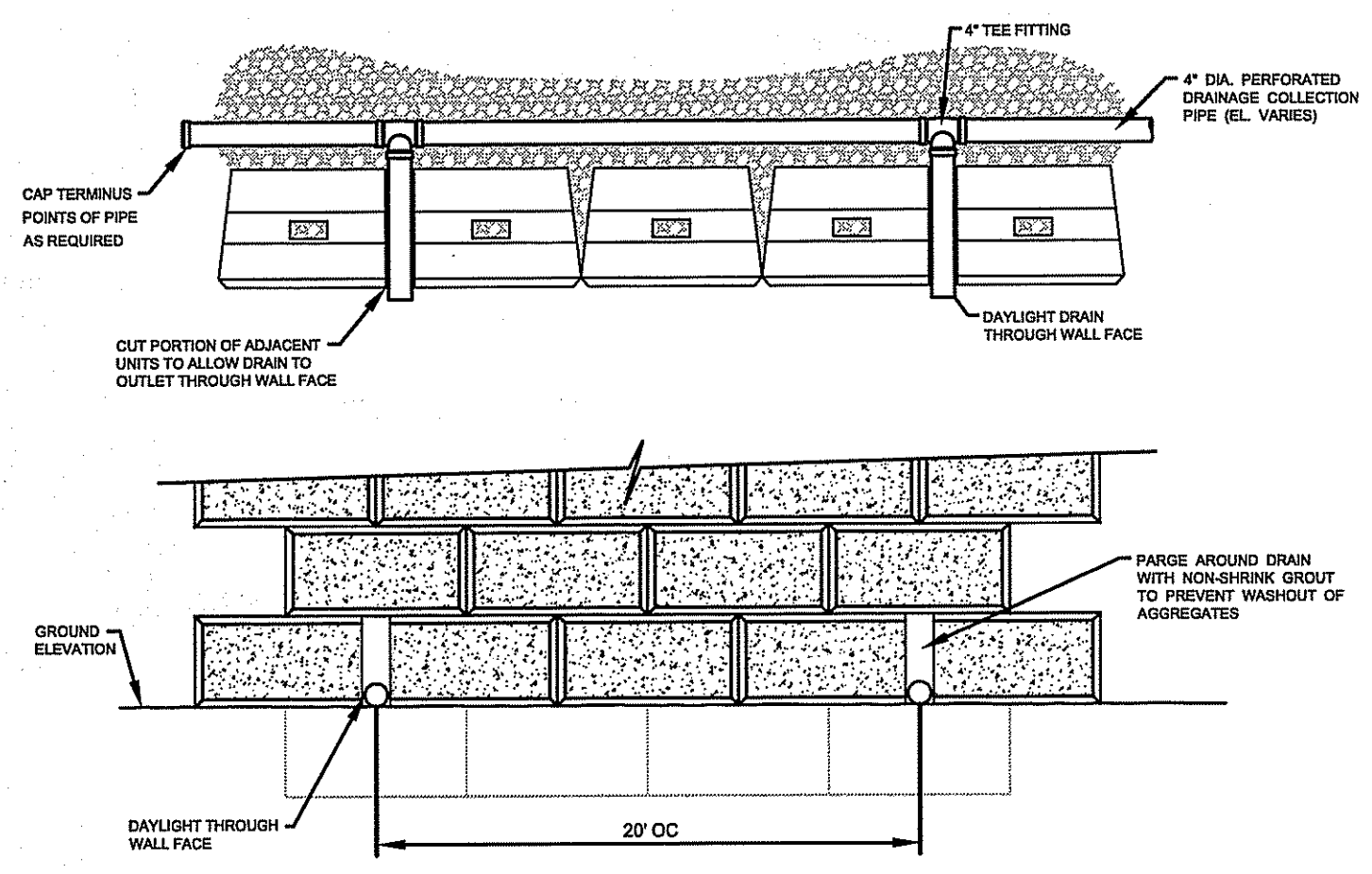
**PRECAST 4'-0", 5'-0" OR 6'-0" ROUND CATCH BASIN**  
4.4.0 M1



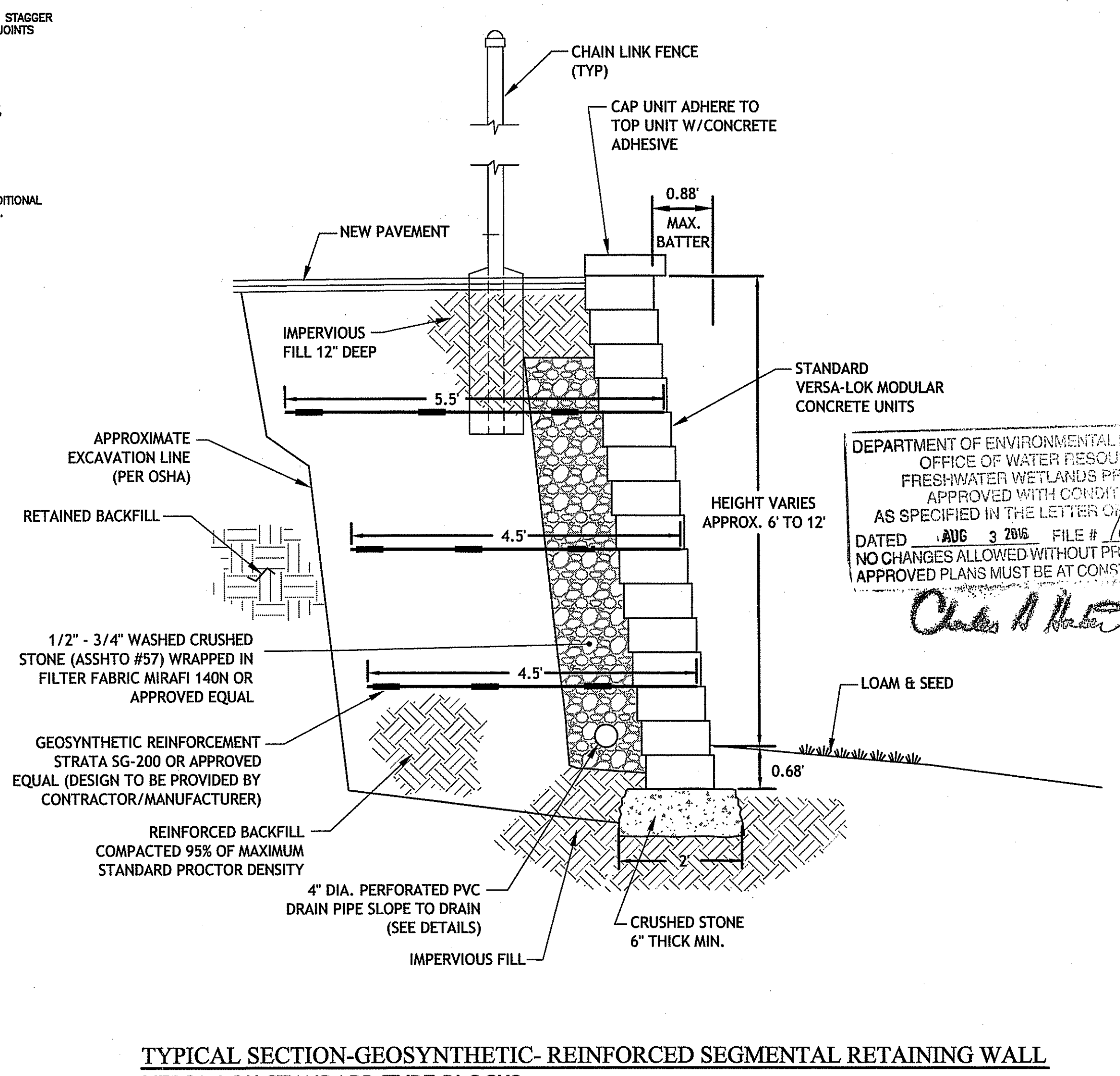
**TYPICAL TRENCH AND PAVEMENT PATCH DETAIL**  
NOT TO SCALE



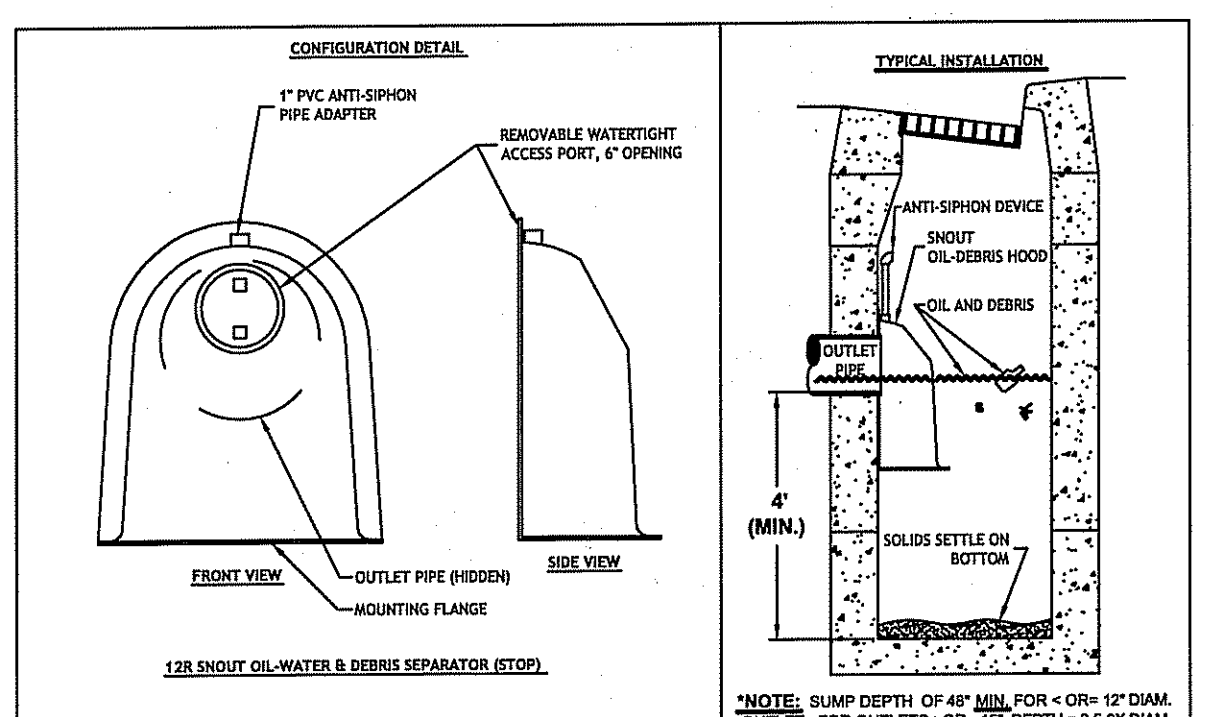
**DRAIN DETAIL**  
SCALE: NONE



**RETAINING WALL DRAIN PIPING DETAIL**  
NOT TO SCALE



**TYPICAL SECTION-GEOSYNTHETIC- REINFORCED SEGMENTAL RETAINING WALL**  
VERS-A-LOK STANDARD TYPE BLOCKS  
NOT TO SCALE



- NOTES:**
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. 131 AT. ACHER RD. LYME, CT 06371 (860) 642-7777, (860) 634-1755 FAX (860) 642-7777, (860) 634-8008 OR (888) 334-7955 WEB SITE: WWW.BMP.COM OR PRE-APPROVED EQUAL.
  2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 4.125 LAMINATE THICKNESS.
  3. ALL HOODS SHALL BE EQUIPPED WITH A WATERPROOF ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAIN. (SEE CONFIGURATION DETAILS).
  4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION. (SHOULDER SIZE ALWAYS LARGER THAN PIPE SIZE)
  5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES < 12" DIA. MINIMUM DISTANCE BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES < 12" DIA. IS 6".
  6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
  7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
  8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAILS)
  9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
- | DESCRIPTION            | DATE | SCALE |
|------------------------|------|-------|
| REVISIONS              |      |       |
| 1. 7-16 RIDEM COMMENTS |      |       |

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED AUG 3 2016 FILE # 16-0136  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles A. Hackett*

Environmental Management  
JUL 05 2016  
Office of Water Resources

**PROPOSED PARKING LOT ADDITIONS**  
140 INDUSTRIAL DRIVE  
NORTH SMITHFIELD, RHODE ISLAND  
AP 5, LOT 488

REVISIONS:

| NO. | DATE | DESCRIPTION    |
|-----|------|----------------|
| 1.  | 7-16 | RIDEM COMMENTS |

OF JUNE 22, 2016

DESIGNED BY: DMD  
DRAWN BY: DMD  
CHECKED BY: DMD  
DATE: MAY, 2016  
PROJECT NO: 15-0001-06

PERMIT PLAN - NOT FOR CONSTRUCTION

**DETAIL PLAN NO. 2**

**SHEET 7 OF 7**

**Petec.**  
D'AMICO ENGINEERING TECHNOLOGY, INC.  
Civil, Transportation, Land Use  
2080 Mineral Springs Ave., North Providence, RI 02811  
(401) 822-4470 (401) 363-1190 fax www.damicoengineering.com

DAVID M. D'AMICO  
No. 6749  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
7/1/16