

SITE DEVELOPMENT PLAN

FOR

A.P. 46 LOT 45

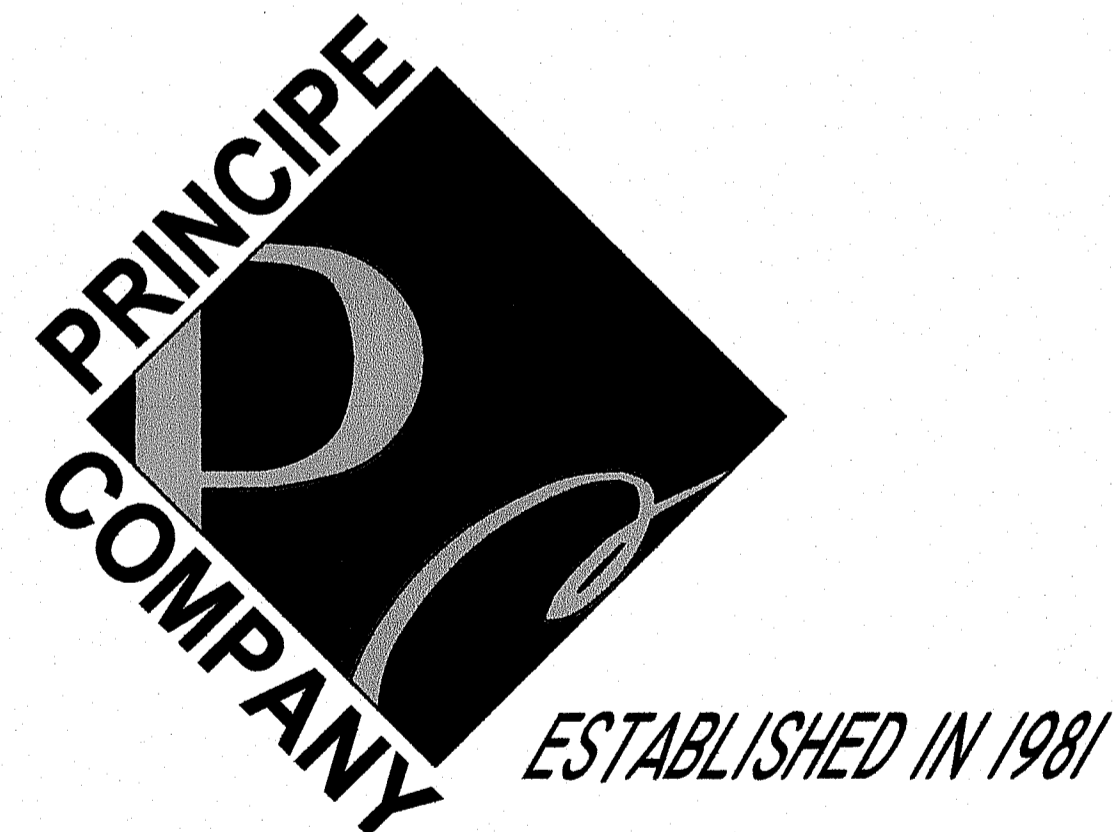
HARTFORD AVENUE

IN

JOHNSTON, RHODE ISLAND

APPLICANT:
GARY EUCALITTO
GARRETT HOMES, LLC
6 WILLIAM WAY
HARWINTON, CT 06791

OWNER:
MOHAMAD Y. & RHONDA A. SASA, TRUSTEES
40 HOPKINS AVE
JOHNSTON, RI 02919



PREPARED BY:

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION

PO BOX 298
TIVERTON, RHODE ISLAND 02878
401.816.5385
INFO@PRINCIPEENGINEERING.COM
WWW.PRINCIPEENGINEERING.COM

DATE: NOVEMBER 29, 2018

REVISED: 1/18/19
REVISED: 3/13/19

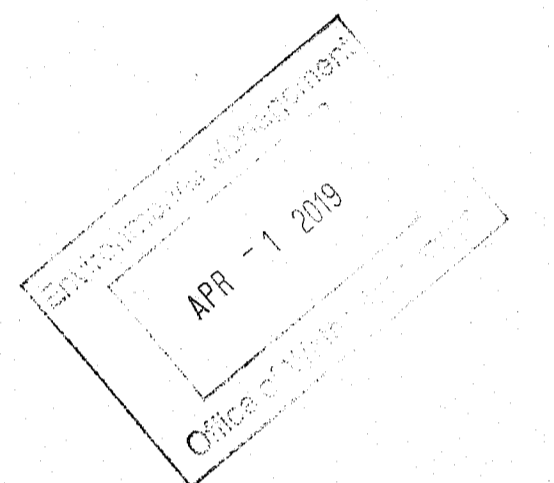


LOCUS MAP
SCALE: 1"=1000'

LIST OF DRAWINGS

GENERAL NOTES:

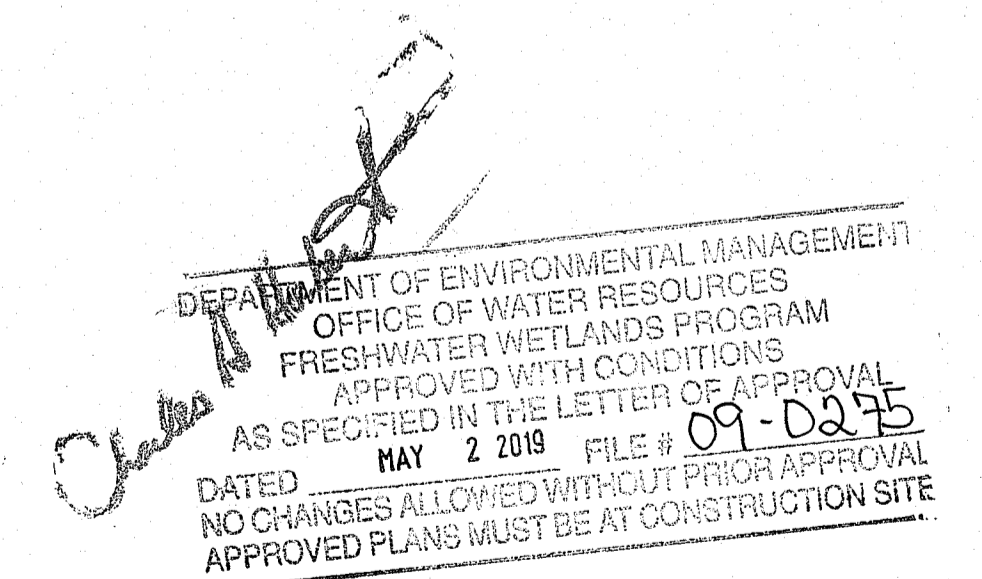
1. TITLE
2. HALF MILE RADIUS/LOCATION MAP
3. EXISTING CONDITIONS SURVEY
4. SITE DEVELOPMENT
5. DWTS
6. CONSTRUCTION DETAILS
7. CONSTRUCTION DETAILS
8. CONSTRUCTION DETAILS



B-2 ZONING CRITERIA

MINIMUM DISTANCE OF STRUCTURE
FROM RESIDENTIAL ZONE BOUNDARY=50'

MINIMUM FRONT YARD DEPTH	40'
MINIMUM SIDE YARD DEPTH	40'
MINIMUM REAR YARD DEPTH	40'
MAXIMUM LOT BUILDING COVERAGE	40%
MAXIMUM BUILDING HEIGHT	35'



REVISIONS

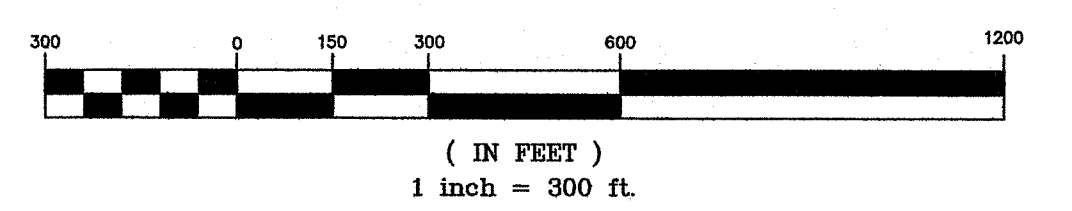
No.	DATE	DRWN	CHKD

PROJECT NO. LD-18-52



LOCUS MAP
SCALE: 1"=500'

Environmental Management
APR 1 2019
Office of Water Resources



B-2 ZONING CRITERIA

MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY=50'
MINIMUM SIDE YARD SETBACK 40'
MINIMUM REAR YARD SETBACK 40'
MAXIMUM LOT BUILDING COVERAGE 40%
MAXIMUM BUILDING HEIGHT 35' OFFER RESOURCES PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED MAY 2 2019 FILE # 09-0235 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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HALF MILE RADIUS / LOCATION MAP

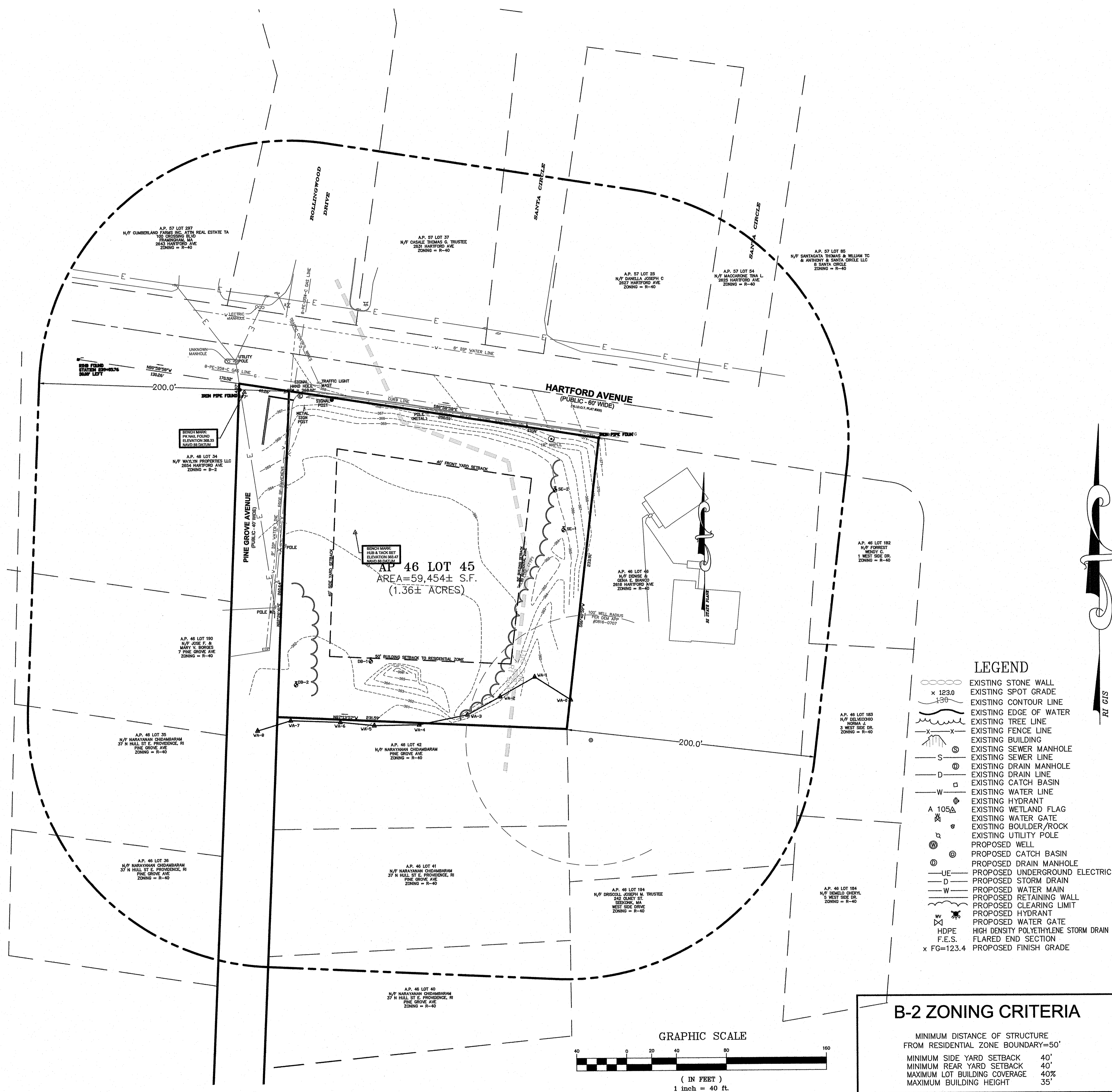
Thomas J. Principe, III
No. 9107
REGISTERED PROFESSIONAL ENGINEER

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REVISIONS			
No.	DATE	DRWN	CHKD
1	1/18/19	TJP	TJP
2	3/13/19	TJP	TJP

SITE DEVELOPMENT PLAN
for
AP 46 LOT 45
HARTFORD AVENUE
in
JOHNSTON, RHODE ISLAND

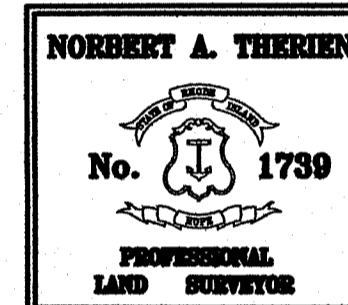
SCALE: 1" = 300' SHEET NO.: 2 OF 8
DRAWN BY: JAR DESIGN BY: JAR CHECKED BY: TJP
DATE: 11/29/18 PROJECT NO.: LD-18-52



Environmental Management
APR 1 2019
 Office of Water Resources

LOCUS MAP
 SCALE: 1"=500'

- LEGEND**
- EXISTING STONE WALL
 - x 123.0 EXISTING SPOT GRADE
 - - - EXISTING CONTOUR LINE
 - - - EXISTING GUARD RAIL
 - - - EXISTING TREE LINE
 - - - EXISTING FENCE LINE
 - - - EXISTING SEWER MANHOLE
 - - - EXISTING SEWER LINE
 - - - EXISTING DRAIN MANHOLE
 - - - EXISTING ELECTRIC LINE
 - - - EXISTING CATCH BASIN
 - - - EXISTING WATER LINE
 - - - EXISTING HYDRANT
 - ⊗ EXISTING WATER GATE
 - ⊗ EXISTING GAS GATE
 - ⊗ EXISTING UTILITY POLE
 - ⊗ PROPOSED CATCH BASIN
 - ⊗ PROPOSED DRAIN MANHOLE
 - ⊗ PROPOSED SEWER MANHOLE
 - ⊗ PROPOSED UNDERGROUND ELECTRIC
 - ⊗ PROPOSED STORM DRAIN
 - ⊗ PROPOSED WATER MAIN
 - ⊗ PROPOSED WATER GATE
 - HDPE HIGH DENSITY POLYETHYLENE STORM DRAIN PIPE
 - FES FLARED END SECTION
 - x FG=123.4 PROPOSED FINISH GRADE



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

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATIONS FOR PROFESSIONAL LAND SURVEYORS NOVEMBER 25, 2015 AS FOLLOWS:

TYPE OF SURVEY: COMPREHENSIVE BOUNDARY SURVEY
 MEASUREMENT SPECIFICATION: CLASS 1 STANDARD

PURPOSE OF SURVEY: DETERMINE PROPERTY PERIMETER LOCATION

BY: *Norbert Therrien*
 NORBERT A. THERRIEN, PLS. NO. 1739

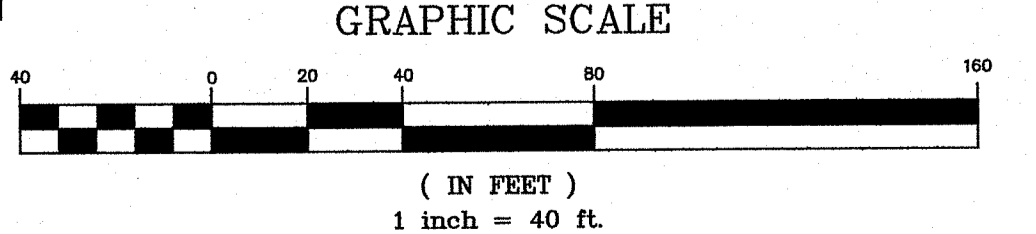
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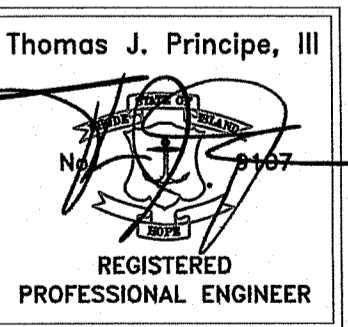
- LEGEND**
- EXISTING STONE WALL
 - x 123.0 EXISTING SPOT GRADE
 - - - EXISTING CONTOUR LINE
 - - - EXISTING EDGE OF WATER
 - - - EXISTING TREE LINE
 - - - EXISTING FENCE LINE
 - - - EXISTING BUILDING
 - - - EXISTING SEWER MANHOLE
 - - - EXISTING SEWER LINE
 - - - EXISTING DRAIN MANHOLE
 - - - EXISTING DRAIN LINE
 - - - EXISTING CATCH BASIN
 - - - EXISTING WATER LINE
 - - - EXISTING HYDRANT
 - - - EXISTING WETLAND FLAG
 - - - EXISTING WATER GATE
 - - - EXISTING BOULDER/ROCK
 - - - EXISTING UTILITY POLE
 - ⊗ PROPOSED WELL
 - ⊗ PROPOSED CATCH BASIN
 - ⊗ PROPOSED DRAIN MANHOLE
 - ⊗ PROPOSED UNDERGROUND ELECTRIC
 - ⊗ PROPOSED STORM DRAIN
 - ⊗ PROPOSED WATER MAIN
 - ⊗ PROPOSED RETAINING WALL
 - ⊗ PROPOSED CLEARING LIMIT
 - ⊗ PROPOSED HYDRANT
 - ⊗ PROPOSED WATER GATE
 - HDPE HIGH DENSITY POLYETHYLENE STORM DRAIN PIPE
 - FES FLARED END SECTION
 - x FG=123.4 PROPOSED FINISH GRADE

B-2 ZONING CRITERIA

- MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY=50'
- MINIMUM SIDE YARD SETBACK 40'
- MINIMUM REAR YARD SETBACK 40'
- MAXIMUM LOT BUILDING COVERAGE 40%
- MAXIMUM BUILDING HEIGHT 35'



EXISTING CONDITIONS



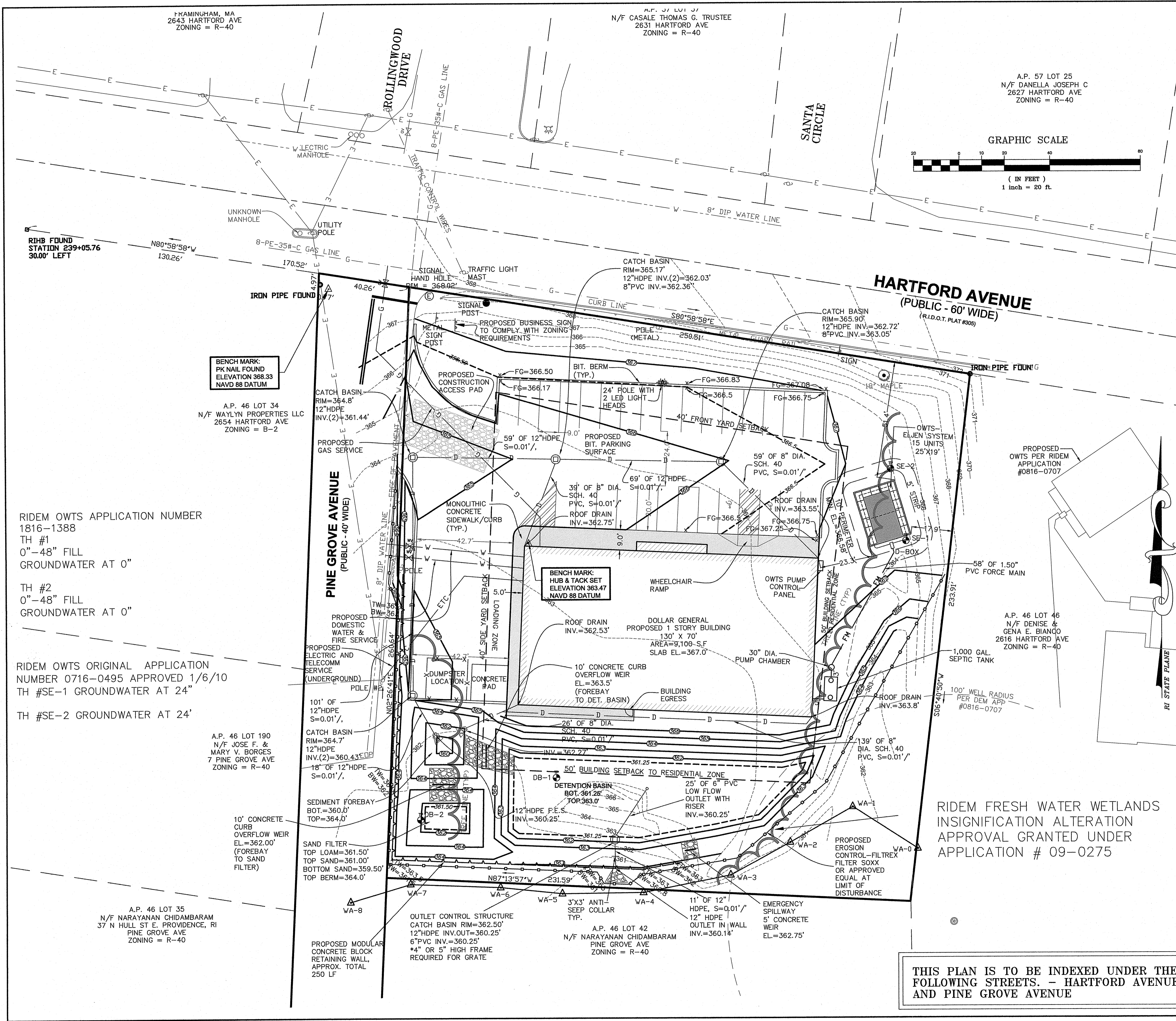
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REVISIONS

No.	DATE	DRWN	CHKD
1	1/18/19	TJP	TJP
2	3/13/19	TJP	TJP

SITE DEVELOPMENT PLAN
 for
AP 46 LOT 45
 HARTFORD AVENUE
 in
 JOHNSTON, RHODE ISLAND

SCALE: 1" = 40' SHEET NO: 3 OF 8
 DRAWN BY: JAR DESIGN BY: JAR CHECKED BY: TJP
 DATE: 11/29/18 PROJECT NO.: LD-18-52



Environmental Map
 APR 1 2018
 State of Water Resources

LOCUS MAP
 SCALE: 1"=500'

- LEGEND**
- EXISTING STONE WALL
 - EXISTING SPOT GRADE
 - EXISTING CONTOUR LINE
 - EXISTING GUARD RAIL
 - EXISTING TREE LINE
 - EXISTING FENCE LINE
 - EXISTING SEWER MANHOLE
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 - EXISTING DRAIN MANHOLE
 - EXISTING DRAIN LINE
 - EXISTING CATCH BASIN
 - EXISTING WATER LINE
 - EXISTING HYDRANT
 - EXISTING WATER GATE
 - EXISTING GAS GATE
 - EXISTING UTILITY POLE
 - PROPOSED CATCH BASIN
 - PROPOSED DRAIN MANHOLE
 - PROPOSED UNDERGROUND ELECTRIC
 - PROPOSED STORM DRAIN
 - PROPOSED WATER SERVICE
 - PROPOSED GAS SERVICE
 - PROPOSED GAS GATE
 - PROPOSED WATER GATE
 - HDPE HIGH DENSITY POLYETHYLENE STORM DRAIN PIPE
 - FES FLARED END SECTION
 - x FG=123.4 PROPOSED FINISH GRADE

NOTES:

THERE ARE NO EXISTING EASEMENTS LOCATED ON THE SITE.

THERE ARE NO EXTRAORDINARY OF UNUSUAL NATURAL FEATURES LOCATED ON THE SITE.

THERE ARE NO HISTORIC AREAS, CEMETERIES, OR FOUNDATIONS LOCATED ON THE SITE.

THE SITE IS LOCATED IN ZONE X (AREA OF MINIMAL FLOODING AS DEFINED ON FLOOD INSURANCE RATE MAP 44007C0283H EFFECTIVE DATE 10/2/2015)

THERE ARE NO EXISTING OR PROPOSED LAKES, PONDS, WATER COURSES OR WETLANDS, OR EXISTING DRAINAGE PATTERNS LOCATED ON THE SITE.

THERE ARE NO EXISTING STRUCTURES LOCATED ON THE SITE.

THERE ARE NO POTENTIAL NEGATIVE IMPACTS TO THE AREA ANTICIPATED WITH THE DEVELOPMENT OF THE SITE.

THE SITE IS PROPOSED TO BE DEVELOPED ALL IN ONE PHASE

PARKING REQUIREMENT FOR RETAIL = 3 SPACES PER 1000 S.F. GROSS LEASABLE AREA

PARKING REQUIRED = 27.3 SPACES - PARKING PROVIDED = 28 SPACES

B-2 ZONING CRITERIA

MINIMUM DISTANCE OF STRUCTURES FROM RESIDENTIAL ZONE BOUNDARY = 50'

MINIMUM SIDE YARD SETBACK = 40'

MINIMUM REAR YARD SETBACK = 40'

MAXIMUM LOT BUILDING COVERAGE = 40%

MAXIMUM BUILDING HEIGHT = 40'

NO CONSTRUCTION SHALL BE ALLOWED WITHOUT PRIOR APPROVAL

APPROVED PLANS MUST BE AT CONSTRUCTION SITE

APPLICANT: GARY EUCALITTO, GARRETT HOMES, LLC, 6 WILLIAM WAY, HARWINTON, CT 06791

OWNER: MOHAMAD Y. & RHONDA A. SASA, TRUSTEES, 40 HOPKINS AVE, JOHNSTON, RI 02919

SITE DEVELOPMENT

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SITE DEVELOPMENT PLAN

for
AP 46 LOT 45
HARTFORD AVENUE
 in
JOHNSTON, RHODE ISLAND

SCALE: 1" = 20' SHEET NO: 4 OF 8

DRAWN BY: JAR DESIGN BY: JAR CHECKED BY: TJP

DATE: 11/29/18 PROJECT NO.: LD-18-52

THIS PLAN IS TO BE INDEXED UNDER THE FOLLOWING STREETS. - HARTFORD AVENUE AND PINE GROVE AVENUE

RIDEM OWTS APPLICATION NUMBER 1816-1388
 TH #1
 0"-48" FILL
 GROUNDWATER AT 0"

TH #2
 0"-48" FILL
 GROUNDWATER AT 0"

RIDEM OWTS ORIGINAL APPLICATION NUMBER 0716-0495 APPROVED 1/6/10
 TH #SE-1 GROUNDWATER AT 24"

TH #SE-2 GROUNDWATER AT 24"

A.P. 46 LOT 190
 N/F JOSE F. & MARY V. BORGES
 7 PINE GROVE AVE
 ZONING = R-40

A.P. 46 LOT 35
 N/F NARAYANAN CHIDAMBARAM
 37 N HULL ST E. PROVIDENCE, RI
 PINE GROVE AVE
 ZONING = R-40

A.P. 46 LOT 42
 N/F NARAYANAN CHIDAMBARAM
 PINE GROVE AVE
 ZONING = R-40

A.P. 57 LOT 25
 N/F DANELLA JOSEPH C
 2627 HARTFORD AVE
 ZONING = R-40

A.P. 37 LOT 37
 N/F CASALE THOMAS G. TRUSTEE
 2631 HARTFORD AVE
 ZONING = R-40

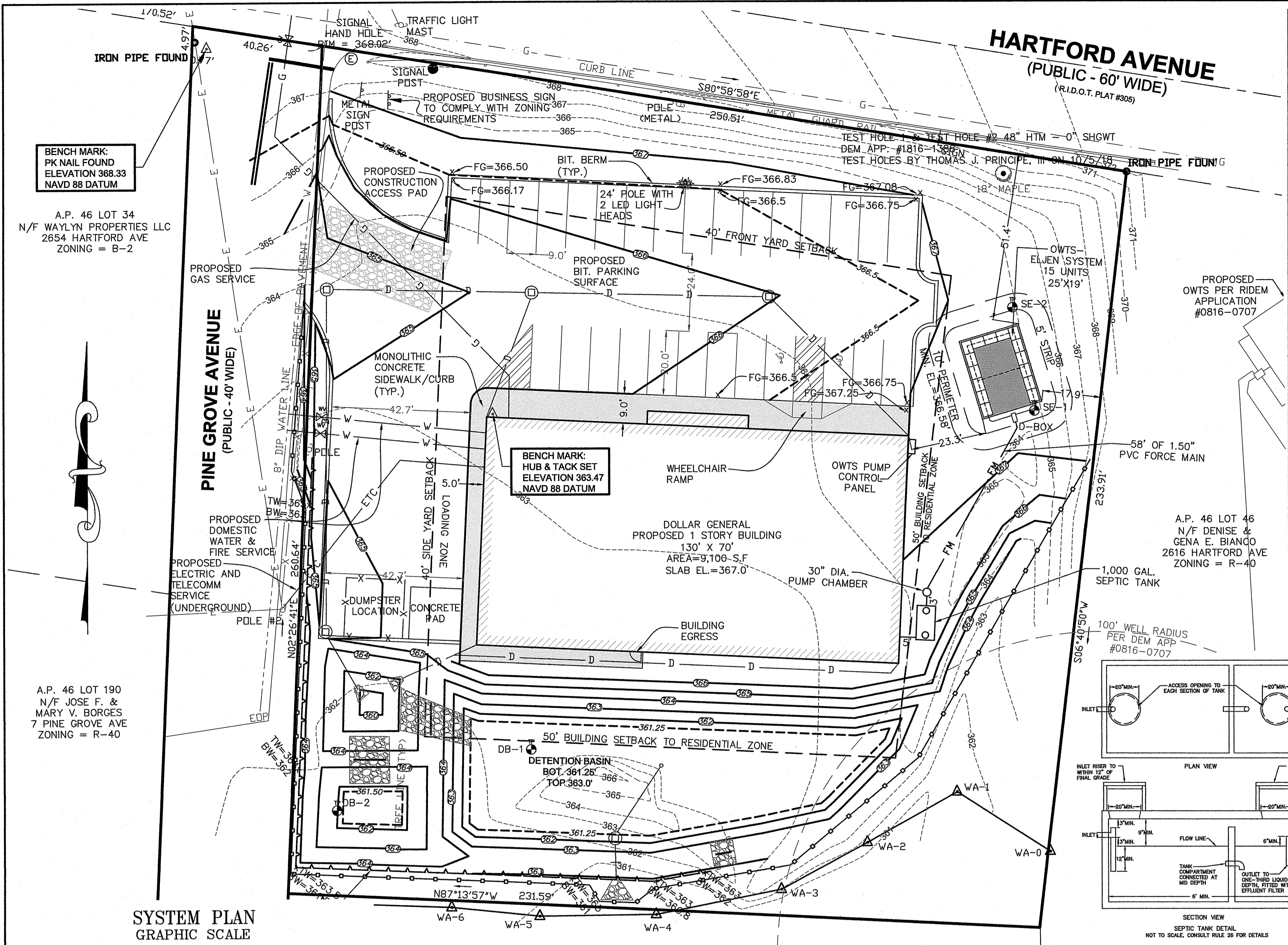
FRAMINGHAM, MA
 2643 HARTFORD AVE
 ZONING = R-40

BENCH MARK:
 PK NAIL FOUND
 ELEVATION 368.33
 NAVD 88 DATUM

A.P. 46 LOT 34
 N/F WAYLYN PROPERTIES LLC
 2654 HARTFORD AVE
 ZONING = B-2

BENCH MARK:
 HUB & TACK SET
 ELEVATION 363.47
 NAVD 88 DATUM

A.P. 46 LOT 46
 N/F DENISE & GENA E. BIANCO
 2616 HARTFORD AVE
 ZONING = R-40



Pump Selection for a Non-Pressurized System
 Dollar General/Hartford Avenue, Johnston

Parameters:

Discharge/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20

Calculations:

Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20
Flow/ft	20

SOILS:
 SOIL EVALUATIONS BY: PATRICIA KELLY
 EXCAVATED DATE: 4/24/07
 DEM APPLICATION NO.: 0716-0495

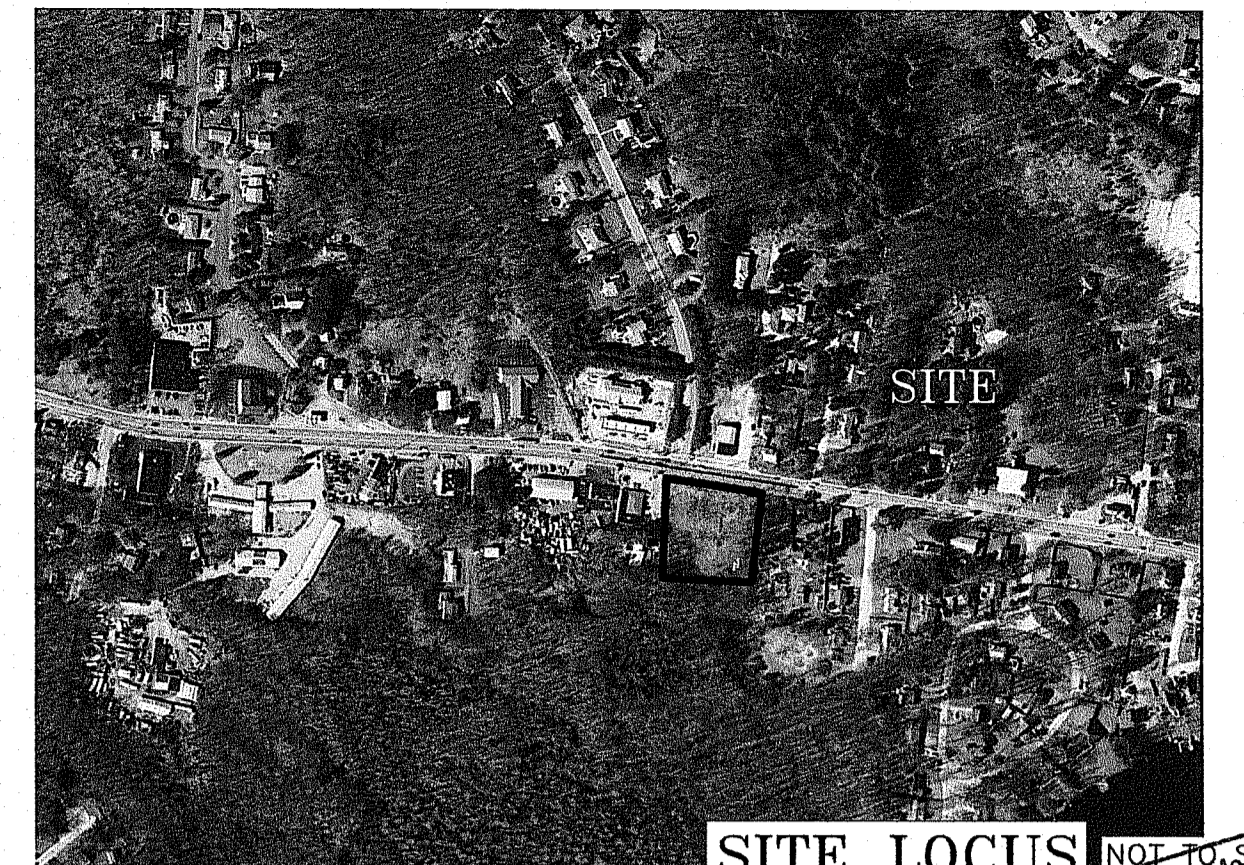
DESIGN CALCULATIONS:

FLOW:
 PROPOSED (15) RETAIL EMPLOYEES AT 15 GPD/EMPLOYEE = 225 GALLONS/DAY

SOILS: SE-1 24" SHGW, SE-2 24" SHGW DEM APP. #0716-0495
 TEST HOLES BY PATRICIA KELLY ON 4/24/07
 USE CAT. 6 SOILS LOADING RATE = 0.60 GAL./SF/DAY

ELJEN IN-DRAIN (TYPE B) SIZING:
 230 GAL./DAY / .60 GAL./SF/DAY = 383.33 SF REQUIRED

ELJEN IN-DRAIN UNITS PROVIDED:
 383.33 SF / 28 SF/UNIT = 14 UNITS REQUIRED; 15 UNITS PROVIDED
 383.33 SF REQUIRED; 420 SF PROVIDED



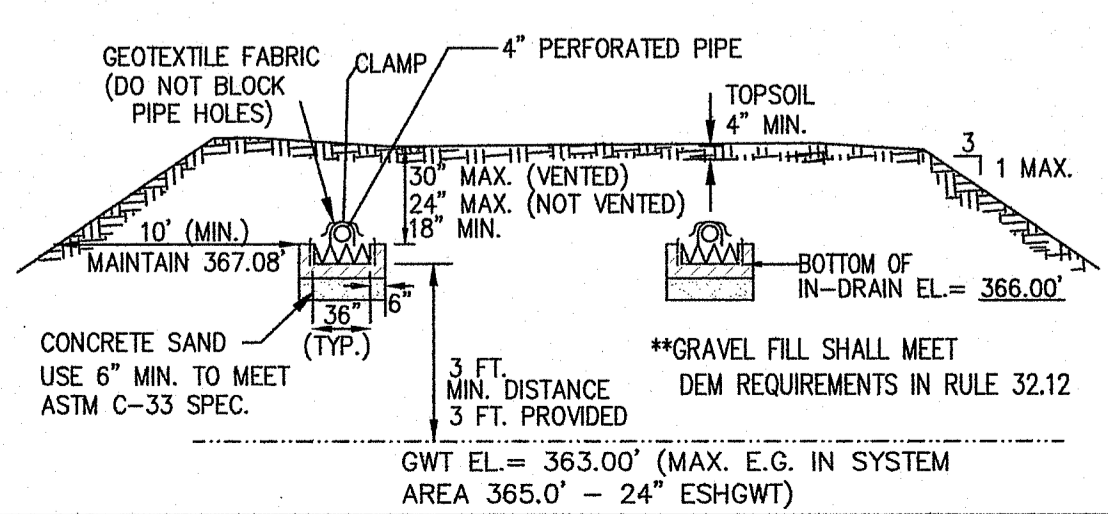
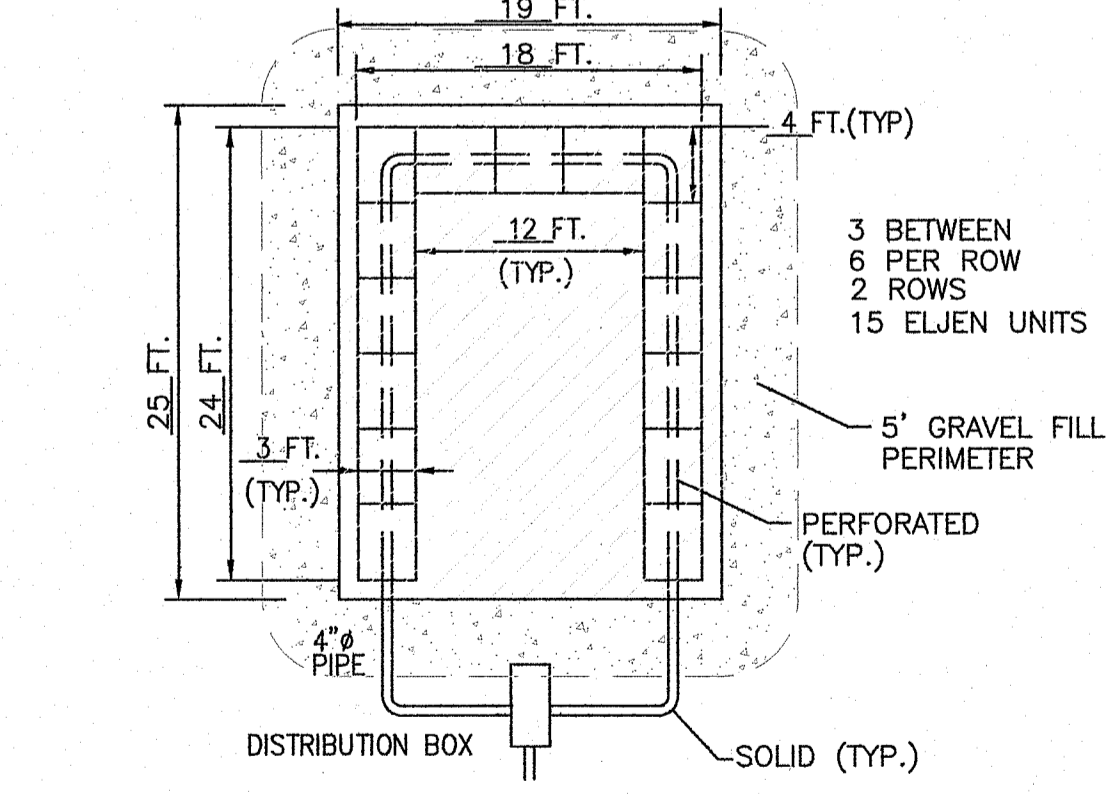
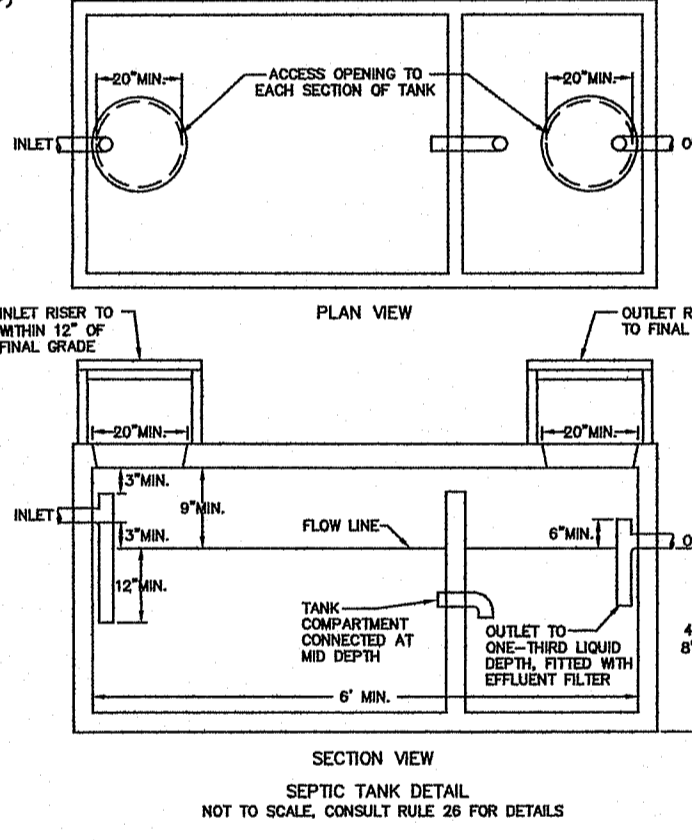
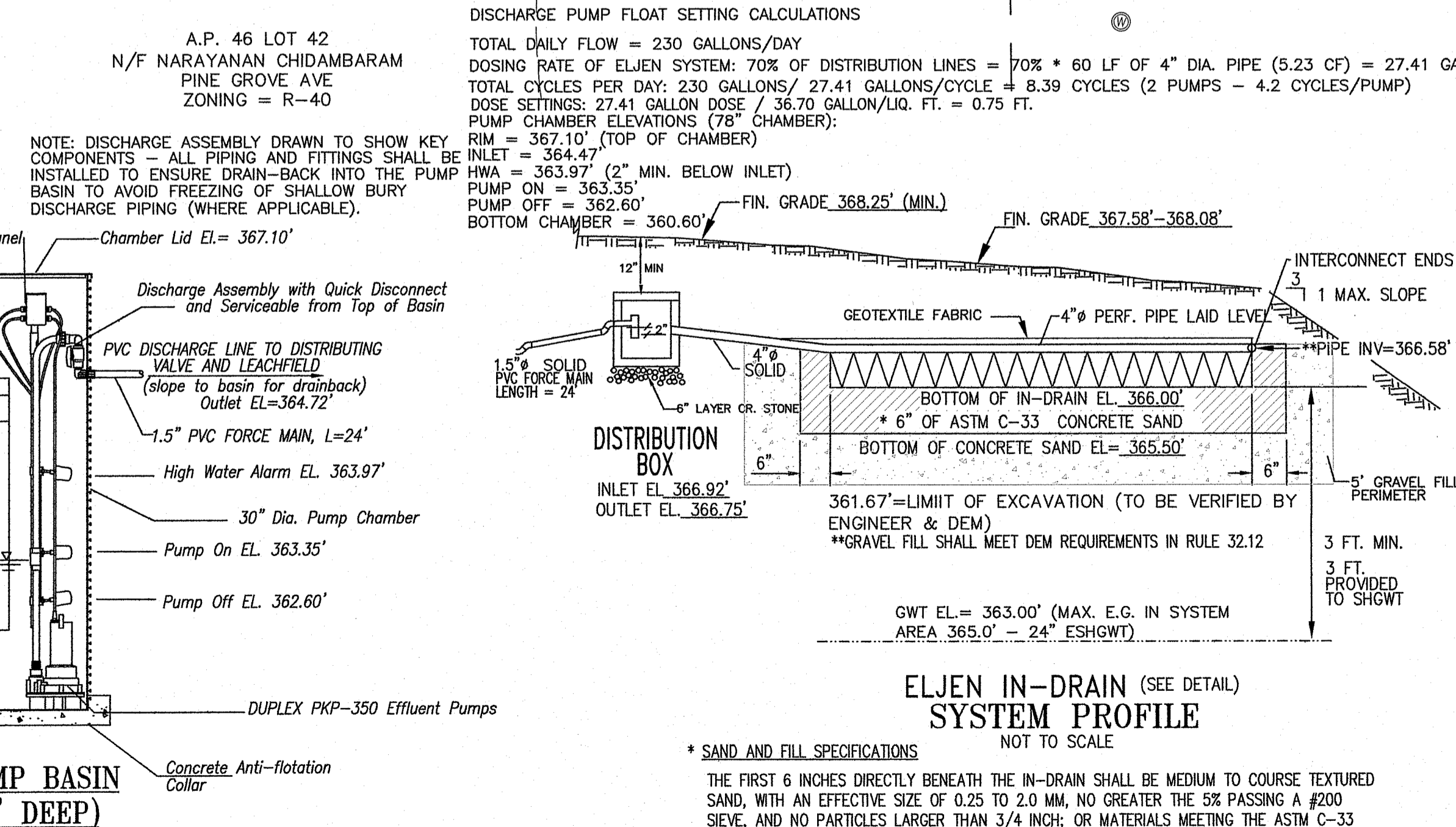
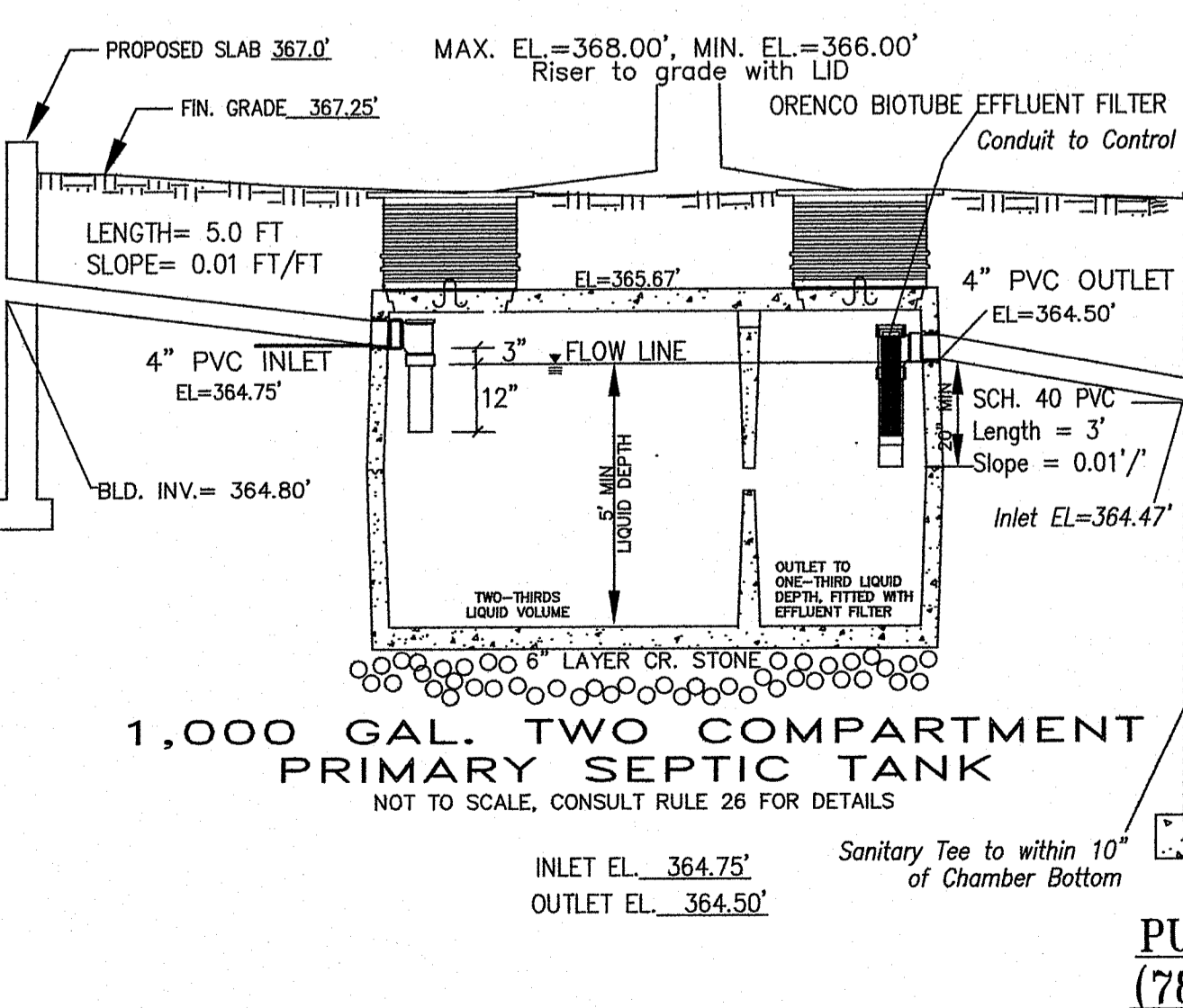
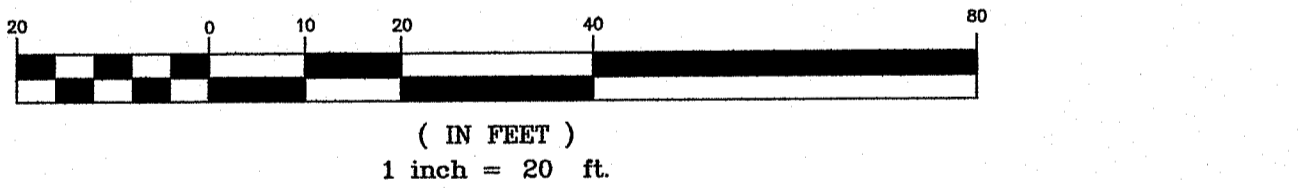
SPECIFICATIONS

- THE SYSTEM FOR SUBSURFACE DISPOSAL OF SANITARY SEWAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, "RULES ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION, AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS" RULE 1 THROUGH RULE 55.
- THE PIPE FROM THE BUILDING TO THE SEPTIC TANK SHALL BE SDR-35 PVC PIPE OR EQUIVALENT. SDR-40 PVC OR EQUIVALENT TO BE USED FOR ALL PORTIONS SUBJECT TO VEHICULAR TRAFFIC.
- SOLID WALL PIPE AND FITTINGS SHALL BE SCHEDULE 35 PVC (POLYVINYL CHLORIDE) MANUFACTURED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ASTM D 3034. JOINTS SHALL BE SOLVENT WELDED TYPE.
- THE SEPTIC TANK MUST HAVE TWO COMPARTMENTS WITH THE FIRST COMPARTMENT HAVING A LIQUID VOLUME THAT IS TWO THIRDS THE REQUIRED VOLUME OF THE ENTIRE TANK. THE SEPTIC TANK SHALL BE WATER TIGHT, AND CONSTRUCTED OF PRECAST REINFORCED CONCRETE, FIBERGLASS, OR OTHER MATERIALS APPROVED BY THE RIDEM. OUTLET TEES MUST BE EQUIPPED WITH AN EFFLUENT SCREEN. THE INLET AND OUTLET TEES MUST HAVE A MINIMUM OF 20 INCH ACCESS OPENINGS. THE OUTLET TEE RISER MUST BE AT FINISH GRADE, AND THE INLET TEE RISER WITHIN 12 INCHES OF FINISH GRADE.
- THE DISTRIBUTION BOX SHALL BE A WATERTIGHT PRECAST CONCRETE STRUCTURE OR OTHER DURABLE MATERIAL MEETING THE REQUIREMENTS OF THE SPECIFICATIONS WITH A BAFFLE AND SUITABLE PIPE PENETRATION KNOCKOUTS.
- WASHED STONE AND OTHER SOIL MATERIALS SHALL BE IN CONFORMANCE WITH THE STATE RULES AND REGULATIONS, RULE 32.0.
- WHENEVER THE SYSTEM IS TO BE CONSTRUCTED WHOLLY OR PARTIALLY IN FILL, THE PROCEDURE AS DEFINED IN RULE 33.5 OF THE STATE RULES AND REGULATIONS SHALL APPLY.
- THE DESIGN INTENT IS TO MEET THE STATE STANDARDS. THE SYSTEM OPERATION IS DEPENDENT ON PROPER USAGE, AND IT'S OPERATION IS NOT GUARANTEED BY THIS PLAN.

NOTE:
 CONTRACTOR TO VERIFY BENCHMARK & EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD AND DESIGN DATA SHOWN HEREON TO BE REPORTED TO THE ENGINEER.

DESIGN NOTES

- UNLESS SPECIFICALLY NOTED, THE PROPOSED OWTS IS NOT WITHIN A WATERSHED OF A PUBLIC WATER SUPPLY OR OTHER CRITICAL RESOURCE AREA.
- UNLESS OTHERWISE NOTED, THERE ARE NO DRINKING WATER LINES, EXISTING OR PROPOSED WITHIN 50 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO NON-POTABLE WATER WELLS, EXISTING OR PROPOSED WITHIN 100 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO EXISTING OR PROPOSED PUBLIC DRINKING WATER SUPPLY WELLS WITHIN 500 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO WATERCOURSES, WETLANDS AND/OR DRAINS (STORM OR SUBSURFACE) WITHIN 200 FEET OF THE PROPOSED OWTS.
- THE SEPTIC TANK WILL BE PROVIDED WITH AN OUTLET TEE, INLET TEE AND RISERS TO GRADE.
- DISTRIBUTION BOX TO HAVE A MINIMUM BOTTOM AREA OF 150 SQ. FT.
- WITHIN TEN (10) FEET OF THE SYSTEM, FINISH GROUND SHALL BE GREATER THAN THE INVERT ELEVATION.
- LEACH FIELD CONSTRUCTION SHALL CONFORM TO RULE 33.0 OF THE SPECIFICATIONS.



*INSTALL TEE IN CONFORMANCE WITH REGULATIONS.
 *CONTRACTOR TO VERIFY BENCHMARK PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD AND DESIGN DATA SHOWN HEREON TO BE REPORTED TO THE ENGINEER

*** SAND AND FILL SPECIFICATIONS**
 THE FIRST 6 INCHES DIRECTLY BENEATH THE IN-DRAIN SHALL BE MEDIUM TO COURSE TEXTURED SAND, WITH AN EFFECTIVE SIZE OF 0.25 TO 2.0 MM, NO GREATER THE 5% PASSING A #200 SIEVE, AND NO PARTICLES LARGER THAN 3/4 INCH, OR MATERIALS MEETING THE ASTM C-33 SPECIFICATION. CONCRETE OR WASHED SAND IS A RELIABLE CHOICE. SUITABILITY OF BANK RUN SAND OR SITE DISPOSAL AREA SOIL MUST BE VERIFIED.
 **GRAVEL FILL SHALL MEET DEM REQUIREMENTS IN RULE 32.12

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1	1/18/19	TJP	TJP
2	2/12/19	JT	TJP
3	2/21/19	JT	TJP
4	3/13/19	TJP	TJP

ON-SITE WASTEWATER TREATMENT SYSTEM
 for
AP 46 LOT 45
HARTFORD AVENUE
 in
JOHNSTON, RHODE ISLAND

SCALE: 1"=20' SHEET NO: 5 OF 8
 DRAWN BY: JAR DESIGN BY: JAR CHECKED BY: TJP
 DATE: 11/29/18 PROJECT NO.: LD-18-52

GENERAL NOTES

- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
- IT SHALL ALSO BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ADJUTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
- BEFORE STARTING ANY CONSTRUCTION THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ANY HYDRANTS, WATER MAINS, BLOWOFF ASSEMBLIES, FITTINGS, AND VALVES WITH THE LOCAL WATER DEPARTMENT AS TO TYPE AND MANUFACTURER.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY COMPANY. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
- ALL WORK PERFORMED HEREIN SHALL BE COVERED BY THE "R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (REVISION OF 1997)" WITH ALL CORRECTIONS AND ADDENDA AND THE 1974 R.I. STANDARD DETAILS WITH ALL CORRECTIONS AND ADDENDA AND THE TOWN OF WARREN STANDARD SPECIFICATIONS AND DETAILS.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE-OFF IN COMPUTING ANY ESTIMATES.
- EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEEDED, SEE EROSION CONTROL PROGRAM.
- UNLESS OTHERWISE SPECIFIED, ALL STORM DRAINS SHALL BE REINFORCED CONCRETE CLASS III PIPE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS. THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO SITE, ANY REPAIRS, ANY TRENCHING REQUIRED, HYDRANTS, ANY AND ALL CONSTRUCTION FOR ACCEPTANCE OF ROADS AND EASEMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. "DIG SAFE" SHALL BE CONTACTED BY THE CONTRACTOR AS PART OF THIS VERIFICATION.
- IN ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
- ALL WATER MAINS SHALL BE DEFLECTED ALONG A CURVE WITH A MINIMUM RADIUS OF 250' AT ANY LOCATION WHERE THIS IS NOT POSSIBLE, PROPER BENDS AND FITTINGS SHALL BE USED.
- ALL EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF SITE, IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

EROSION CONTROL & SOIL STABILIZATION PROGRAM

- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
- ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE, FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
- 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 WITH R.I. STD SPECIFICATION M 18.
- THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING PERMANENT SEEDING MIXTURES:

A. MOWED AREA (ALL FLATS OR SLOPES LESS THAN 3:1)

MIXTURE:	% BY WEIGHT:	SEEDING DATES:
RED FESCUE	75	APRIL 1 - JUNE 15
KENTUCKY BLUEGRASS	15	AUGUST 15 - OCTOBER 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	
TOTAL:	100 lbs/Ac.	

B. UNMOWED AREA OR INFREQUENTLY MOWED (ALL SLOPES GREATER THAN 3:1)

MIXTURE:	% BY WEIGHT:	SEEDING DATES:
RED FESCUE	75	APRIL 1 - JUNE 15
COLONIAL BENTGRASS	5	AUGUST 15 - OCTOBER 15
PERENNIAL RYEGRASS	5	
BIRDFOOT TREFOL	15	
TOTAL:	100 lbs/Ac.	

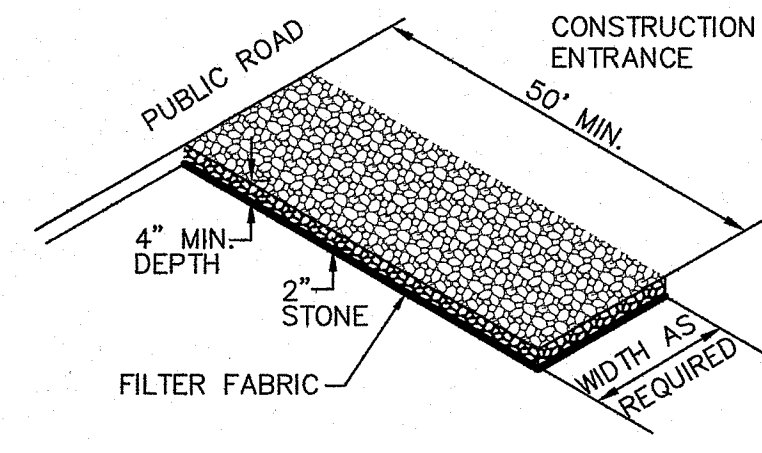
- TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS) THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
 - HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 - 4,000 lbs/Ac.
 - ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP MINIMIZE THE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:
- | MIXTURE: | lbs./1,000 S.F. | lbs/Ac. | SEEDING DATES: |
|---------------------|-----------------|----------|----------------|
| ANNUAL RYEGRASS | 1.0 - 1.5 | 40 - 60 | 3/1 - 6/1 |
| PERENNIAL RYEGRASS | 1.0 - 1.5 | 40 - 60 | 3/1 - 6/1 |
| SUDAN GRASS | 0.7 - 1.0 | 30 - 40 | 5/15 - 8/15 |
| MILLET | 0.7 - 1.0 | 30 - 40 | 5/15 - 8/15 |
| WINTER RYE | 3.0 | 120 | 4/15 - 6/15 |
| OATS | 0.5 - 5.0 | 86 - 120 | 3/1 - 6/15 |
| WEEDING COVER GRASS | 0.5 - 5.0 | 5 - 20 | 5/1 - 7/1 |
- THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
 - ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STD SPECIFICATIONS SECTION 202.
 - STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
 - STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS, THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
 - ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
 - REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION
 - THE DRAINAGE SYSTEM SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE TO THE OVERALL PROJECT BY THE OWNER. SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

ORDER OF PROCEDURE:

- PRIOR TO ANY CLEARING AND GRUBBING OR ANY ROUGH GRADING, TEMPORARY HAYBALES AND SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF CONSTRUCTION AS PER THE PLANS (I.E. ALONG ROADWAYS, STREAM BANKS, CRITICAL AREAS, ETC.).
- ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL.
- IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
- TEMPORARY HAYBALES AND SANDBAGS ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
- HAYBALES LOCATED AT DRAINAGE OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

SEDIMENTATION CONTROL PROGRAM:

- RIP RAP SPLASH PADS SHALL BE INSTALLED AT THE OUTLETS FOR ALL CULVERTS DISCHARGING INTO A WATERWAY.
- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL ENTERING THE WETLANDS.
- ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL BE SEEDED AND PROTECTED WITH A FIBER MULCH.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- CARE SHOULD BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOW.
- ADDITIONAL HAYBALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT.
- ALL SEDIMENTS SHALL BE REMOVED FROM THE DRAINAGE AND DETENTION FACILITIES AS SCHEDULED FOR EACH FACILITY (SEE DETENTION BASIN MAINTENANCE, THIS SHEET).
- REFERENCE THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE.



MATERIALS SIZE

SQUARE MESH SIEVES	2" CRUSHED STONE OR GRAVEL	ASTM C-33 NO. 2	ASTM C-33 NO. 3
2-1/2 INCHES	100	90-100	100
2 INCHES	95-100	35-70	90-100
1-1/2 INCHES	30-55	0-15	35-70
1-1/4 INCHES	0-25	-	-
1 INCH	0-5	-	0-15
3/4 INCH	-	0-5	-
1/2 INCH	-	-	0-5
3/8 INCH	-	-	-

NOTE: STABILIZATION PAD TO BE IN CONFORMANCE WITH STANDARDS SET FORTH IN THE "RHODE ISLAND GUIDELINES FOR SOIL & SEDIMENT CONTROL".

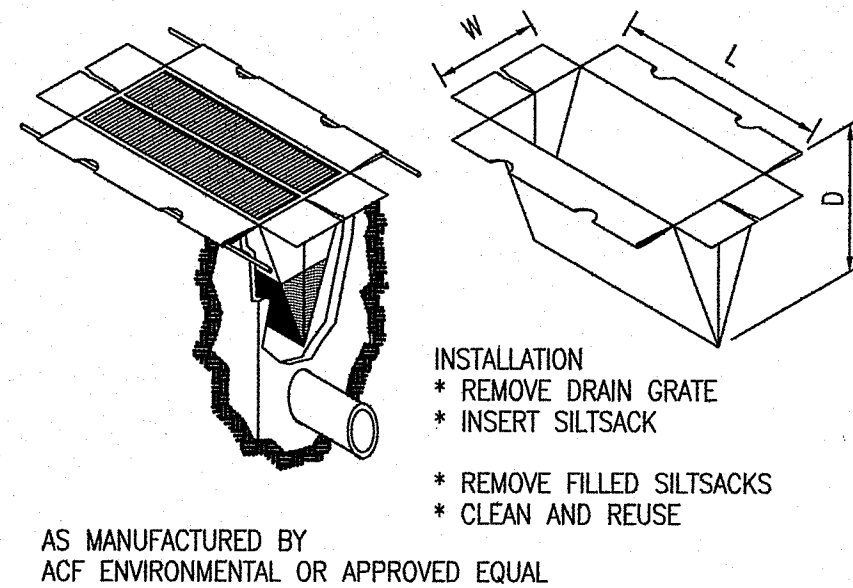
RIP-RAP STABILIZATION PAD @ CONSTRUCTION ENTRANCE NOT TO SCALE

CATCH BASIN SEDIMENTATION CONTROL AND MAINTENANCE:

- AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE NEW ROADWAY BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH HAYBALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
- HAYBALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL CATCH BASINS UNTIL ALL UPGRADIED DISTURBED AREAS ARE STABILIZED BY PAVEMENT OR VEGETATION.
- ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE DEVELOPER OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS CLEANED.
- AFTER ACCEPTANCE OF THE ROADWAY BY THE TOWN OF WARREN, ALL MAINTENANCE OF CATCH BASINS SHALL BE THE RESPONSIBILITY OF THE TOWN OF WARREN AND FOLLOW THE STANDARD MAINTENANCE SCHEDULE OF THE TOWN.

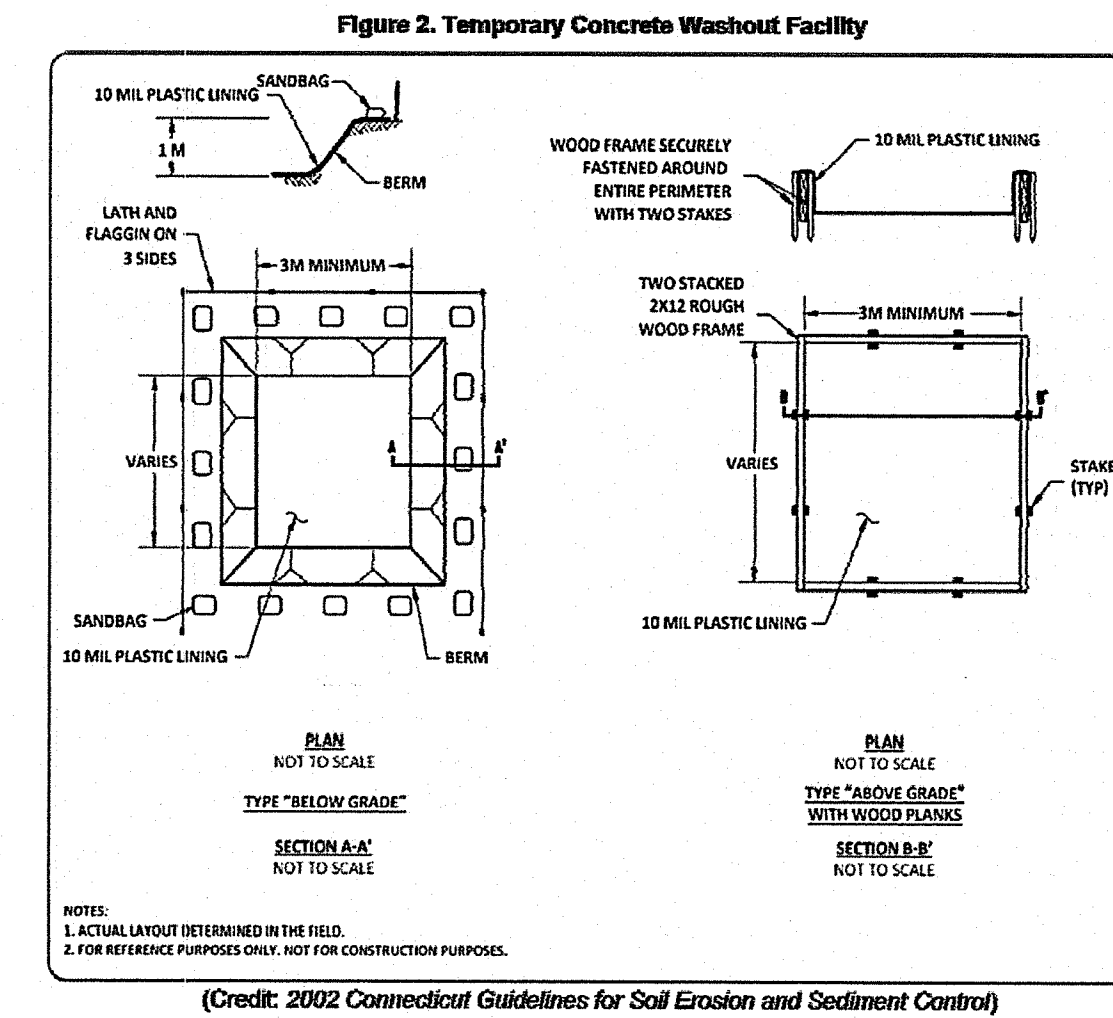
VEGETATIVE COVER AND PLANTING

- THE NORMAL ACCEPTABLE SEASONABLE SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
 - TOP SOIL FOR PERMANENT OR LONG TERM TEMPORARY SEEDING SHOULD HAVE A SANDY LOAM TEXTURE, RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS. TOP SOIL SHALL CONFORM WITH RHODE ISLAND SPECIFICATIONS M18.01.
 - THE DESIGN SEED MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:
- | TYPE | % BY WEIGHT | SEEDING DATE |
|---------------------|-------------|--------------|
| CREeping RED FESCUE | 70 | 3/1 - 6/1 |
| ASTORIA BENTGRASS | 5 | 5/15 - 8/15 |
| BIRDFOOT TREFOL | 15 | 4/15 - 6/15 |
| PERENNIAL RYE GRASS | 10 | 3/1 - 6/15 |
- APPLICATION RATE - 100 LBS PER ACRE
- SEED MIX SHALL BE INOCULATED WITHIN 24 - HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULATION FOR EACH SEED VARIETY. ALTERNATE SEED TYPES DUE TO SITE SPECIFIC CONDITIONS AND SOILS ARE ACCEPTABLE WITH THE ENGINEER'S APPROVAL.
- IN TOPSOIL SEEDING AREAS, THE CONTRACTOR WILL LIME AND FERTILIZE AS REQUIRED TO COMPLIMENT OR UPGRADE SOIL CONDITIONS.
 - THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY PERMANENT VEGETATIVE COVER AREAS THAT DO NOT DEVELOP OR WHICH ERODE WITHIN A ONE (1) YEAR PERIOD.



SILTSACK DETAIL NOT TO SCALE

Section Three: Pollution Prevention and Good Housekeeping

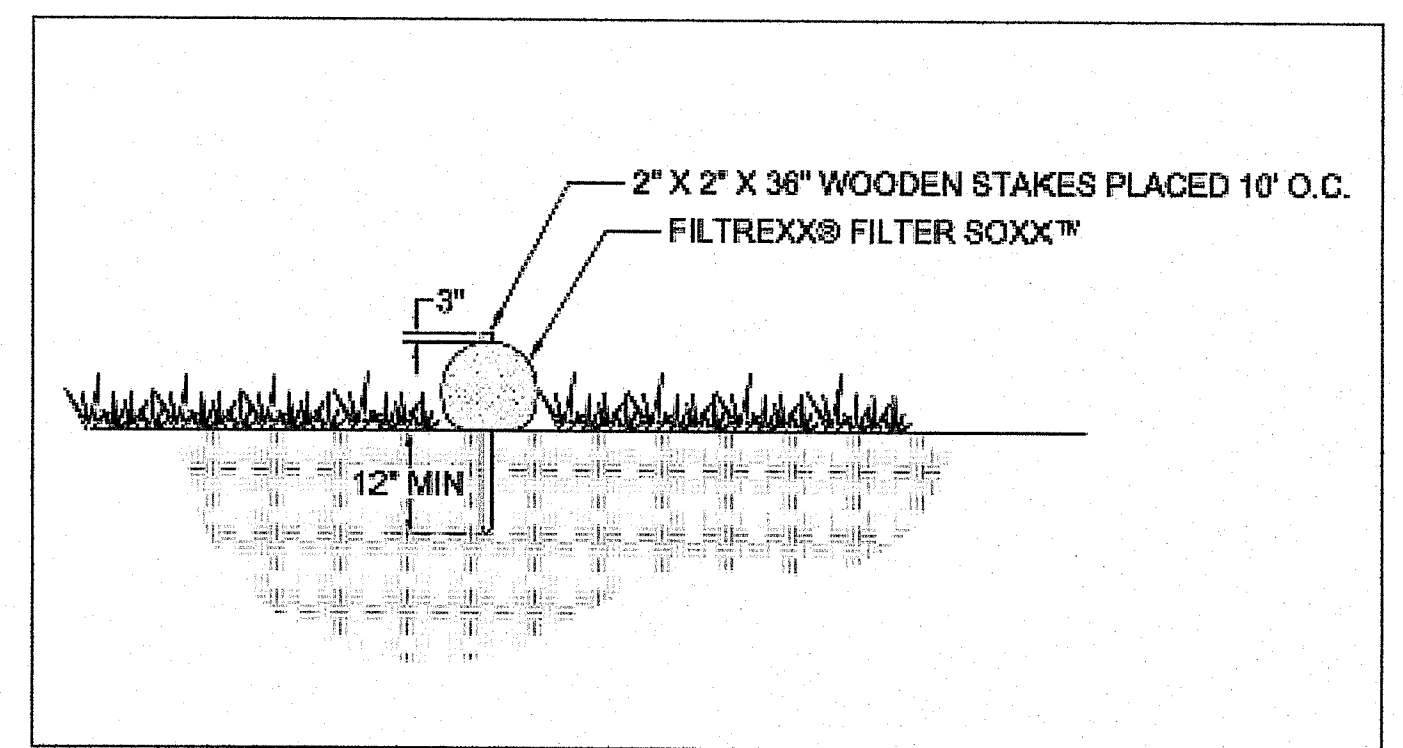


- Self-installed above-grade washouts on larger sites must be at least 10 feet wide by 10 feet long and sized to contain all liquid and solid waste expected to be generated in between cleanout periods. Washouts at smaller sites can be smaller according to the expected capacity needed. Include a minimum of 12 inch freeboard in the sizing calculations. One can make the structures from stacked straw bales or sandbags double- or triple-lined with plastic sheeting of at least 10-mil thickness that has no holes or tears.
- Self-installed below-grade washouts should be constructed as shown on the details at the end of this measure, with a recommended minimum length and minimum width of 10 ft. They must be sized to contain all liquid and solid waste expected to be generated in between cleanout periods.
 - Lath and flagging should be commercial type.
 - Plastic lining material shall be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears or other defects that compromise the impermeability of the material.
 - Liner seams shall be installed in accordance with manufacturers' recommendations.

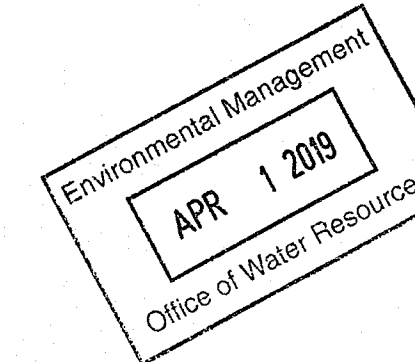
Rhode Island Soil Erosion and Sediment Control Hand Book (Revised August 2014)

TEMPORARY CONCRETE WASHOUT FACILITY EROSION CONTROL, SOIL STABILIZATION AND SEDIMENT CONTROL PLAN

- PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRUBBING, DEMOLITION OR EARTHWORK ACTIVITY, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS ARE TO BE INSTALLED BY THE CONTRACTOR.
- CONSTRUCTION ACCESS STABILIZATION ENTRANCE PADS ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF SITE GRUBBING OR EARTHWORK ACTIVITY.
- EXISTING CATCH BASINS ARE TO BE PROTECTED WITH HAY BALES AND/OR SILT SACS PRIOR TO THE START OF SITE GRUBBING, EARTHWORK OR UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE INSTALLATION TO SERVE THE DEVELOPMENT SITE.
- THE PROJECT CONSTRUCTION SEQUENCE, TO THE EXTENT PRACTICAL, SHOULD REQUIRE THE INSTALLATION OF DOWN GRADE AND OFF SITE STORM DRAINAGE SYSTEM IMPROVEMENTS BEFORE THE START OF SITE GRUBBING AND EARTHWORK ACTIVITY.
- TEMPORARY SITE SLOPE TREATMENTS FOR SOIL STABILIZATION SHALL CONSIST OF HAY, STRAW, FIBER MULCH, RIP RAP OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, AND EXCELSIOR OR EQUAL PRODUCTS). THESE AND OTHER ACCEPTABLE MEASURES SHALL BE INCORPORATED INTO THE SITE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- CONSTRUCTION SITES ARE DYNAMIC, THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OR MOVEMENT AND MAINTENANCE OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MAXIMIZE THE INTENT OF THE PLAN FOR ALL SITE CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION, MAINTENANCE, REPAIR, AND REPLACEMENT OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL DEVICES UNTIL AN ACCEPTABLE PERMANENT VEGETATIVE GROWTH IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A DETAILED LOG OF ALL EROSION CONTROL INSPECTIONS, COMPLAINTS RELATED TO EROSION OR SEDIMENT, AND CORRECTIVE REMEDIAL MEASURES TAKEN THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION.
- SOIL EROSION AND SEDIMENT CONTROL IS NOT LIMITED TO DAMAGES CAUSED BY WATER BUT ALSO INCLUDES EROSION AND SEDIMENT RESULTING FROM WINDS. MEASURES, SUCH AS TEMPORARY GROUND COVERS, WATER AND CALCIUM APPLICATIONS ARE TO BE UNDERTAKEN AS NEEDED TO MINIMIZE WIND RELATED SOIL AND DUST CONTROL.
- STOCK PILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. STOCK PILES SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%). STOCK PILES SHALL BE SURROUNDED ON THE DOWN GRADIENT OF THE EXISTING GROUND SURFACE BY HAY BALES OR SILT FENCE. THE STOCK PILES SHALL ALSO BE SEEDED OR STABILIZED IN SOME MANNER TO PREVENT SOIL EROSION.
- THE SMALLEST POSSIBLE SITE AREAS SHALL BE DISTURBED OR EXPOSED AT ONE TIME AND DENUDED SLOPES OR WORK AREAS SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS INACTIVE PERIODS OR SITE WORK SHUT DOWNS.
- TO THE EXTENT POSSIBLE, ALL DISTURBED AREAS MUST BE SEEDED OR STABILIZED WITHIN THE CONSTRUCTION SEASON. STABILIZATION OF ONE FORM OR ANOTHER SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
- EXPOSED STEEP OR LONG SLOPES SHOULD BE TREATED WITH "CRIMPING" OR "TRACKING" TO REDUCE EROSION AND SEDIMENT AND TO TACK DOWN SEEDING OR MULCH APPLICATIONS.
- IF CONCRETE IS TO BE USED ON SITE, THE CONTRACTOR MUST ESTABLISH AND MAINTAIN SPECIFIC WASHOUT AREAS FOR THE CONCRETE TRUCKS WITH APPROPRIATE PROTECTION CONTROLS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING COLLECTION AND STORAGE LOCATIONS ON-SITE FOR ALL CONSTRUCTION DEBRIS AND TRASH SO THAT THIS MATERIAL DOES NOT BECOME A NEIGHBORHOOD NUISANCE.
- EXISTING TREES AND VEGETATION WILL BE RETAINED WHENEVER FEASIBLE.
- SOIL EROSION AND SOIL STABILIZATION AND SEDIMENT CONTROLS MUST CONFORM TO ALL REQUIREMENTS OF THE APPLICABLE LOCAL COMMUNITY ORDINANCES AND STATE REGULATIONS.



FILTER SOCK NOT TO SCALE



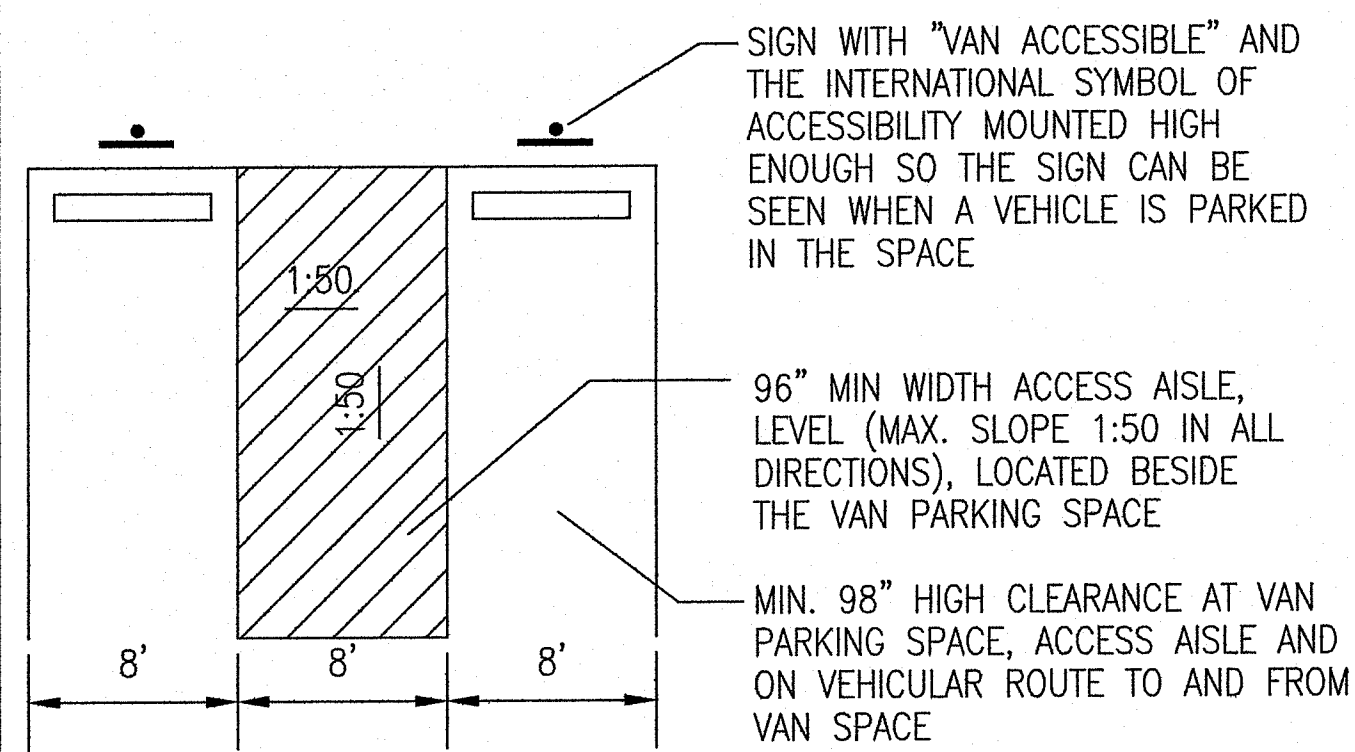
CONSTRUCTION DETAILS 1

	PRINCIPE COMPANY, INC. ENGINEERING DIVISION PO BOX 298 TIVERTON, RI 02878 401.816.5385 PRINCIPLEENGINEERING@GMAIL.COM	
	SITE DEVELOPMENT PLAN for AP 46 LOT 45 HARTFORD AVENUE in JOHNSTON, RHODE ISLAND	
SCALE: AS NOTED DRAWN BY: JAR DATE: 11/29/18		SHEET NO: 6 OF 8 DESIGN BY: JAR CHECKED BY: TJP PROJECT NO.: LD-18-52

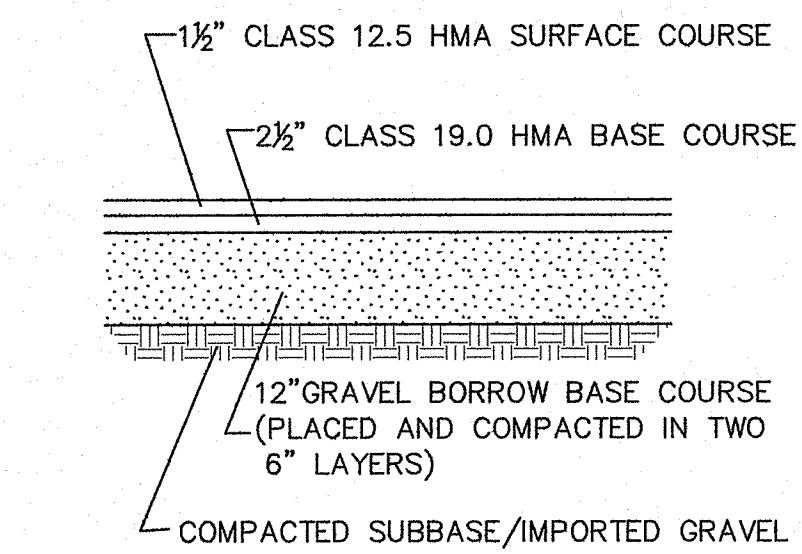
REVISIONS

No.	DATE	DRWN	CHKD
1	1/18/19	TJP	TJP
2	3/13/19	TJP	TJP

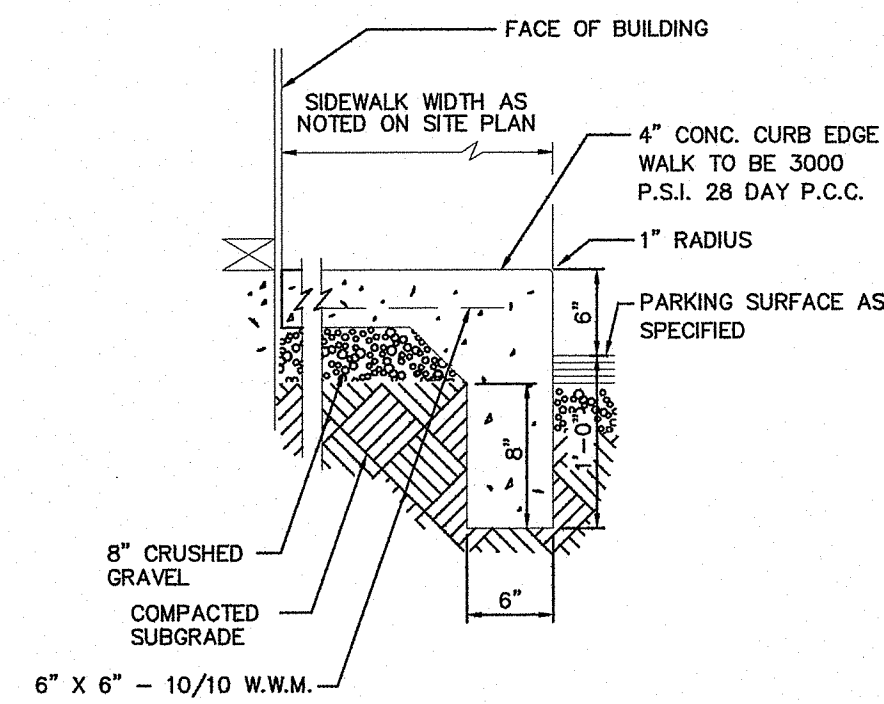
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED MAY 2 2019 FILE # 09-0275
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



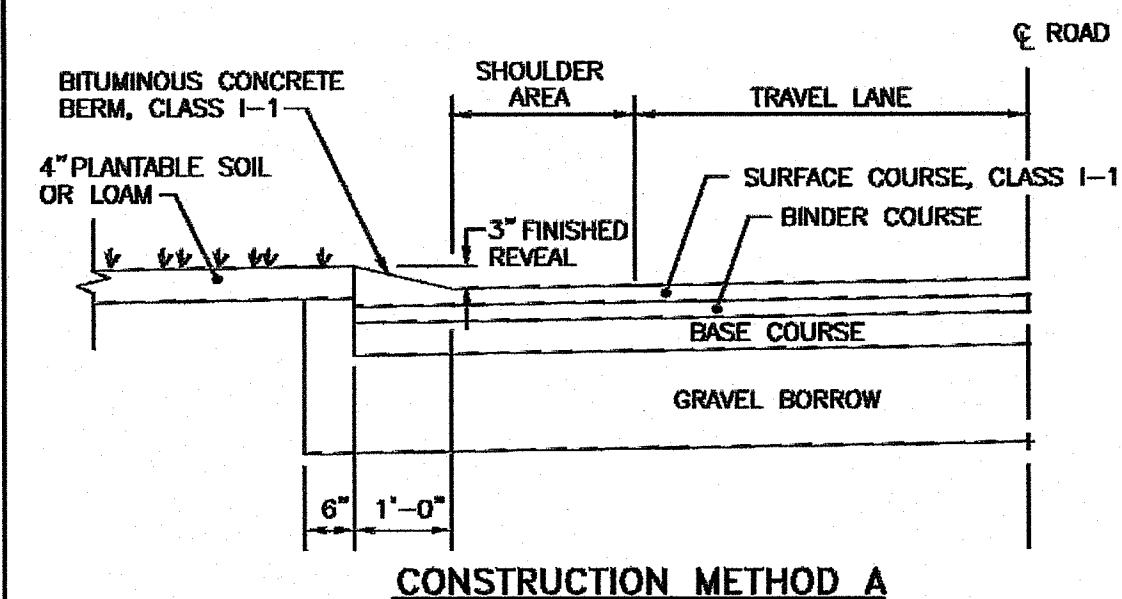
HANDICAP PARKING SPACES
NOT TO SCALE



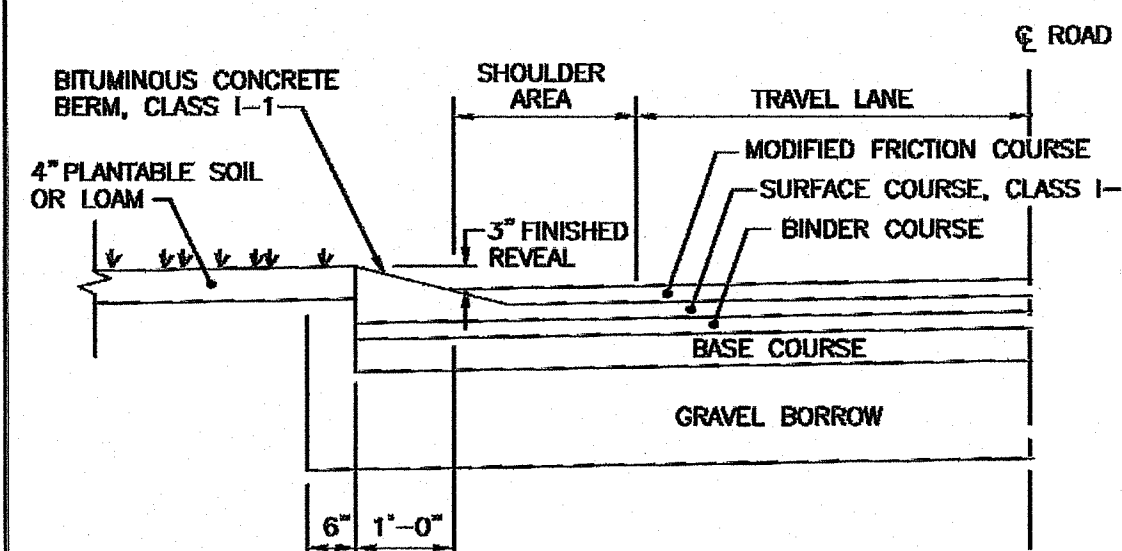
PAVEMENT TYPICAL CROSS SECTION
NOT TO SCALE



**MONOLITHIC CURB/SIDEWALK
DETAIL AT BUILDING**
NOT TO SCALE



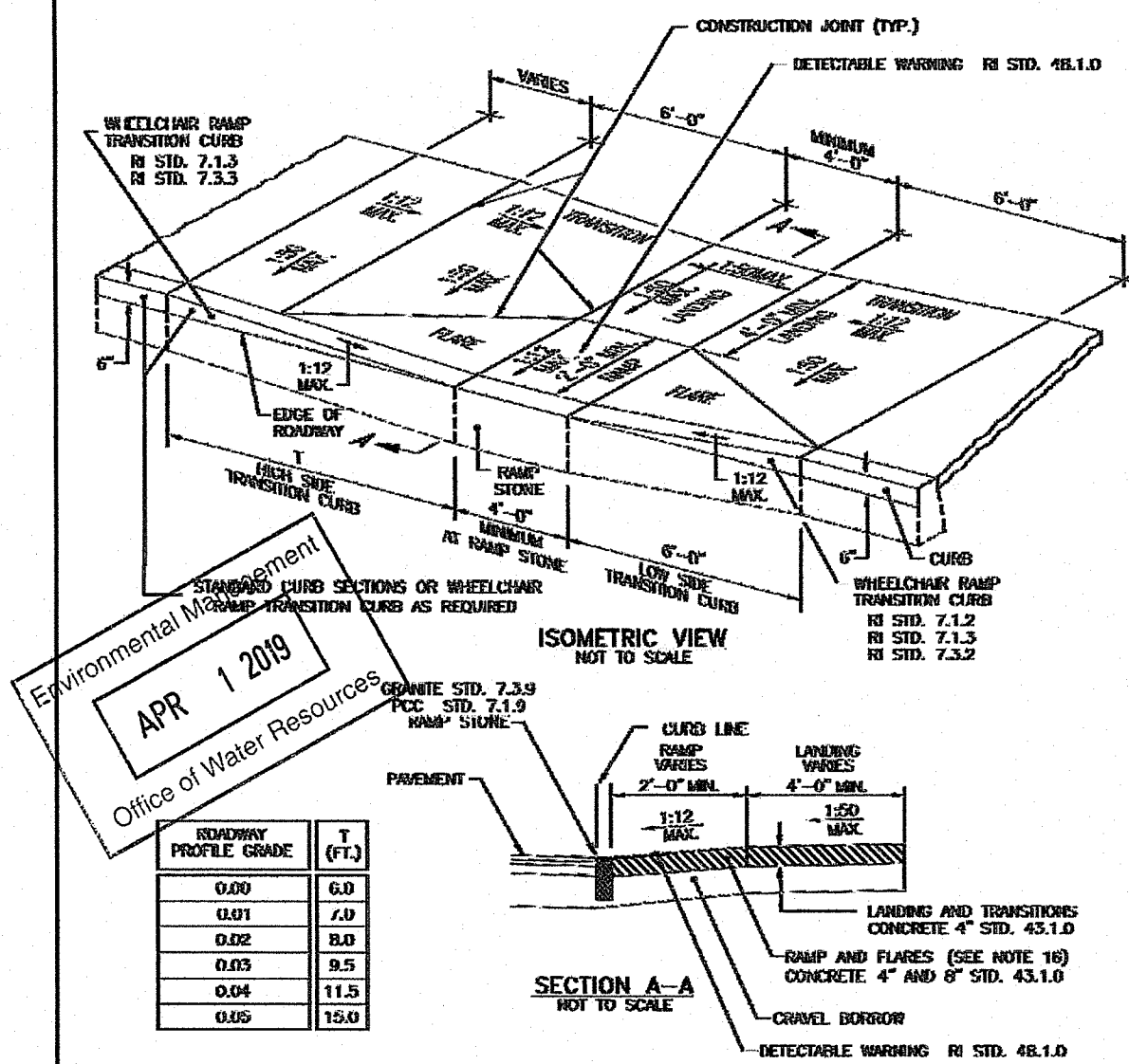
CONSTRUCTION METHOD A



CONSTRUCTION METHOD B

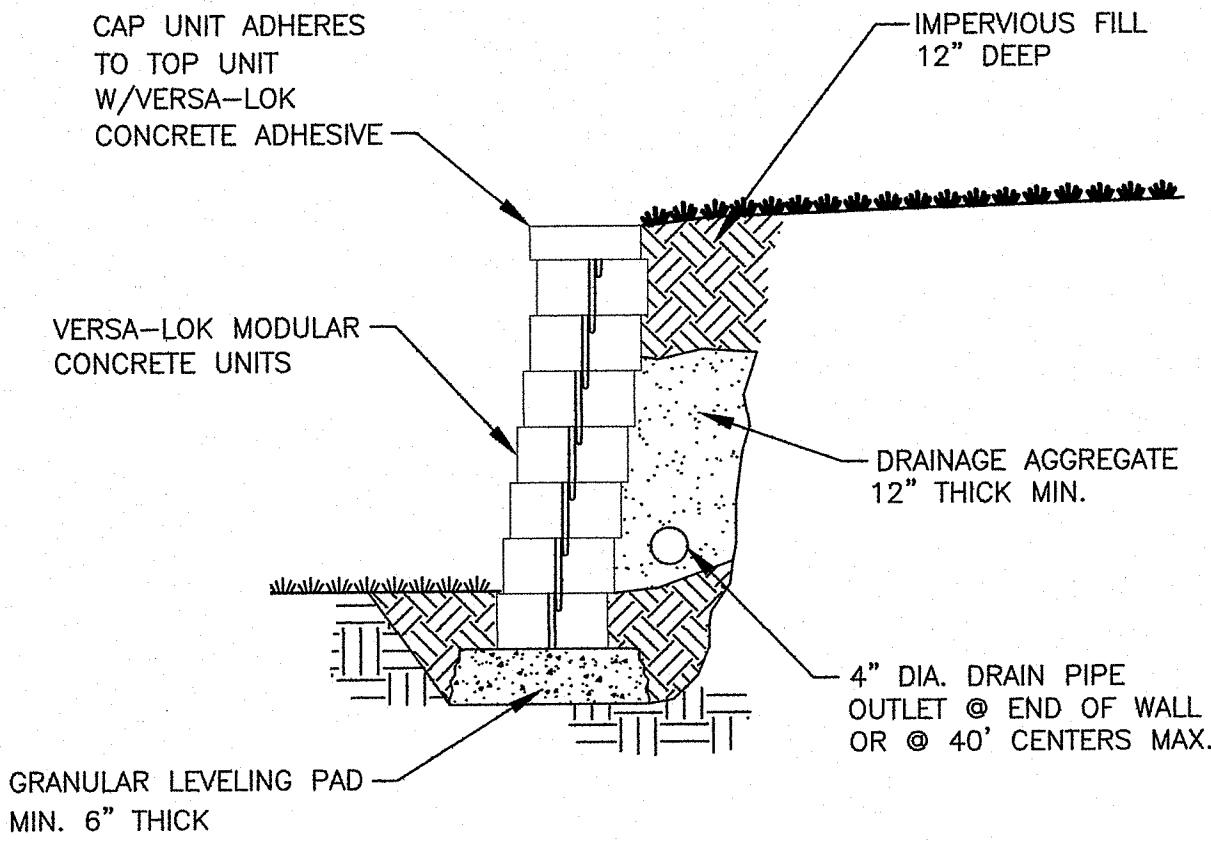
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

REVISIONS			R.I. STANDARD 7.5.1	
NO.	BY	DATE	DATE	DATE
1	M.P.	Mar 05	JUNE 15, 1998	

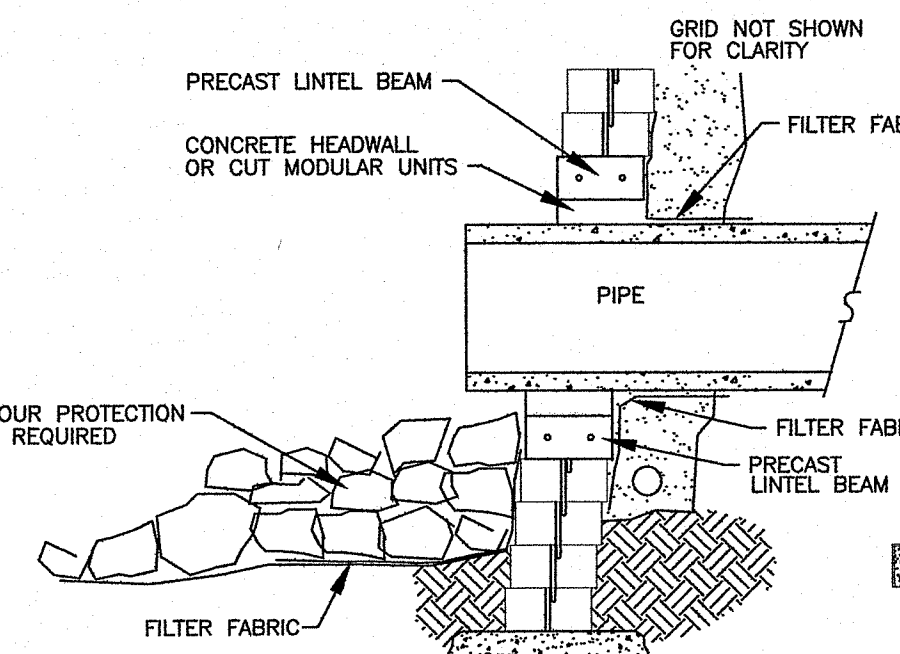


REVISIONS	DATE
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2	0.01
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4	0.03
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6	0.05

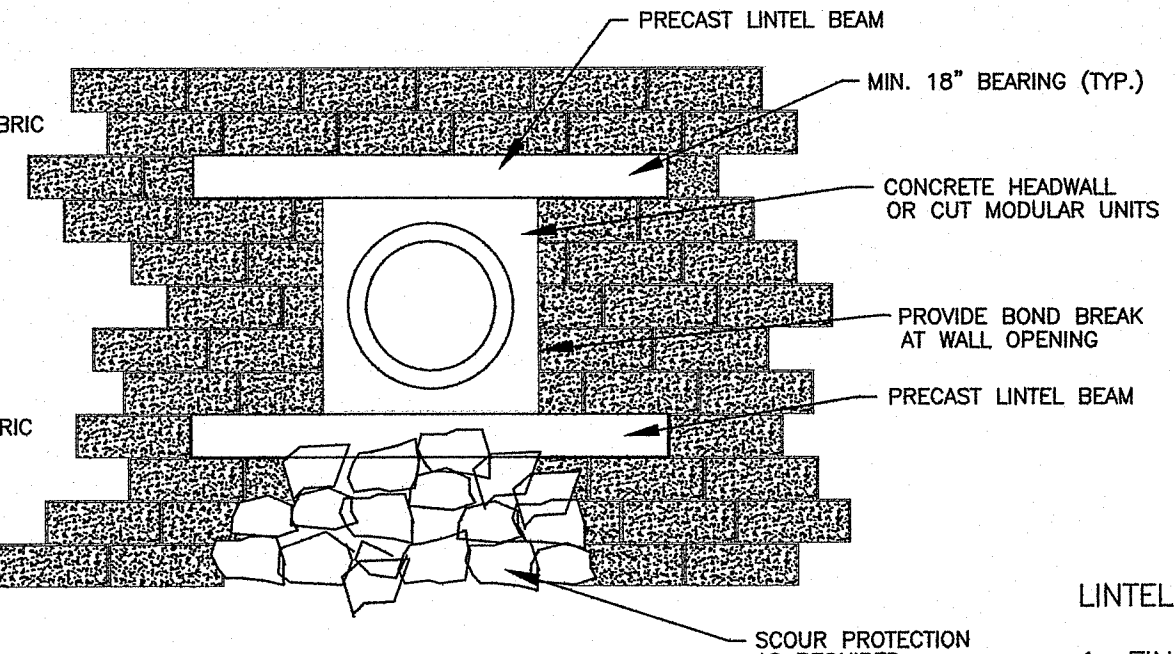
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. BREAK AWAY CONSTRUCTION LOCATED IN THE SIDEWALK SHALL BE A CROSSWALK AREA. THE WHEELCHAIR RAMP SHALL BE PLACED SUCH THAT THE CONSTRUCTION FALLS OUTSIDE OF THE RAMP.
3. AT THE END OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK AND IT IS TO BE CONSIDERED WHEELCHAIR ACCESSIBLE.
4. WHEELCHAIR RAMP SHALL BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMP.
5. LOCATION OF WHEELCHAIR RAMP SHALL BE AS SHOWN ON DRAWING UNLESS OTHERWISE NOTED.
6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
7. AN UNDESIRABLE FLOOR OF THREE WITH A MINIMUM WIDTH OF 2'-0" SHALL BE MAINTAINED.
8. THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPE (CONSTRUCTION) MUST NOT BE STEEPER THAN 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WITH THE APPROVAL OF THE ENGINEER.
9. WHERE THE RAMP PROFILE EXCEEDS THE HIGH SIDE TRAVEL LENGTH (T) SHALL BE EXCEEDED FEET (10'-0").
10. IN NO CASE WHERE A STOP LINE IS REQUIRED SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
11. THE ELEVATION OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
12. THE WHEELCHAIR RAMP SHALL BE CONSTRUCTED TO OPPOSITE THE CURB FROM THE ROADWAY.
13. MINIMUM LENGTH OF STRAIGHT OR CURVED RAMP SHALL BE 3'-0" (SEPARATE LENGTHS PERMITTED).
14. ALL REBAR ENDINGS OF CURB SHALL BE TO THE MINIMUM LENGTH OF 6" FROM THE END OF THE CURB.
15. DETECTABLE WARNING TO BE PAID FOR UNDER SECTION 904 OF THE R.I. STANDARD SPECIFICATIONS.
16. 4" CONCRETE DEPTH FOR RAMP WHEELCHAIR RAMP ONLY. USE 4" DEPTH FOR TRUCK (RED-BLOCK) LOCATIONS.



TYPICAL SECTION-UNREINFORCED RETAINING WALL
SCALE: NONE

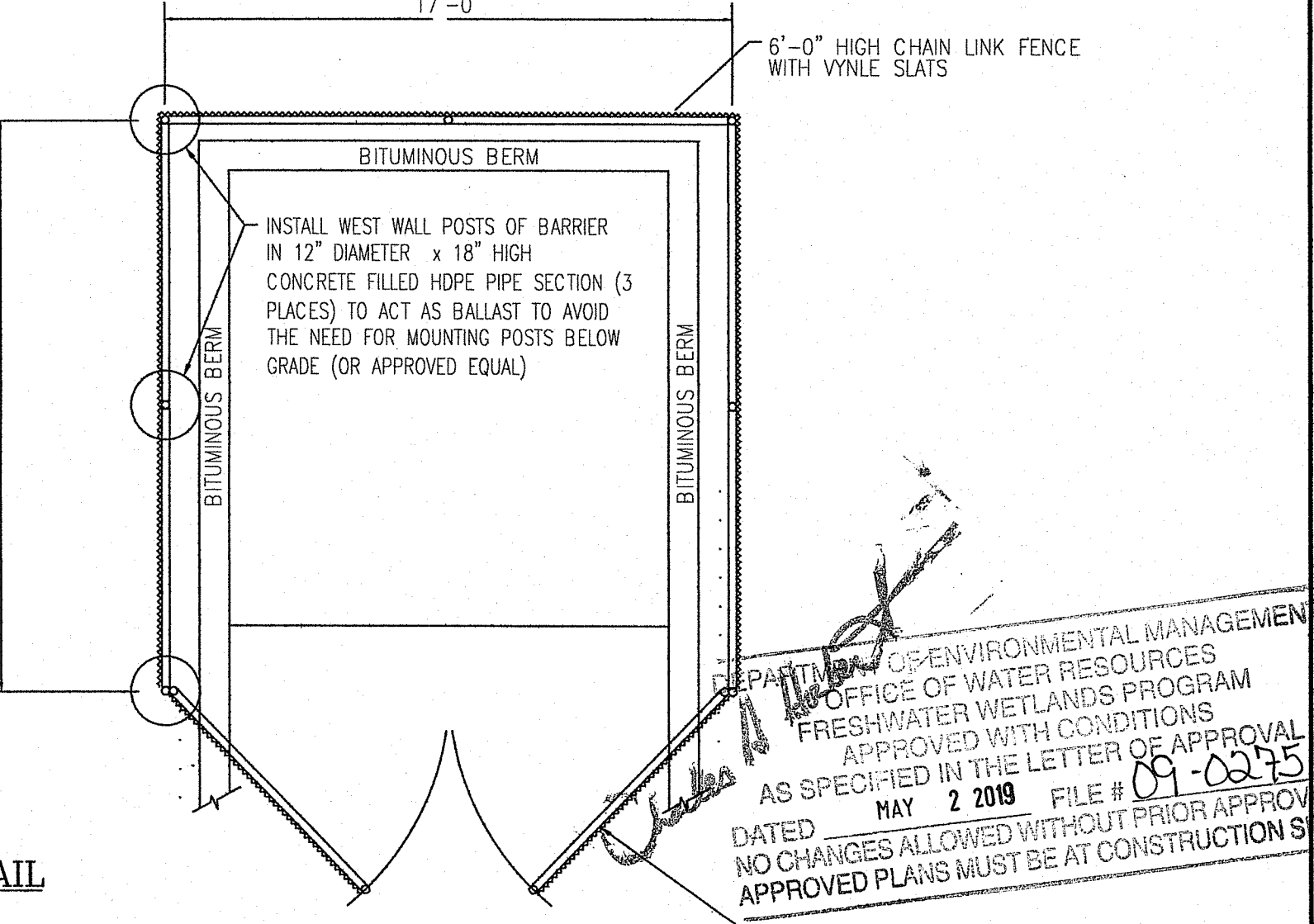


WALL W/ PIPE PENETRATION
SECTION SCALE: NONE

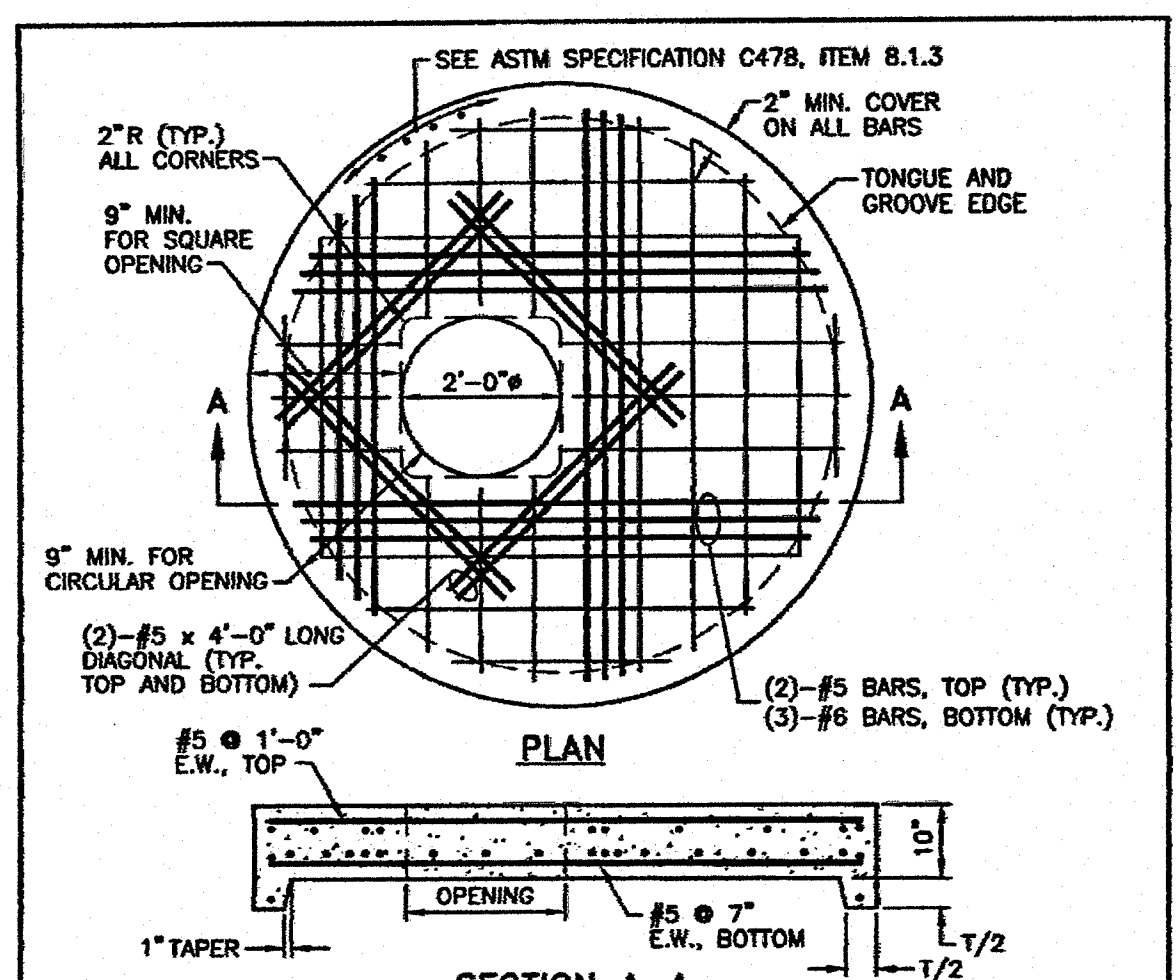


WALL W/ PIPE PENETRATION
PROFILE SCALE: NONE

- LINTEL NOTES:**
1. FINAL BEAM SIZE, REINFORCEMENT, AND CONFIGURATION TO BE DESIGNED BY PROJECT ENGINEER.
 2. LINTEL BEAMS SHALL BE PRECAST WITH MIN. 7 DAYS CURE.
 3. HEIGHT OF BEAM SHALL CORRESPOND TO HEIGHT OF MODULAR UNIT(S).
 4. PLACE LINTEL ON COURSE ABOVE DRAINAGE PIPE. INSTALL DRAINAGE PIPE PRIOR TO CONSTRUCTION OF WALL ABOVE.
 5. PIPE TO EXTEND BEYOND BASE COURSE OF WALL NO LESS THAN 6".
 6. GEOTEXTILE FABRIC SHALL BE INSTALLED AROUND PIPE OPENING.
 7. LINTEL TO EXTEND MINIMUM 18" EITHER SIDE OF OPENING.

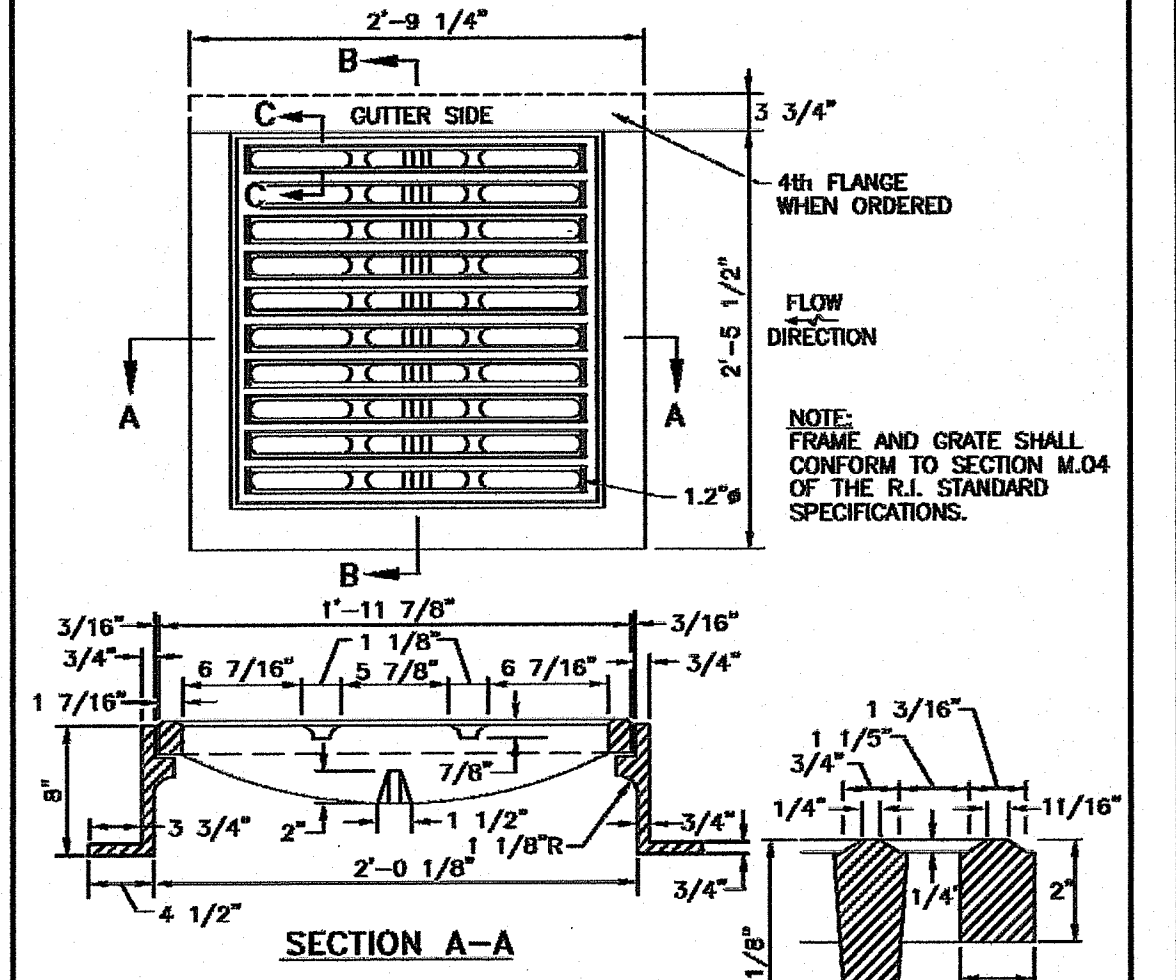


DUMPSTER ENCLOSURE DETAILS
NOT TO SCALE



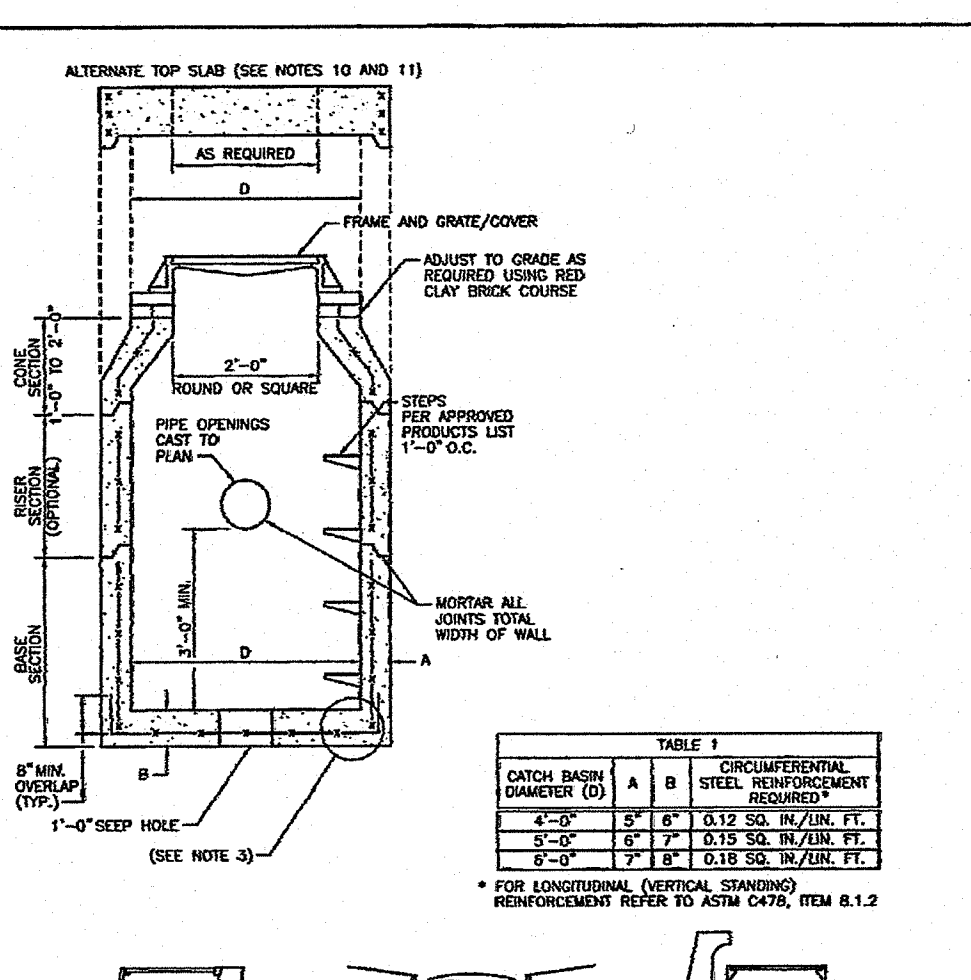
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS OR CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
3. THE CENTER LINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
4. ALTERNATE TOP COVER IS STEEL REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
5. ALL REBAR SHALL HAVE A MINIMUM OF 2" CLEARANCE FROM OPENING.
6. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 2" BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (3) #6 SHOWN WITH A HEAVIER LINE FOR CLARITY. REBARS IN THE TOP MAT ARE #5 @ 1'-0" BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (2) #5 BARS.

REVISIONS			R.I. STANDARD 4.7.2	
NO.	BY	DATE	DATE	DATE
1	M.P.	Mar 05	JUNE 15, 1998	



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. USE 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. 5.2.0 AND SHALL BE INSTALLED AT THE CASTER PLANE.
5. CURB AND SIDEWALK SHALL BE CONFORM TO SECTION 5.2.0.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO PNEUMATIC ADJUSTMENTS OR CONCRETE TOOLS WILL BE ALLOWED.
7. CORNER MANDREL OF RED CLAY BRICK SHALL BE PERMITTED FOR THE "CORNER 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" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZE.

REVISIONS			R.I. STANDARD 6.3.2	
NO.	BY	DATE	DATE	DATE
1	M.P.	Mar 05	JUNE 15, 1998	



CONCRETE DUMPSTER PAD DETAIL
NOT TO SCALE

- NOTES:**
1. CONCRETE PAD SHALL BE IN ACCORDANCE WITH SECTION 904 OF R.I. STANDARD SPECIFICATION.
 2. CONCRETE SHALL BE 5% AIR ENTRAINED, 4000 PSI WITH 3/4" STONE.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. USE 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. 5.2.0 AND SHALL BE INSTALLED AT THE CASTER PLANE.
5. CURB AND SIDEWALK SHALL BE CONFORM TO SECTION 5.2.0.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO PNEUMATIC ADJUSTMENTS OR CONCRETE TOOLS WILL BE ALLOWED.
7. CORNER MANDREL OF RED CLAY BRICK SHALL BE PERMITTED FOR THE "CORNER 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" FROM THE STEPS.
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11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZE.

REVISIONS			R.I. STANDARD 4.4.0	
NO.	BY	DATE	DATE	DATE
1	M.P.	Mar 05	JUNE 15, 1998	

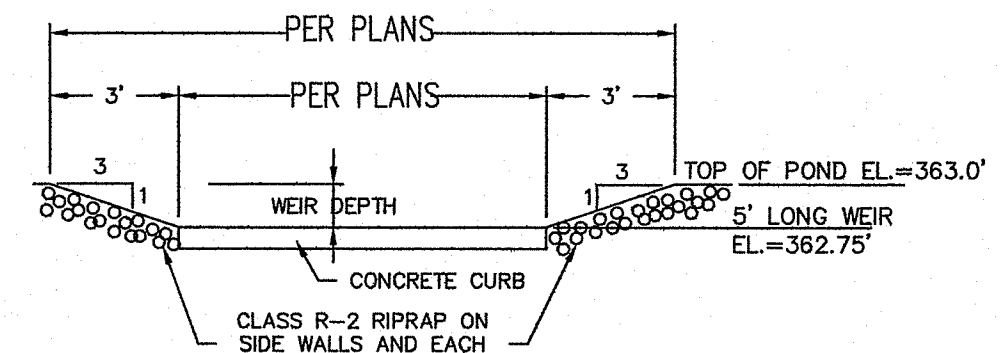
CONSTRUCTION DETAILS 2

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY
ESTABLISHED IN 1961
PRINCIPLEENGINEERING@GMAIL.COM

SITE DEVELOPMENT PLAN
for
AP 46 LOT 45
HARTFORD AVENUE
in
JOHNSTON, RHODE ISLAND

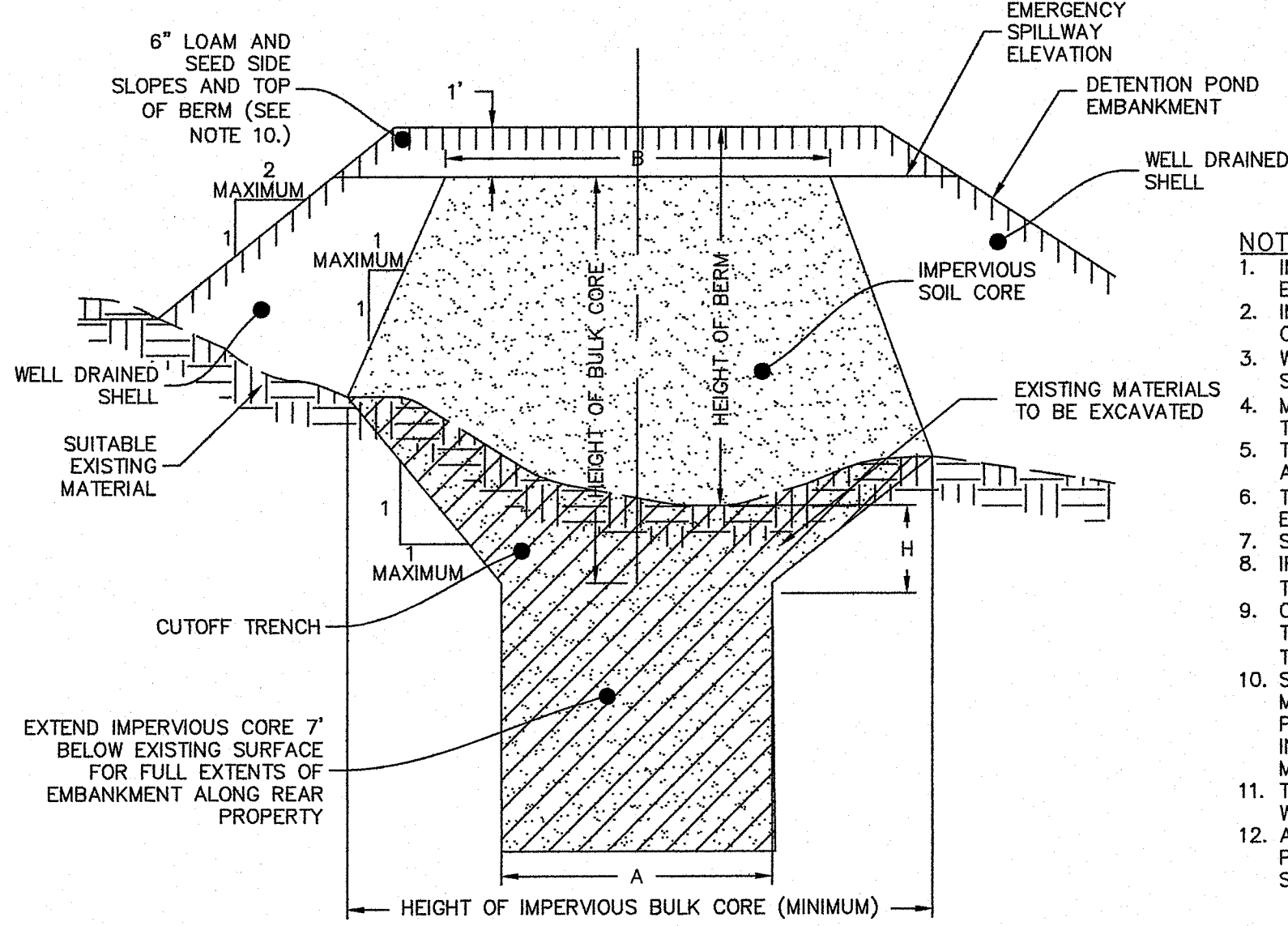
SCALE: AS NOTED SHEET NO: 7 OF 8
DRAWN BY: JAR DESIGN BY: JAR CHECKED BY: TJP
DATE: 11/29/18 PROJECT NO.: LD-18-52



Emergency Spillway / Overflow Weir Detail
NOT TO SCALE

BERM HEIGHT (FT)	TOP WIDTH OF CORE - B (FT)
0-6.5	8.2
6.6-9.8	9.2
9.9-13.1	9.8
13.2-16.4	10.8
16.5-19.7	11.5

- NOTES:**
1. IMPERVIOUS SOIL CORE TO BE PROVIDED FOR ALL DETENTION POND EMBANKMENTS.
 2. IMPERVIOUS SOIL CORE TO BE CONSTRUCTED OF MATERIAL CONSISTING OF SILT OR 200 SOIL.
 3. WELL DRAINED SHELL TO BE CONSTRUCTED OF GRAVEL AND/OR SAND WITH LESS THAN 5% PASSING THE #200 SIEVE.
 4. MINIMUM DEPTH OF CUTOFF TRENCH (H) SHALL BE 3/4 OF THE TOTAL BERM HEIGHT.
 5. THE IMPERVIOUS CORE AT A MINIMUM SHALL EXTEND UP BOTH ABUTMENTS TO THE EMERGENCY SPILLWAY ELEVATION.
 6. THE MINIMUM BOTTOM WIDTH (A) SHALL BE 5'-8", AND WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT.
 7. SIDE SLOPES OF THE TRENCH SHALL BE NO STEEPER THAN 1:1.
 8. IF BEDROCK IS ENCOUNTERED BELOW THE DAM THE CUT OFF TRENCH CAN BE REDUCED TO 1'x1' (AxB).
 9. COMPACTION REQUIREMENTS FOR THE SHELL AND IMPERVIOUS CORE TO BE 95% OF THE MODIFIED PROCTOR PER ASTM D1557. ALL FILL TO BE PLACED IN LIFTS NOT EXCEEDING 12".
 10. SIDE SLOPE OF DETENTION POND EMBANKMENT TO BE 2:1 MAXIMUM. IF SIDE SLOPES ARE STEEPER THAN 3:1, SLOPE PROTECTION MUST BE UTILIZED ON POND EMBANKMENT. THIS INCLUDES, BUT NOT LIMITED TO, RIPRAP AND EROSION CONTROL MATS.
 11. THE IMPERVIOUS CORE SHALL BE KEPT FREE FROM STANDING WATER DURING THE BACKFILL OPERATION.
 12. ALL EMBANKMENTS TO BE DESIGNED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION. ALL EMBANKMENT INSTALLATIONS TO BE SUPERVISED BY A GEOTECHNICAL ENGINEER.



Stormwater Basin Earthen Embankment
NOT TO SCALE

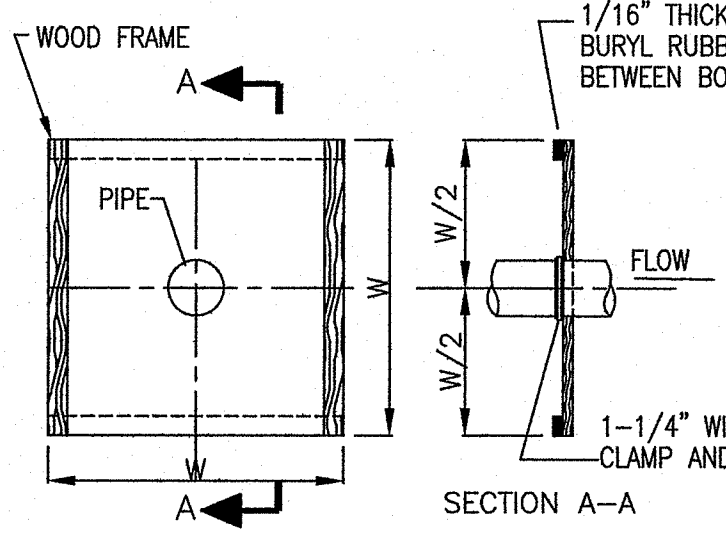
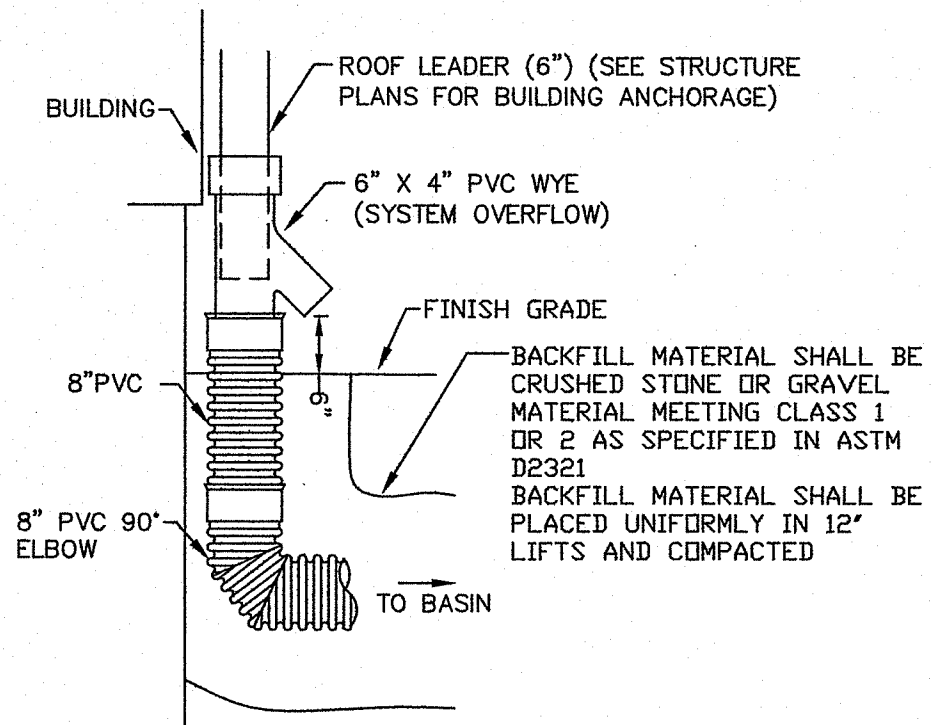


TABLE OF QUANTITIES (PER COLLAR)

PIPE DIA INCHES	WOOD FRAME LIN. FT.	BUTYL SHEET SQ. FT.	STAINLESS STRIP	LUMBER FOR FRAME LIN. FT.
4" to 6"	2	4	1	8
10" to 18"	4	16	1	16

ANTI-SEEP COLLAR DETAIL
NOT TO SCALE



ROOF LEADER COLLECTOR DETAIL
NOT TO SCALE

STORM DRAINAGE SYSTEM MAINTENANCE PLAN:

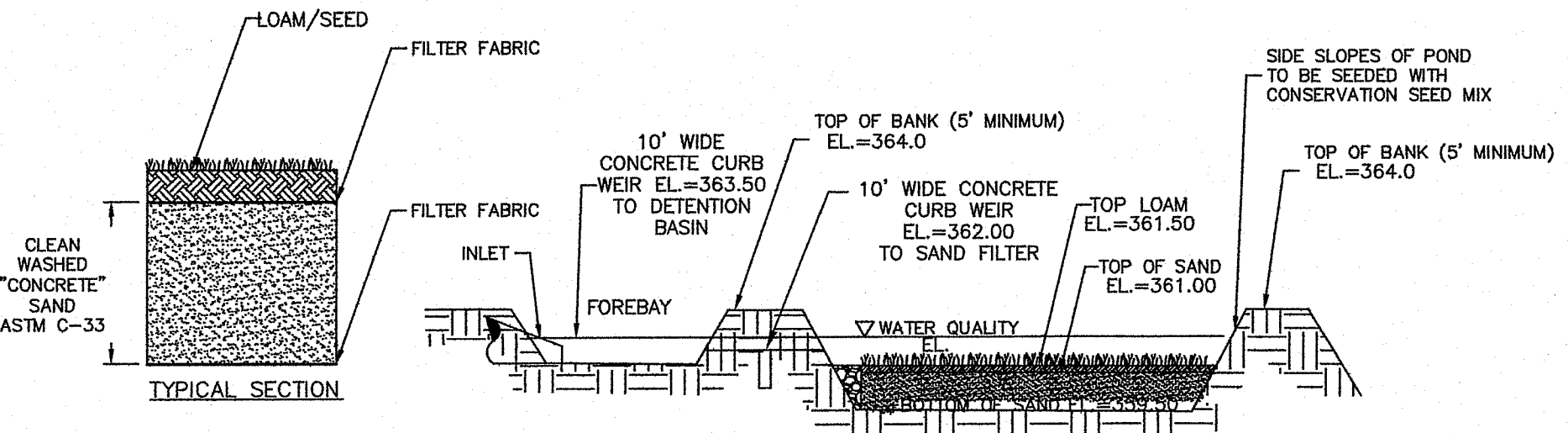
- THE FOLLOWING LIST OF MAINTENANCE TASKS AND FREQUENCIES MUST BE ADHERED TO IN ORDER TO INSURE A SUCCESSFUL LONG TERM OPERATION OF THE STORM DRAINAGE SYSTEM.
1. DURING CONSTRUCTION ACTIVITIES ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER AN EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAIN IN A TWENTY FOUR (24) HOUR PERIOD.
 2. SEDIMENTS SHALL BE REMOVED FROM ALL BASINS IMMEDIATELY AFTER SITE STABILIZATION.
 3. ALL TRASH, LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ALL STORM WATER INLET AND OUTLET STRUCTURES A MINIMUM OF TWICE PER YEAR. THESE STRUCTURES SHALL ALSO BE INSPECTED TWICE PER YEAR. INSPECTIONS SHALL BE PERFORMED SEVERAL TIMES WITHIN THE FIRST SIX MONTHS OF OPERATION.
 4. INSPECTIONS OF ALL CATCH BASINS SHALL OCCUR ON AN ANNUAL BASIS TO CHECK FOR DEBRIS REMOVAL (SEDIMENT AND HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
 5. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES OR ANY ELEMENT OF THE FACILITY SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT SHALL BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
 6. MAKE REPAIRS IMMEDIATELY USING APPROPRIATE STONE SIZES. DO NOT PLACE STONES ABOVE FINISHED GRADE.
 7. ALL REMOVED SEDIMENTS AND DEBRIS SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
 8. ALL OUTLET STRUCTURES AND OUTFLOW CHANNELS WILL BE INSPECTED ANNUALLY. INSPECTIONS WILL BE ACCOMPLISHED SEVERAL TIMES DURING THE FIRST SIX MONTHS OF OPERATION, ESPECIALLY AFTER RAINFALL EVENTS TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID OF A RELEASE.
 9. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP-RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY WILL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
 10. ALL SEDIMENT GENERATED DURING CONSTRUCTION AND AS A RESULT OF MAINTENANCE OF THE DRAINAGE SYSTEM MUST BE DISPOSED OF PROPERLY. SEDIMENT SHALL NOT BE DISPOSED OF IN OR NEAR STATE OR FEDERAL REGULATED WATERS.

DRAINAGE AND UTILITY NOTES:

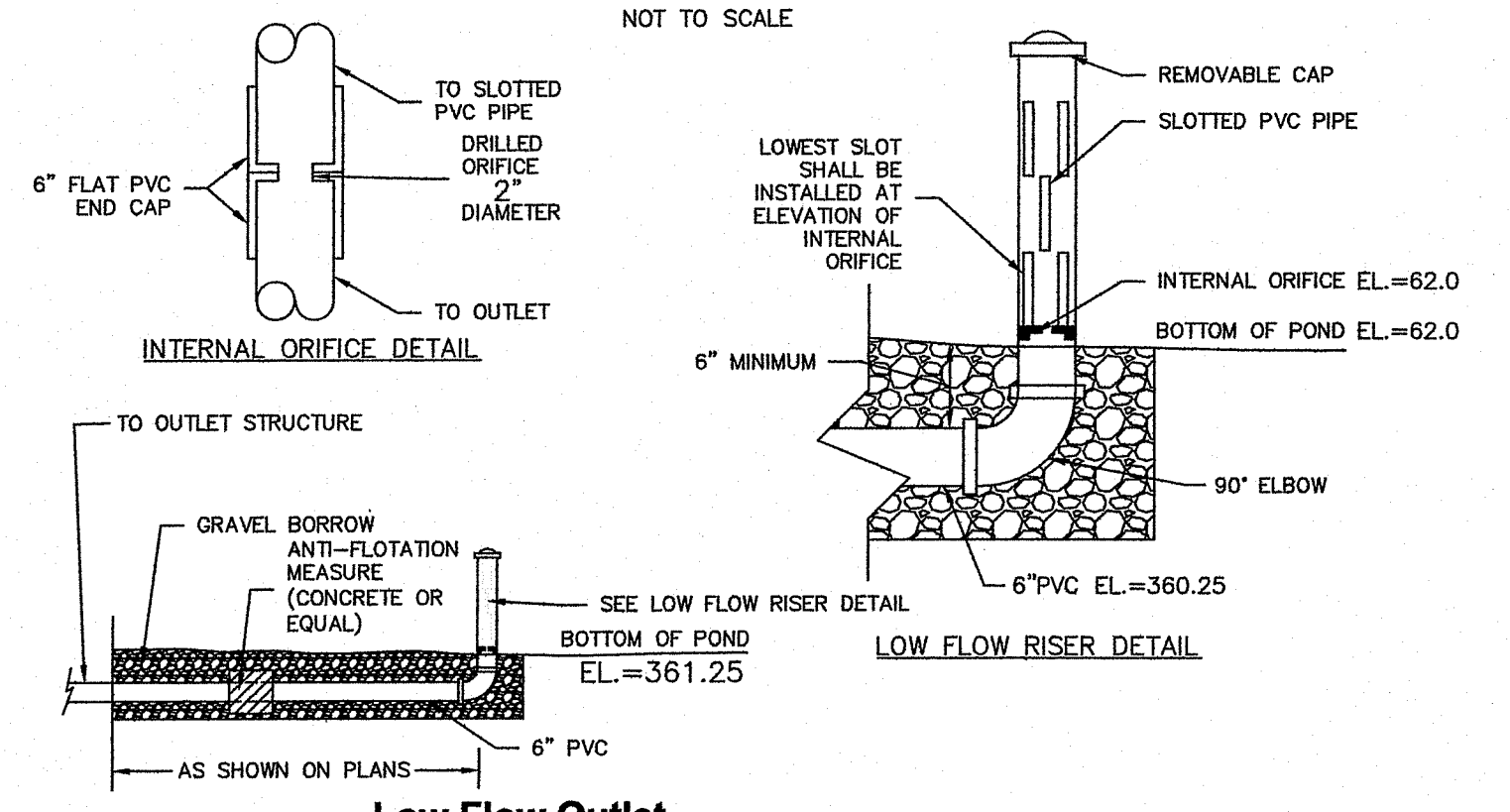
1. ADDITIONAL BMP INSPECTION/MAINTENANCE MEASURES OUTLINED WITHIN THE PROJECT STORMWATER POLLUTION PREVENTION PLAN SHALL BE PROPERLY MAINTAINED.
1. UTILITY LOCATION VERIFICATION IS TO INCLUDE TEST HOLES AS NEEDED.
2. WATER MAINS AND APPURTENANCES, INCLUDING SERVICE CONNECTIONS SHALL BE INSTALLED IN CONFORMITY WITH THE SPECIFICATIONS OF THE ONSET WATER DEPARTMENT AND IN ACCORDANCE WITH THE TOWN'S MASTER OR STUDY WATER PLAN.
3. THE CONTRACTOR IS REQUIRED TO SCHEDULE AND COORDINATE WATER SERVICE INSTALLATIONS, SHUT DOWNS AND DISRUPTIONS WHICH AFFECT THE SITE AND SITE ADJACENT USERS WITH THE LOCAL WATER AUTHORITY AND THE LOCAL FIRE DEPARTMENT.
4. UNDERGROUND UTILITIES, ELECTRIC, TELEPHONE, FIRE ALARM CABLE, TELEVISION AND GAS SERVICES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE APPLICABLE SITE UTILITY PROVIDER.
5. METALLIC WARNING TAPE SHALL BE INSTALLED 12" ABOVE ALL STORM DRAIN AND OTHER UTILITIES.
6. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.

DETENTION BASIN MAINTENANCE SCHEDULE:

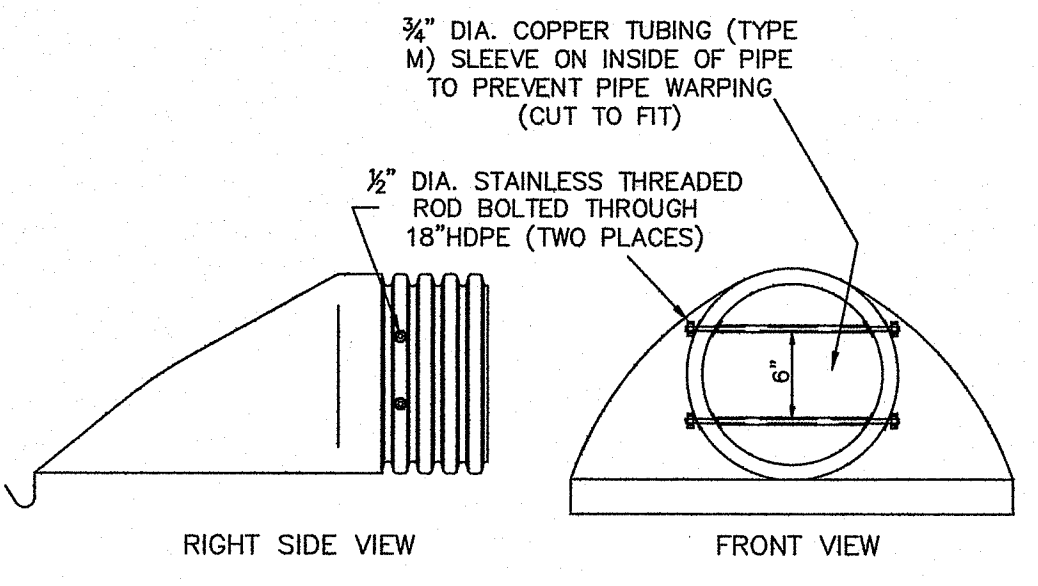
1. Side-slopes, embankments, and the upper stage of the basin will be mowed at least once per growing season, to prevent unwanted woody growth. This storm water facility is to be managed for wildlife habitat, therefore, mowings will be conducted after mid August to prevent mortality to ground nesting birds and animals.
2. All trash and litter and other debris will be removed from the storm water facility including inlet and outlet structures. This will be accomplished at least twice per year, preferably spring and fall.
3. Sediments will be removed from the basin immediately following site stabilization and every year thereafter. Accumulated sediments may have to be removed more frequently if the sediment storage capacity of the forebays or sediment storage areas are within the last 10 percent of available capacity. Sediment removal within the basin will restore the original capacity and design depth.
4. If blockage of a basin outlet structure occurs it may be necessary to dewater the pond for access to the blockage. The dewatering flow must be adequately filtered prior to discharge into a receiving water body to remove suspended solids.
5. Pools of stagnant water in detention basins indicates failure due to erosion and scouring of the basin bottom, particularly near an inlet device. This deficiency will be corrected immediately to prevent a nuisance habitat for insects, especially mosquitoes.
6. All outlet structures and outflow channels will be inspected annually. Inspections will be accomplished several times during the first six months of operation, especially after rainfall events to check for clogging or, conversely, too rapid of a release.
7. The grassed areas of the basin will be inspected at least twice per year to check for erosion problems. Problem areas must be reseeded immediately to stabilize exposed soils, thereby preventing erosion and potential clogging of outflow devices.
8. Repairs or replacement of inlet/outlet structures, rip-rap channels, fences, or other elements of the facility will be done within 30 days of deficiency reports. If an emergency situation is imminent then repair/replacement must be done immediately to avert failure or danger to nearby residents.
9. All sediment generated during construction and as a result of maintenance of the drainage system must be disposed of properly. Sediment shall not be disposed of in or near State or Federal regulated waters.
10. Records of the first two years of maintenance following construction shall be submitted to RIDEM Division of Water Resources. Maintenance records for subsequent years shall be kept on file and submitted to RIDEM, Division of Water Resources, upon request.
11. All drainage facilities will be maintained by the property owner.



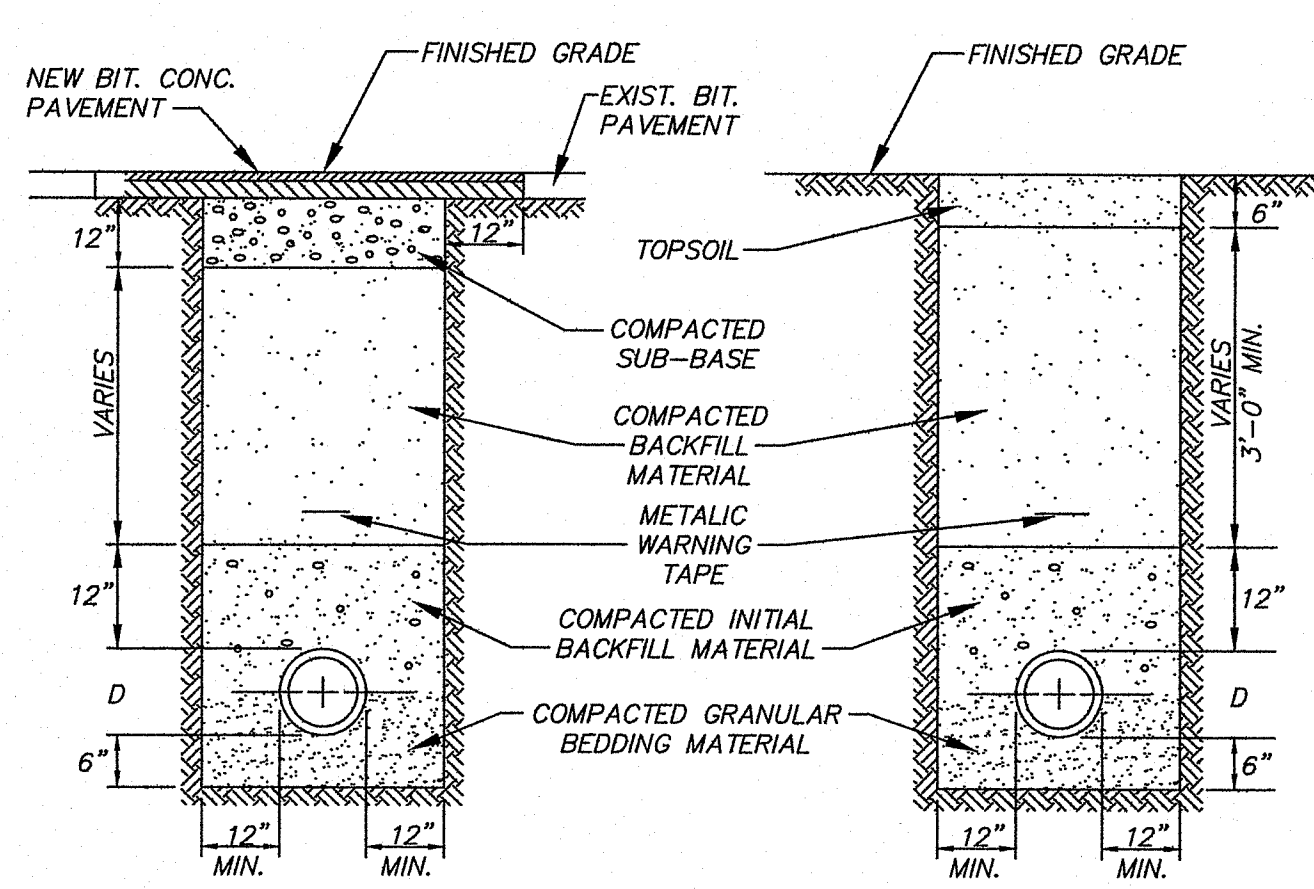
Sand Filter (Filtration)
NOT TO SCALE



Low Flow Outlet
NOT TO SCALE

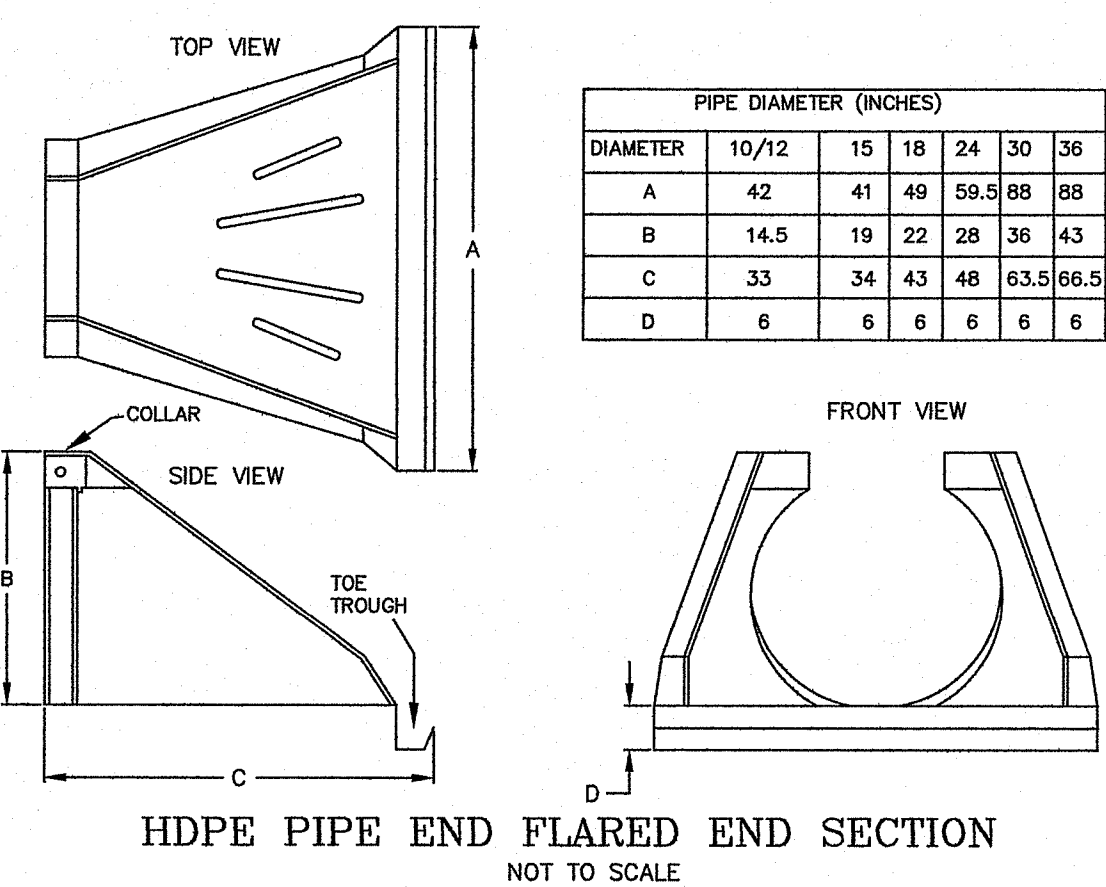


TRASH RACK DETAIL FOR HDPE FLARED END SECTION
NTS



- GENERAL NOTES:**
1. REFER TO SPECIFICATIONS REGARDING BACKFILL MATERIALS.
 2. REFER TO SPECIFICATIONS AND DETAILS REGARDING PAVEMENT AND SURFACE RESTORATION.

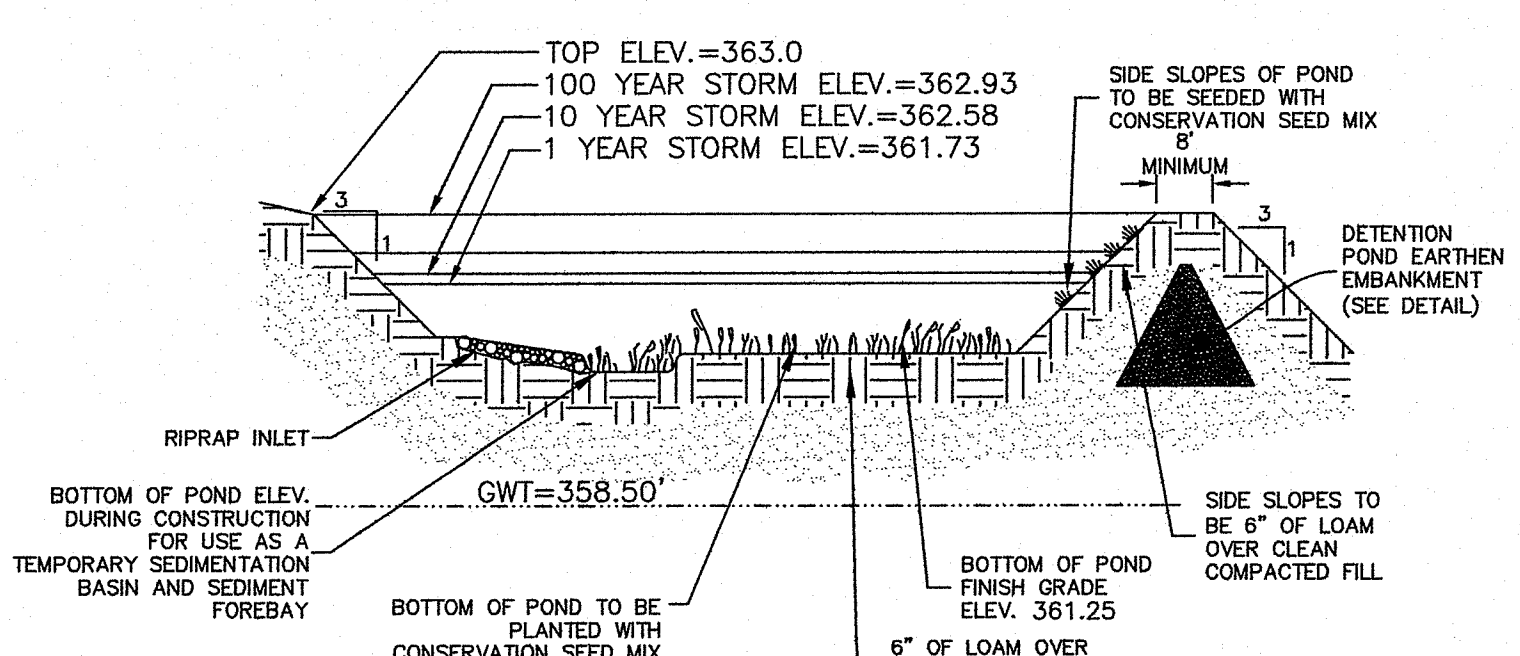
TYPICAL DRAIN & UTILITY TRENCH DETAILS
NOT TO SCALE



PIPE DIAMETER (INCHES)

DIAMETER	10/12	15	18	24	30	36
A	42	41	49	59.5	88	88
B	14.5	19	22	28	36	43
C	33	34	43	48	63.5	66.5
D	6	6	6	6	6	6

HDPE PIPE END FLARED END SECTION
NOT TO SCALE



Detention Pond Typical Cross Section
NOT TO SCALE

Chris Alford

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
MAY 2 2019 FILE # 07-0245
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

CONSTRUCTION DETAILS 3

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RI 02878
401.816.5385
PRINCIPEENGINEERING@GMAIL.COM

REVISIONS

No.	DATE	DRWN	CHKD
1	1/18/19	TJP	TJP
2	3/13/19	TJP	TJP

SITE DEVELOPMENT PLAN
for
AP 46 LOT 45
HARTFORD AVENUE
in
JOHNSTON, RHODE ISLAND

SCALE: AS NOTED SHEET NO: 8 OF 8
DRAWN BY: TJP DESIGN BY: JAR CHECKED BY: TJP
DATE: 11/29/18 PROJECT NO.: LD-18-52

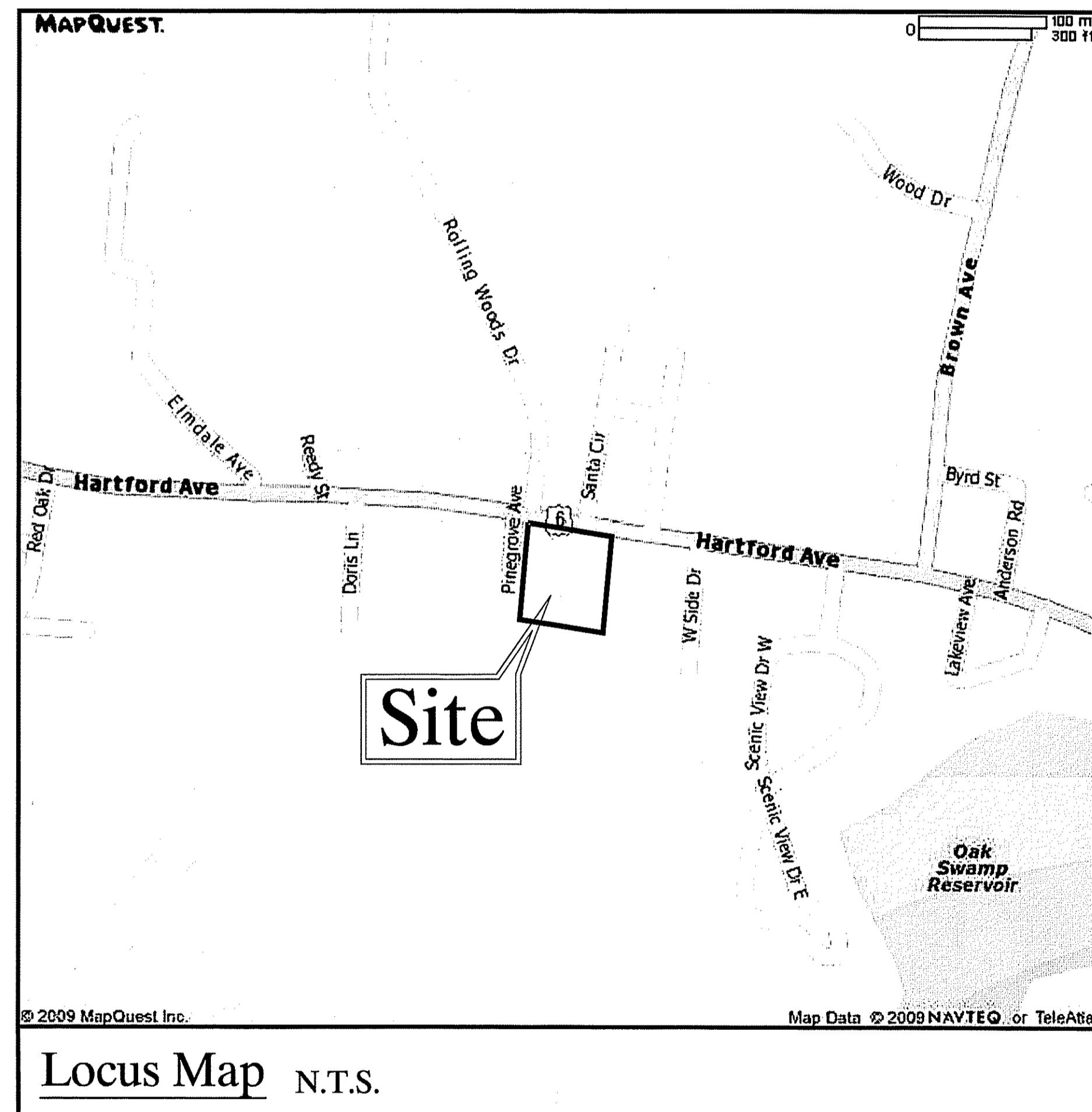
Land Development Plans

SASA PLAZA

A.P. 46 Lots 43, 44, & 45
 Hartford Avenue Johnston, RI



Aerial Map Location Plan 1"=500'



Locus Map N.T.S.

Sheet Index			
SHEET NO.	TITLE	DATE ISSUED	LAST REVISED
C-1	COVERSHEET	10/19/2009	
S-1	SURVEY PLAN		
C-3	LAYOUT & MATERIAL PLAN	10/19/2009	
C-4	GRADING, DRAINAGE, & UTILITY PLAN	10/19/2009	
C-5	EROSION CONTROL PLAN	10/19/2009	
C-6	DETAILS	10/19/2009	
C-7	DETAILS	10/19/2009	

Owner/Applicant:
 SAM SASA
 40 HOPKINS AVENUE
 JOHNSTON, RI 02919

Land Surveyor
 INTERNATIONAL MAPPING & SURVEYING CORP.
 19 INDUSTRIAL DRIVE
 SMITHFIELD, RI 02917

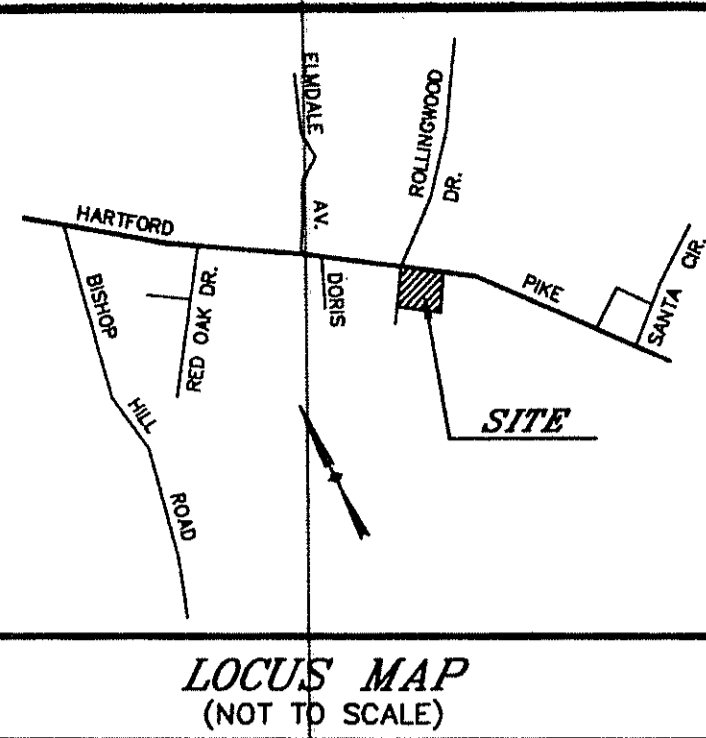
Civil Engineer
 ADVANCED CIVIL DESIGN, INC.
 7 COUNTRYSIDE LANE
 SCITUATE, RI 02857

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED DEC 24 2009 FILE # 09-0275
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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RECEIVED
 OCT 30 2009
 ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES

Charles A. [Signature]

COVER SHEET SASA PLAZA A.P. 46 LOTS 43,44 & 45 HARTFORD PIKE JOHNSTON, RI PREPARED FOR: SAM SASA 40 HOPKINS AVENUE JOHNSTON, RI			NO.	DATE	DESCRIPTION
ADVANCED CIVIL DESIGN, INC. CIVIL ENGINEERS 7 COUNTRYSIDE LANE SCITUATE, RI 02857 PH 1: (401) 644-8656 PH 2: (401) 473-4404					
				DATE: OCTOBER 19, 2009 SCALE: AS NOTED DESIGN/CHECK BY: N.J.P./C.S.R.	
				SHEET NO. C-1 1 OF 7	



LEGEND:

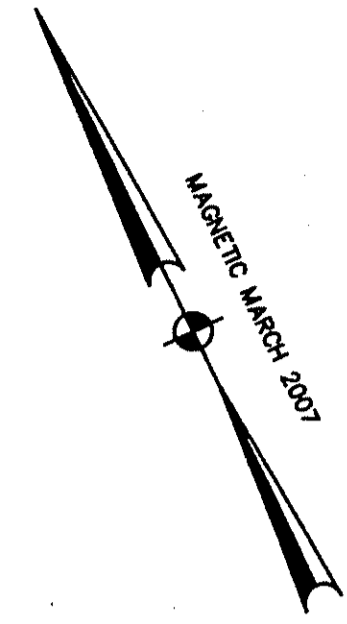
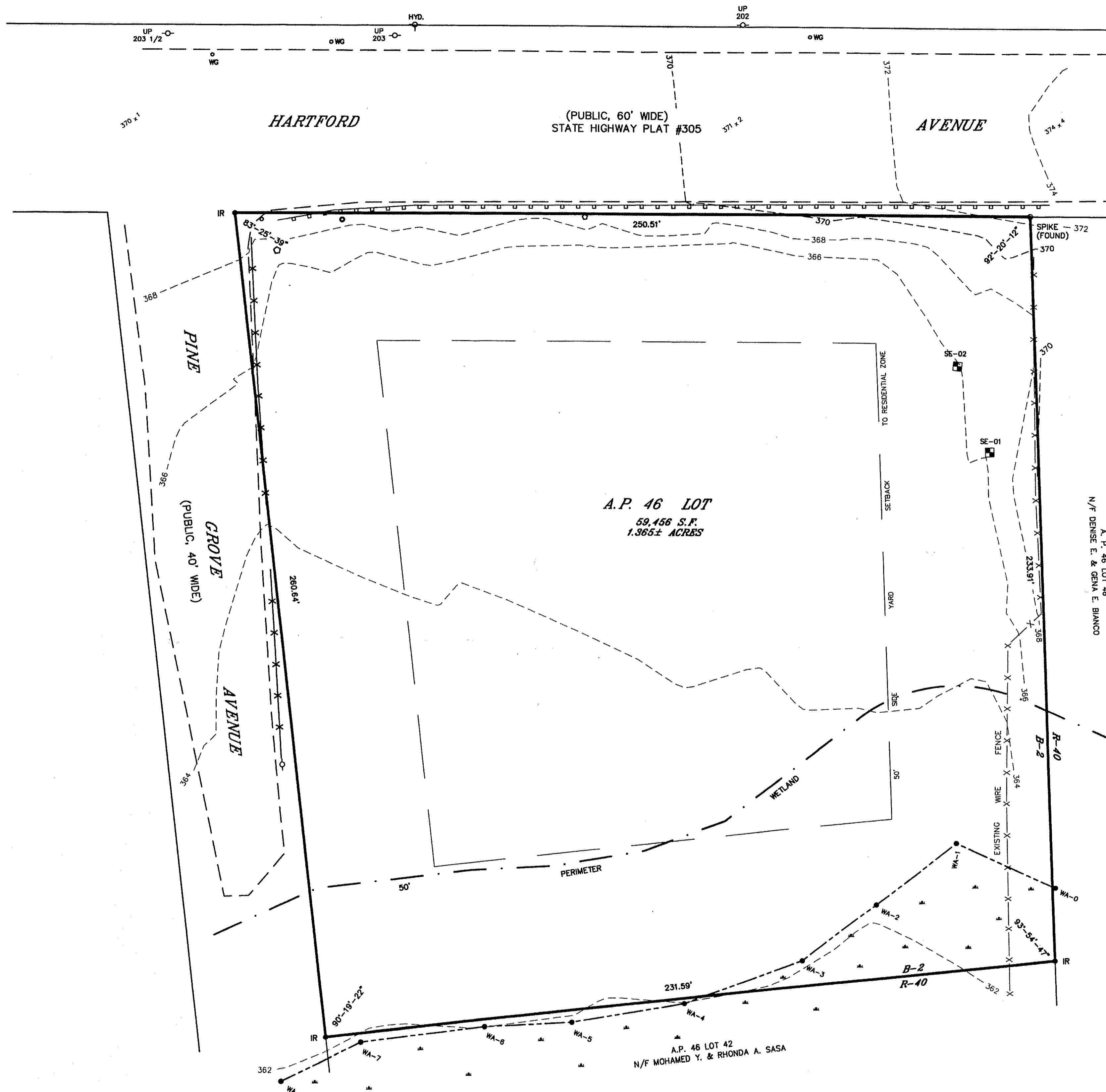
- EXISTING CONTOUR - - - 370
- EXISTING SPOT ELEVATION 371 x 4
- EXISTING EDGE OF PAVEMENT ---
- EXISTING ZONING SETBACK LIMIT ---
- EXISTING CHAIN LINK FENCE X - X
- EXISTING WIRE FENCE - X - X -
- EXISTING GUARDRAIL - [] -
- EXISTING WATER GATE o WG
- EXISTING HYDRANT o HYD.
- EXISTING SIGNAL MANHOLE o SMH
- EXISTING UTILITY POLE o
- EXISTING SIGN POLE o
- IRON ROD (SET) o IR
- WETLAND EDGE WITH FLAG WA-1
- ZONING DISTRICT LIMIT B-2
R-40
- SOIL EVALUATION TEST HOLE SE-01

NOTES:

- 1) THE WETLAND DELINEATION SHOWN HEREON BY FJA ENVIRONMENTAL ASSOCIATES, INC.
- 2) THERE ARE NO KNOWN HISTORIC AREAS OR CEMETERIES ON THE SUBJECT PARCELS.
- 3) THERE ARE NO STRUCTURES OR BUILDINGS LOCATED ON THE SUBJECT PARCELS.
- 4) THE SUBJECT PARCEL IS LOCATED IN ZONE X ON FLOOD INSURANCE RATE MAP 44007C0283G, PANEL 283 OF 451, EFFECTIVE DATE MARCH 2, 2009, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
- 5) SEE RIDEM APPROVED SOIL EVALUATION APPL. NO. 0716-0495, DATED APRIL 24, 2007.

REFERENCES:

- 1) SEE PLAN ENTITLED: "ADMINISTRATIVE SUBDIVISION FOR MOHAMED Y. & RHONDA A. SASA ON HARTFORD AVENUE & PINE GROVE AVENUE IN JOHNSTON, RI A.P. 46 LOTS 43, 44 & 45" DATED 4/1/09 AND PREPARED BY INTERNATIONAL MAPPING & SURVEYING CORP.
- 2) SEE RECORDED PLAN ENTITLED: "PLAT NUMBER 1 OF LAND BELONGING TO WALTER L. EVERETT IN THE TOWN OF JOHNSTON R.I. SURVEYED AND PLATTED BY R.S. MOWRY", DATED JANUARY 1916 AND FILED ON CARD #73 IN THE TOWN OF JOHNSTON, RI.
- 3) SEE RECORDED PLAN ENTITLED: "WEST END PLAT OFF HARTFORD AVE., JOHNSTON, R.I. SURVEY & MAP FOR GERARD J. POULIOT (OWNER)", DATED JULY, 1989, PREPARED BY LESTER V. PECK, P.E. AND FILED ON CARD #144 IN THE TOWN OF JOHNSTON, RI.



ZONING B-2

- SETBACKS:**
- FRONT 40 FT.
 - SIDE 40 FT.
 - REAR 40 FT.
- MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY SHALL BE 50 FT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED DEC 24 2009. FILE # 09-0275
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION

STREET INDEX
HARTFORD AVENUE
PINE GROVE AVENUE

RECEIVED
OCT 30 2009
ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES

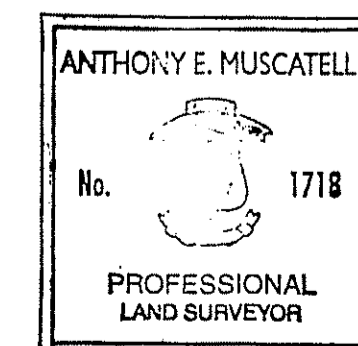


CERTIFICATION:

THIS SURVEY AND PLAN CONFORM TO THE FOLLOWING CLASS STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

BOUNDARY SURVEY CLASS I
TOPOGRAPHIC SURVEY CLASS III

By: *Anthony E. Muscatelli* 10-21-09
REGISTERED PROFESSIONAL LAND SURVEYOR DATE



INTERNATIONAL MAPPING & SURVEYING CORP.
LAND SURVEYING CIVIL ENGINEERING PHOTOGRAMMETRIC MAPPING
19 INDUSTRIAL DRIVE, SMITHFIELD, R.I. 02917 (401) 232-2620

EXISTING CONDITIONS PLAN
for MOHAMED Y. & RHONDA A. SASA
on HARTFORD AVENUE & PINE GROVE AVENUE
in JOHNSTON, RI
A.P. 46 LOT

REV.	PER	ADM.	SUB.	DATE	NO.
1				4/09	1
DRAWN BY K.R.R.					
CHK. BY P.A.K.					
APPR. BY A.E.M.					
DATE 4/24/09					
SCALE 1"=20'					
SHEET 1 OF 1					
DWG. NO. 070402-EX					

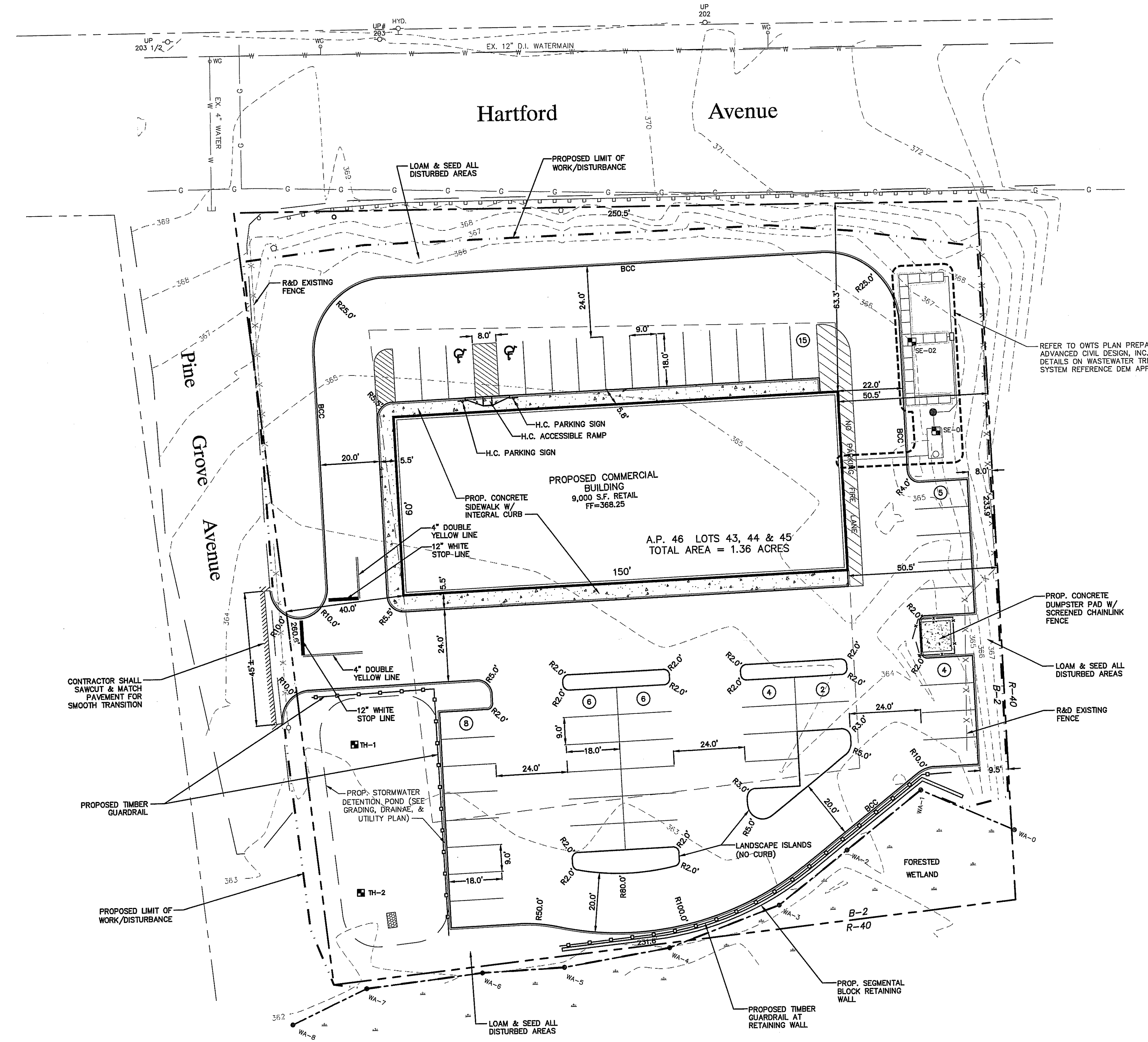
PARKING CALCULATION:	
RETAIL PARKING: 5.5 PER 1000 S.F.	50
TOTAL SPACES REQUIRED	50
TOTAL SPACES PROVIDED	50

SITWORK 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. 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 SUSPECT 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.

LEGEND

PROPOSED			
— 300 —	CONTOUR	⊕	CATCH BASIN
— X — X —	CHAINLINK FENCE	⊙	DRAIN MANHOLE
— ○ — ○ —	WOOD GUARDRAIL	⊙	SIGN ON SINGLE POST
— — — —	STORM DRAIN	⊙	UTILITY POLE
— W —	WATER	300x5	SPOT GRADE
— G —	GAS	⊙	DOUBLE YELLOW LINE
— — — —	CURB	⊙	HANDICAPP PARKING
— — — —	BITUMINOUS BERM	⊙	SOIL TESTHOLE
		BCC	BITUMINOUS CONCRETE CURB



General Notes

- THERE ARE NO EASEMENTS / ROW AND DEED / PLAT RESTRICTIONS EXISTING OR PROPOSED.
- THERE ARE NO EXTRAORDINARY OR UNUSUAL NATURAL FEATURES, HISTORIC AREAS, CEMETERIES FOUNDATIONS, ETC.
- THERE ARE NO DETRIMENTAL POTENTIAL IMPACTS TO THE TOWN FROM THIS DEVELOPMENT.
- TOTAL AREA OF DISTURBANCE = 1.2 ACRE +/-
- IMPERVIOUS SURFACE = 64%
- THERE ARE NO EXISTING OR PROPOSED EASEMENTS.
- THERE IS NO PHASING OF THE PROPOSED PROJECT AT THIS TIME.
- THERE ARE NO WETLANDS LOCATED ON THE PROPERTY.

Flood Note

FLOOD NOTE - ZONE X AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAN PANEL #44007C0283G.

Soil Note

THE SITE CONSISTS OF (UD) URBENTHENTS-URBAN LAND COMPLEX AND CANTON AND CHARLTON FINE SANDY LOAMS, VERY ROCKY 3-15% SLOPES.

Dimensional Regulations

ZONE B-2	REQUIRED	PROPOSED
FRONT SETBACK	40 FT.	63.3 FT.
SIDE SETBACK	40 FT.	40.0 FT.
REAR SETBACK	40 FT.	115.8 FT.
SETBACK TO RESIDENTIAL PROPERTY	50 FT.	50.5 FT.
BUILD COVERAGE	40%	15.20%
BUILD HEIGHT	35 FT.	< 35 FT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED DEC 24 2009 FILE # 09-0275
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

RECEIVED
OCT 30 2009
ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES

LAYOUT & MATERIAL PLAN
SASA PLAZA
A.P. 46 LOTS 43,44 & 45
HARTFORD PIKE JOHNSTON, RI
PREPARED FOR:
SAM SASA
40 HOPKINS AVENUE JOHNSTON, RI

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

NO.	DATE	DESCRIPTION

DATE: OCTOBER 19, 2009
SCALE: 1"=20'
DESIGN/CHECK BY: N.J.P./C.S.R.

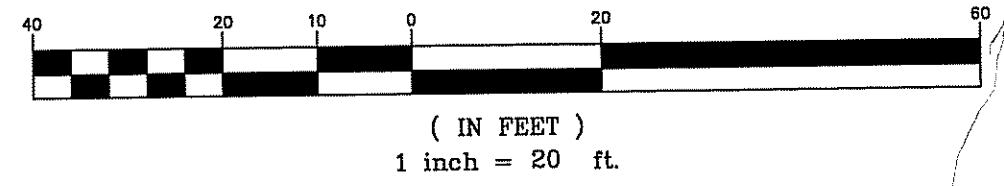
ADVANCED CIVIL DESIGN, INC.
CIVIL ENGINEERS

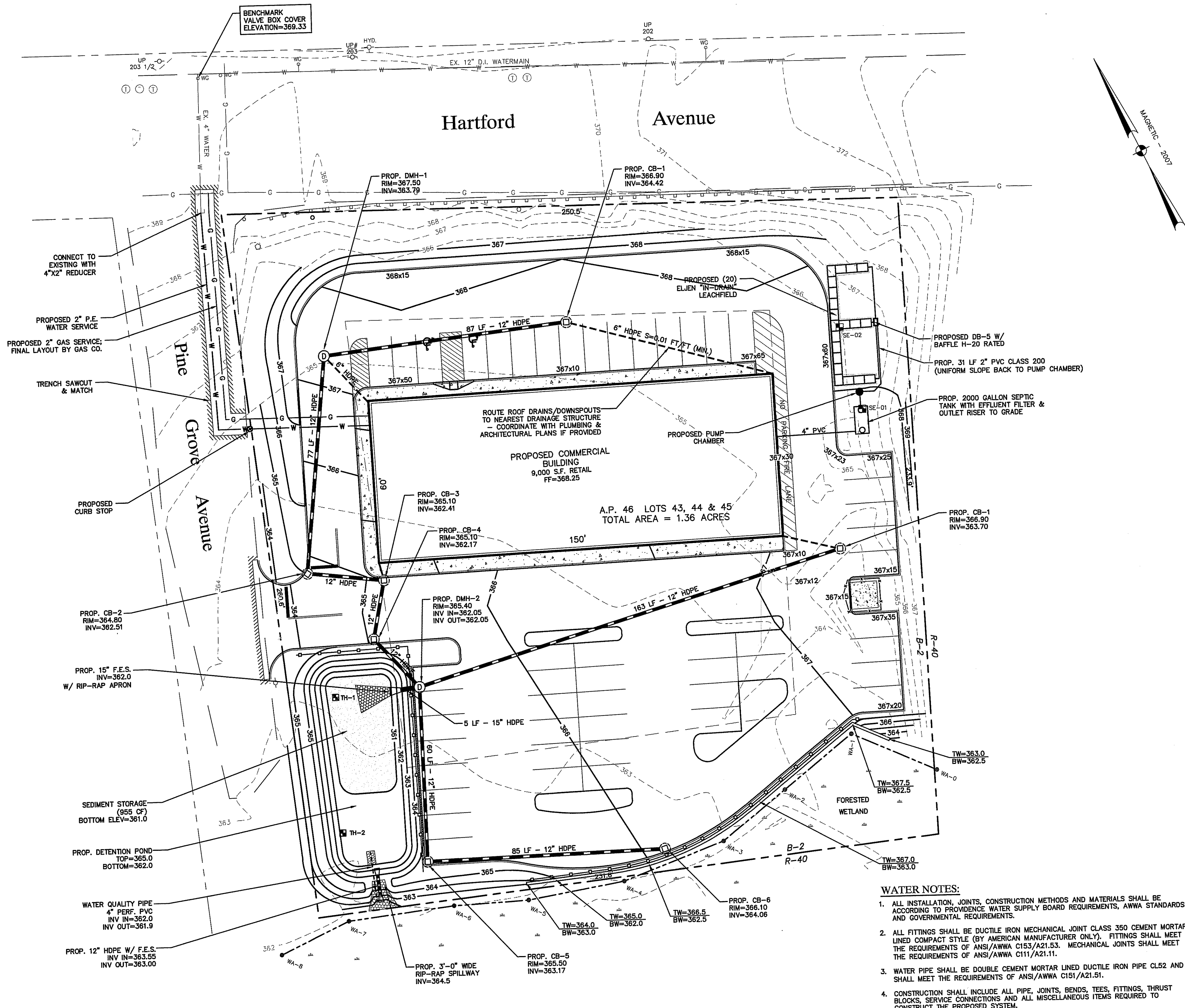


7 COUNTRYSIDE LANE
SCITUATE, RI 02857

PH 1: (401) 644-8656
PH 2: (401) 473-4404

SHEET NO.
C-3
3 OF 7





SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES

1. FIELD SURVEY AND STAKE THE PROPOSED BUILDING, DETENTION POND, AND LIMIT OF DISTURBANCE.
2. PLACE SEDIMENTATION BARRIERS (HAY BALES OR SILT FENCE) AS SHOWN ON THE PLANS AND AS STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS, UNLESS SHOWN ON THE PLANS.
3. CLEAR TREES AND GRUB WITHIN LIMITS OF WORK.
4. STRIP LOAM AND STOCKPILE. STOCKPILES ARE TO BE PROTECTED BY A ROW OF HAYBALES AROUND THE PERIMETER.
5. PERFORM CUT/FILL OPERATION INCLUDING ANY BORROW MATERIAL REQUIRED FOR THIS SITE.
6. EXCAVATE, LOAM, AND SEED THE DETENTION POND AS SHOWN ON PLAN. GRADE AND DIVERT ALL CONSTRUCTION RUNOFF TO THE DETENTION POND.
7. INSTALL DRAINAGE AND UTILITIES. BUILDING OPERATION CAN BEGIN AT THIS POINT.
8. PAVE THE BINDER COURSE OF THE PARKING AREA.
9. INSTALL CONCRETE SIDEWALKS, UTILITY PADS, AND/OR DUMPSTER PADS, AND ANY SITE IMPROVEMENTS SHOWN.
10. INSPECT, CLEAN, REPAIR, AND REMOVE ANY DEBRIS OR SEDIMENT FROM DRAIN PIPES, STRUCTURES, AND POND.
11. FINISH BUILDING CONSTRUCTION.
12. SWEEP THE PARKING AREA AND PAVE THE TOP COAT OF THE PARKING AREA AND STRIPE.
13. LOAM, SEED, & LANDSCAPE.

STRUCTURAL MEASURES

1. A DETENTION POND SYSTEM IS USED TO CONTROL RUNOFF.
2. A PERMANENT COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH THE VEGETATIVE COVER PROVISIONS. THE SEEDING SHALL EXTEND TO AT LEAST THE DESIGN TOP WIDTH AND INCLUDE ANY OTHER AREAS DISTURBED BY CONSTRUCTION. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF WORK AS SHOWN ON THE PLANS.
3. VIGOROUS VEGETATION SHALL BE MAINTAINED BY APPLYING LIME AND FERTILIZER. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DRAINAGE SYSTEM THROUGH COMPLETION OF CONSTRUCTION. THE PROPERTY OWNER IS RESPONSIBLE THEREAFTER, WHICH SHALL INCLUDE CLEANING OF PIPES AND STRUCTURES, MOWING OF THE DETENTION POND AT LEAST TWICE PER YEAR, AND REMOVAL OF SEDIMENT FROM THE POND BOTTOM.
5. THE SITE CONTRACTOR IS RESPONSIBLE FOR STRUCTURAL MEASURES IMPLEMENTATION AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
6. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY USDA SOIL CONSERVATION SERVICE 1988, AS A GUIDE.

MAINTENANCE PROGRAM

- SHORT TERM:**
1. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK REGULARLY ALL SEEDED AREAS TO SEE THAT A GOOD STAND IS MAINTAINED.
 2. THE CONTRACTOR MUST REPAIR OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN A PERIOD OF THREE (3) MONTHS AND SHALL DO SO AT THE CONTRACTOR'S EXPENSE.
 3. ALL HAY BALES, TEMPORARY TREATMENTS (HAY, STRAW, ETC.) AND TEMPORARY 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.
 4. THE CONTRACTOR SHALL MAINTAIN ALL TOP SOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER.
 5. HAY BALES OR SILT FENCE EROSION BARRIER SHALL BE MONITORED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. CONTRACTOR SHALL REPAIR OR REPLACE AS NECESSARY.
 6. CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED IN WITH SEDIMENTS.
 7. THE STONE STABILIZATION PAD AT THE SITE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND.
 8. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
 9. PRIOR TO SITE CONTRACTOR DEMOLISHING FROM SITE, ALL DRAIN PIPES AND STRUCTURES SHALL BE FLUSHED. ANY SEDIMENT BUILD-UP IN THE POND SHALL BE REMOVED. CONTRACTOR SHALL LEAVE THE DETENTION POND WITH A HEALTHY STAND OF GRASS WITHIN AND AROUND THE POND.

ESTABLISHMENT OF VEGETATIVE COVER

1. SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. 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 SUBSOIL MATERIAL, STONES, ROOTS, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND'S STANDARD SPECIFICATIONS, AS AMENDED.
3. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	LBS/ACRE
CREeping RED FESCUE	75
KENTUCKY BLUE GRASS	15
COLONIAL BENT GRASS	5
PERENNIAL RUE GRASS	5
4. EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. ADD LIME, FERTILIZER, OR COMPOST TO STRIPPED AND SCREENED TOPSOIL AS REQUIRED FROM TESTING.
5. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
6. THE RECOMMENDED SEEDING DATES ARE APRIL 1ST THROUGH JUNE 15 AND AUGUST 15 THROUGH SEPTEMBER 30. TEMPORARY TREATMENTS SHALL CONSIST OF NORTH AMERICAN GREEN SISOBN OR APPROVED EQUAL. THEY SHALL BE INCORPORATED INTO THE WORK AS SHOWN ON THE PLANS.
7. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 2 TONS/ACRE. ALL HAY BALES OR TEMPORARY 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 SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.
8. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAY. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1.
9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN A PERIOD OF SIX MONTHS AND SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
10. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENTLY SEEDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH MULCH. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEED AS NECESSARY.
11. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE AS A GUIDE. TEMPORARY HAY MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING, MAXIMUM GRADED SLOPE WITHIN THE SITE TO BE 3:1, UNLESS SPECIFIED OTHERWISE.

WATER NOTES:

1. ALL INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO PROVIDENCE WATER SUPPLY BOARD REQUIREMENTS, AWWA STANDARDS AND GOVERNMENTAL REQUIREMENTS.
2. ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT CLASS 350 CEMENT MORTAR LINED COMPACT STYLE (BY AMERICAN MANUFACTURER ONLY). FITTINGS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C153/A21.53. MECHANICAL JOINTS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.11.
3. WATER PIPE SHALL BE DOUBLE CEMENT MORTAR LINED DUCTILE IRON PIPE CL52 AND SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.11.
4. CONSTRUCTION SHALL INCLUDE ALL PIPE, JOINTS, BENDS, TEES, FITTINGS, THRUST BLOCKS, SERVICE CONNECTIONS AND ALL MISCELLANEOUS ITEMS REQUIRED TO CONSTRUCT THE PROPOSED SYSTEM.
5. CONCRETE THRUST, ANCHOR, OR BEARING BLOCKS SHALL BE INSTALLED IN LOCATIONS INDICATED AND AT ALL BENDS, FITTINGS, PLUGS, ETC. WHEN A THRUST BLOCK CANNOT BE PLACED AGAINST UNDISTURBED EARTH, A REACTION BLOCK SUBSTITUTE SHALL BE DESIGNED AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
6. PRESSURE AND LEAKAGE TESTS AND DISINFECTING PIPES SHALL BE PERFORMED BY THE CONTRACTOR IN CONFORMANCE WITH THE PROVIDENCE WATER SUPPLY BOARD, RECOMMENDATIONS, LINCOLN WATER COMMISSION REQUIREMENTS, AND GOVERNMENTAL AGENCIES HAVING JURISDICTION.
7. ALL FITTINGS, PIPE, JOINTS, ETC. SHALL BE DESIGNED FOR 1.5 TIMES WORKING PRESSURE BUT NOT LESS THAN 150 PSI. PIPE SIZES SHOWN ON THE PLANS ARE SUBJECT TO CHANGE UPON REVIEW BY THE PROVIDENCE WATER SUPPLY BOARD.
8. WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 5' WHERE A NEW WATER MAIN IS LESS THAN 18 INCHES CLEAR DISTANCE ABOVE A SEWER OR WHERE A WATER MAIN PASSES BENEATH A SEWER OR STORM DRAIN ENCASE THE SEWER OR DRAIN IN 6" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN.
9. WATER LINE TRENCH TO BE AWWA TYPE 5. A METALIZED DETECTABLE IDENTIFICATION TAPE 2" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE UTILIZED OVER THE LATERALS. TAPE SHALL BE SET AT APPROX. 1'-0" BELOW FINISHED GRADE.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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RECEIVED
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 ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES

GRADING, DRAINAGE, & UTILITY PLAN
SASA PLAZA
 A.P. 46 LOTS 43,44 & 45
 HARTFORD PIKE JOHNSTON, RI
 PREPARED FOR:
 SAM SASA
 40 HOPKINS AVENUE JOHNSTON, RI

ADVANCED CIVIL DESIGN, INC.
 CIVIL ENGINEERS

7 COUNTRYSIDE LANE
 SCITUATE, RI 02857

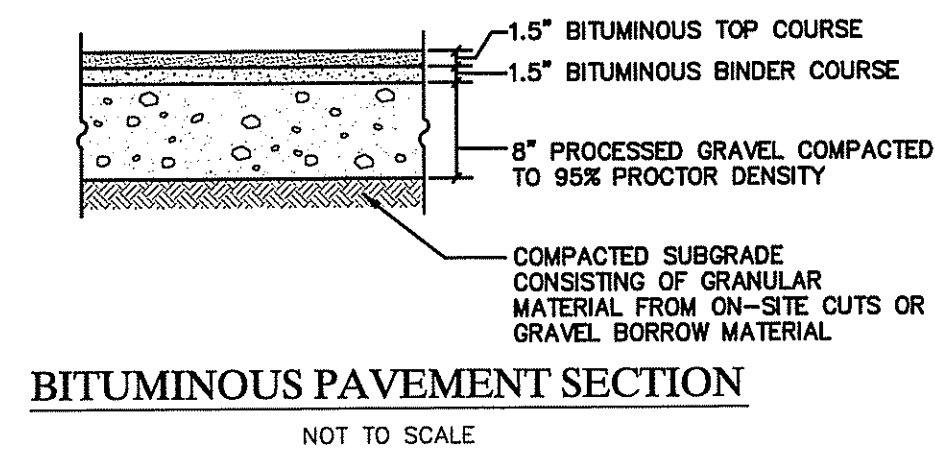
NICHOLAS J. PAMPIANO
 No. 6512
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

NO.	DATE	DESCRIPTION

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 SCALE: 1"=20'
 DESIGN/CHECK BY: N.J.P./C.S.R.

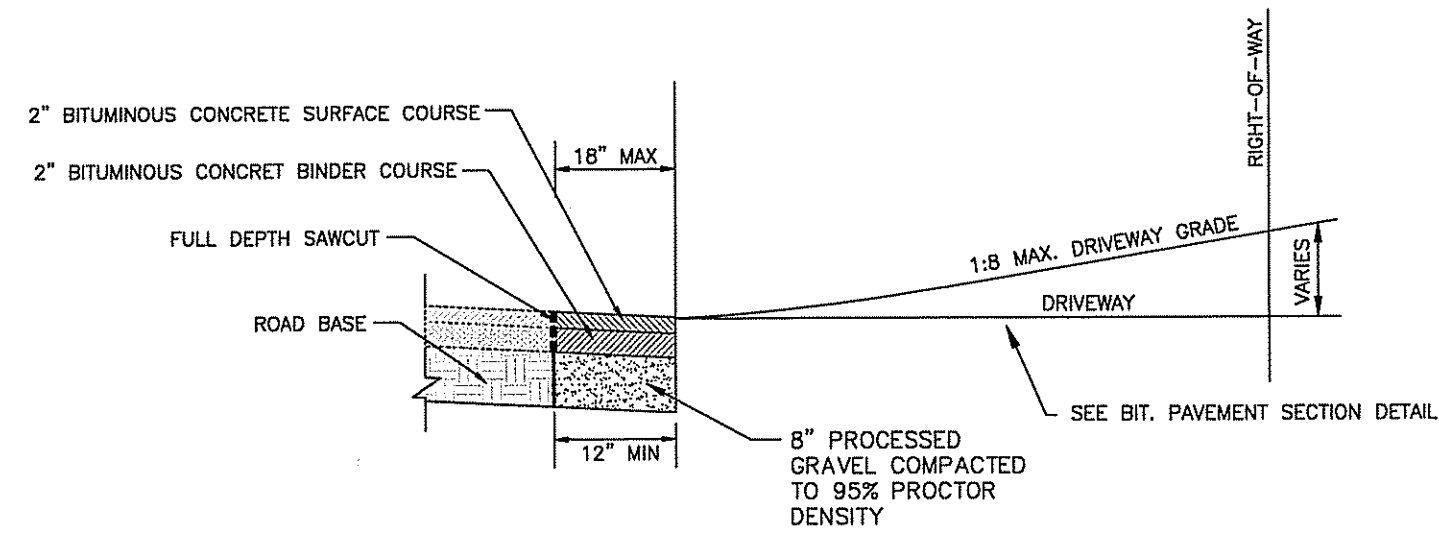
SHEET NO. **C-4**

PH 1: (401) 644-8656
 PH 2: (401) 473-4404
 4 OF 7



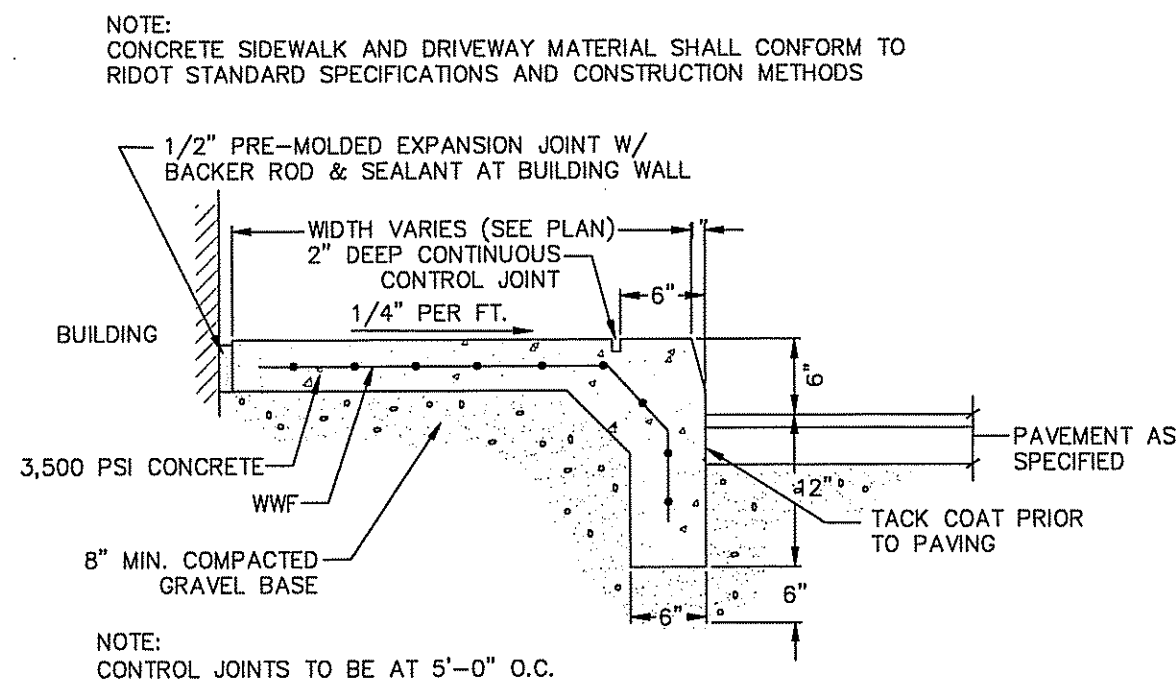
BITUMINOUS PAVEMENT SECTION

NOT TO SCALE



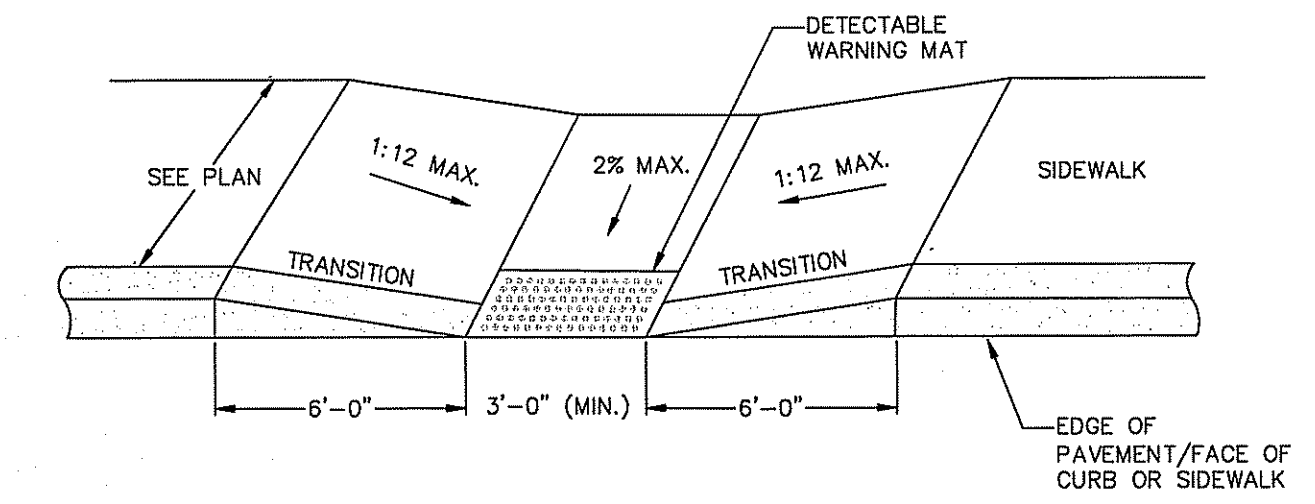
DRIVEWAY CUT/MATCH DETAIL

NOT TO SCALE



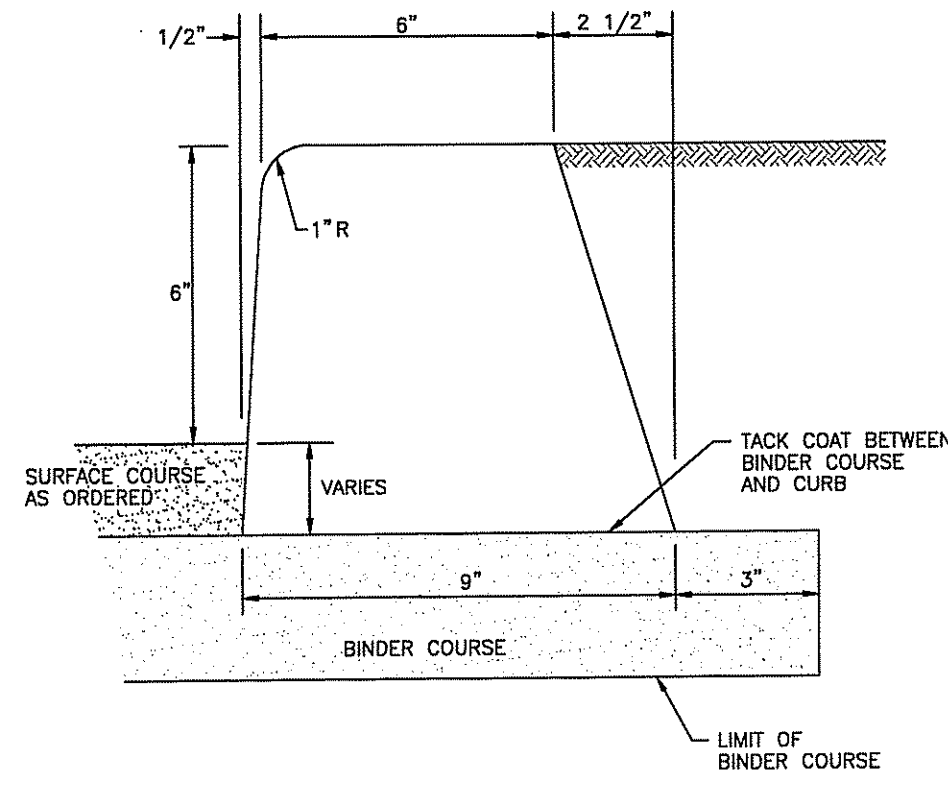
CONCRETE SIDEWALK W/ INTEGRAL CURB

NOT TO SCALE



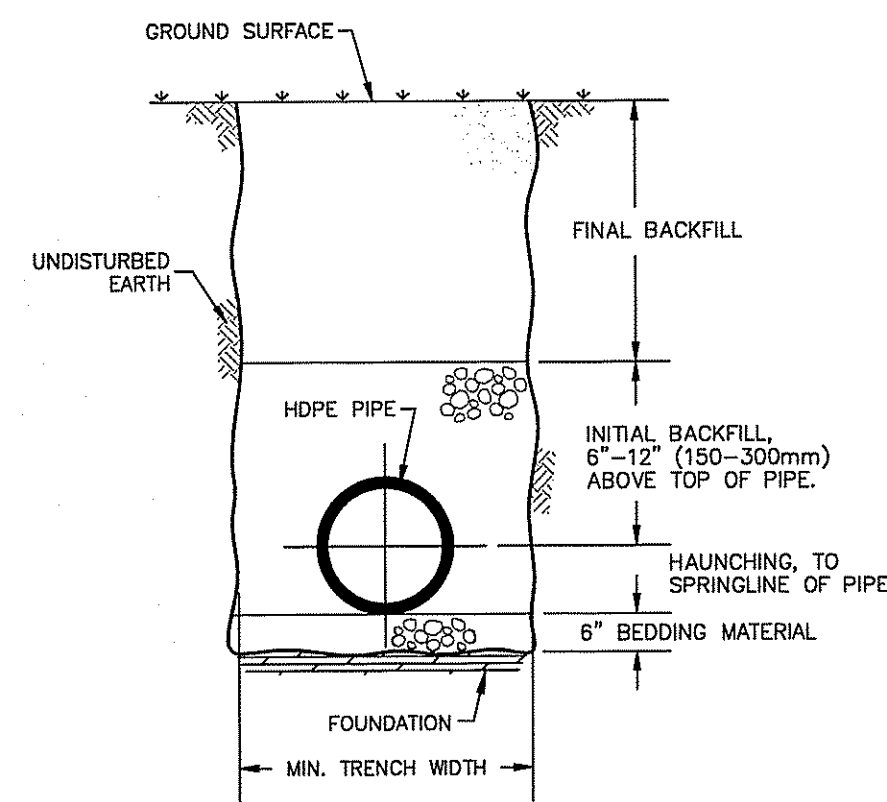
ACCESSIBLE (H.C.) SIDEWALK RAMP

NOT TO SCALE



BITUMINOUS CONCRETE LIP CURB

NOT TO SCALE



HDPE PIPE TRENCH DETAIL

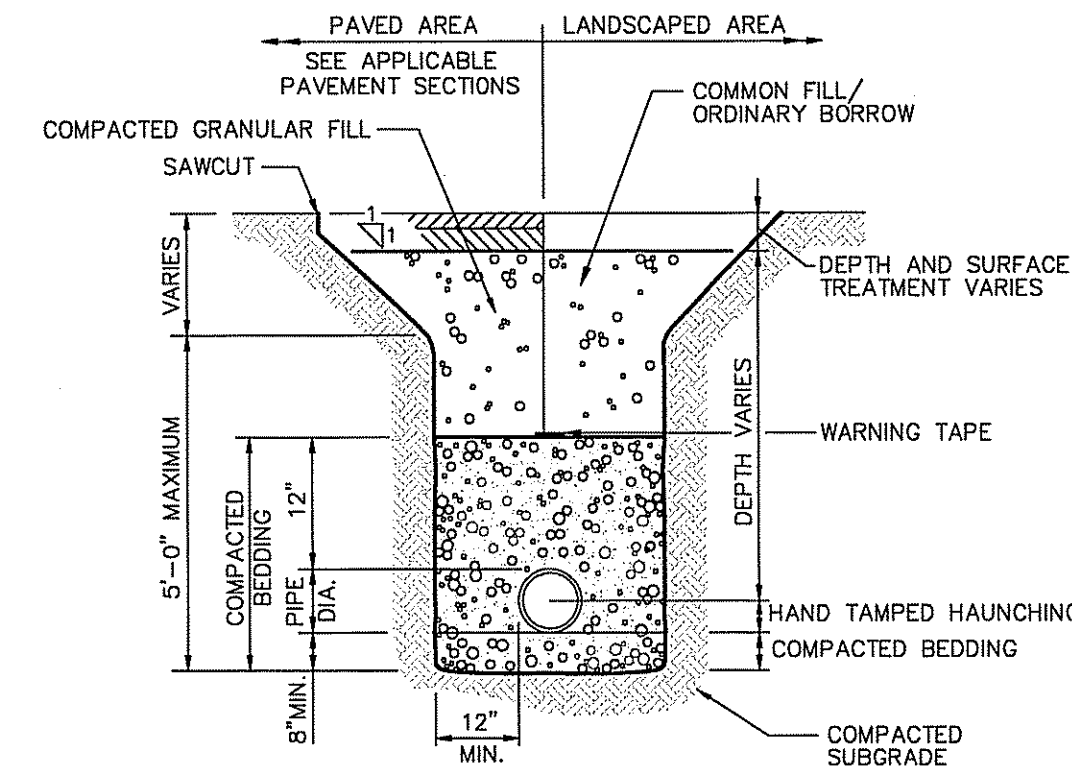
NOT TO SCALE

MINIMUM TRENCH WIDTHS:

PIPE DIA.	TRENCH WIDTH
8"	24"
9"	24"
10"	30"
12"	36"
15"	36"

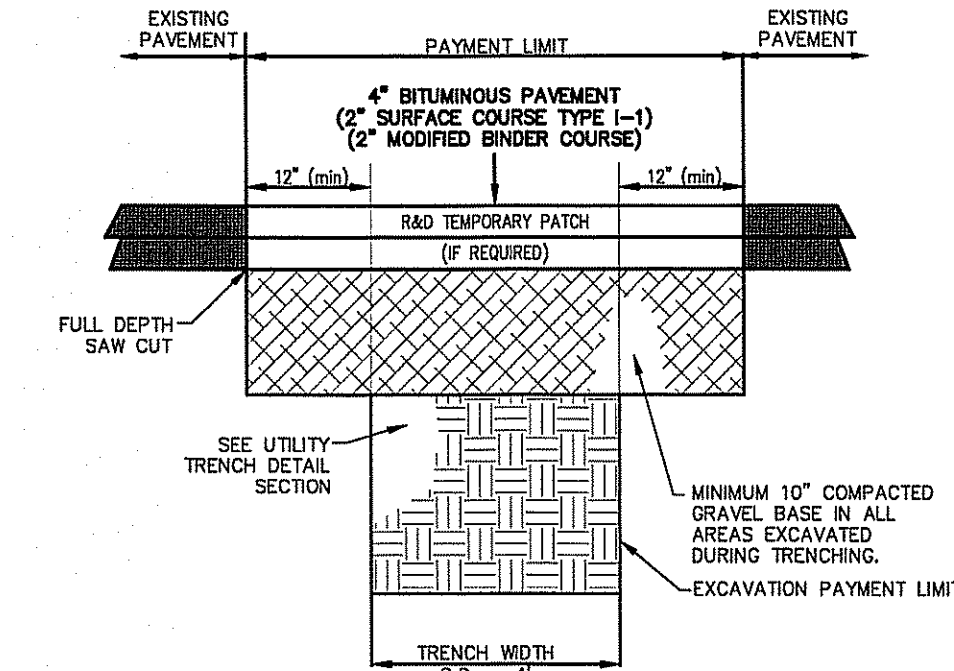
MINIMUM COVER FOR HDPE PIPE DIA. < 60" DIA.
H25 (FLEXIBLE PAVEMENT)
HEAVY CONSTRUCTION

- INITIAL BACKFILL, HAUNCHING, AND BEDDING MATERIAL SHALL CONFORM TO EITHER CLASS I, II, OR III STANDARDS.
- CLASS I - ANGULAR CRUSHED STONE OR ROCK, DENSE OR OPEN GRADED WITH LITTLE OR NO FINES (1/4" TO 1 1/2" SIZE)
- CLASS II - CLEAN, COARSE GRAINED MATERIALS, SUCH AS GRAVEL, COARSE SANDS, AND GRAVEL/SANDS MIXTURES (1 1/2" SIZE) (ASHTO CLASSIFICATION A1 & A3)
- CLASS III - COARSE GRAINED MATERIALS WITH FINES INCLUDING SILTY OR CLAYEY GRAVELS OR SANDS. GRAVEL OR SAND MUST COMPRISE MORE THAN 50% OF CLASS III MATERIALS (1 1/2" SIZE) (ASHTO CLASSIFICATIONS A-2-4 & A-2-5)



WATER LINE TRENCH DETAIL

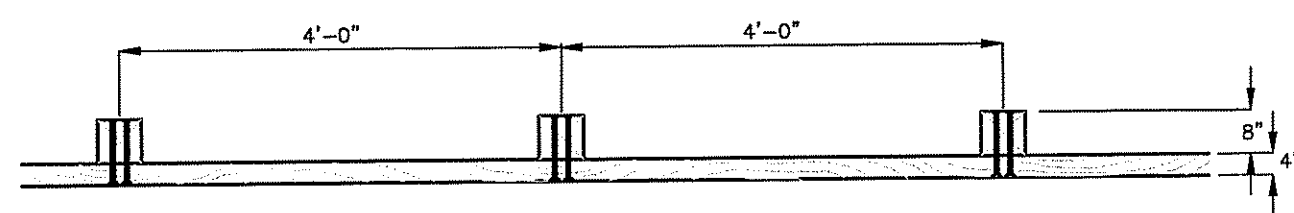
NOT TO SCALE



- NOTES:**
- REMOVE AND DISPOSE OF TOP 10" OF SELECTED BACKFILL AND RE-COMPACT TOP OF TRENCH PRIOR TO SPREADING THE BASE COURSE.
 - EXISTING PAVEMENT SHALL BE SAW CUT BACK AN ADDITIONAL 12" TO PAYMENT LIMIT LINE OR UNDISTURBED PAVEMENT, WHICHEVER IS GREATER.
 - TEMPORARY BITUMINOUS PAVEMENT, SELECTED BACKFILL AND UNSUITABLE MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF THE PERMANENT PAVEMENT.
 - ALL PREPARATION WORK SHALL BE APPROVED BY THE PROPER AUTHORITY PRIOR TO BACKFILL AND PAVING.

TRENCH SAWCUT & PATCH DETAIL

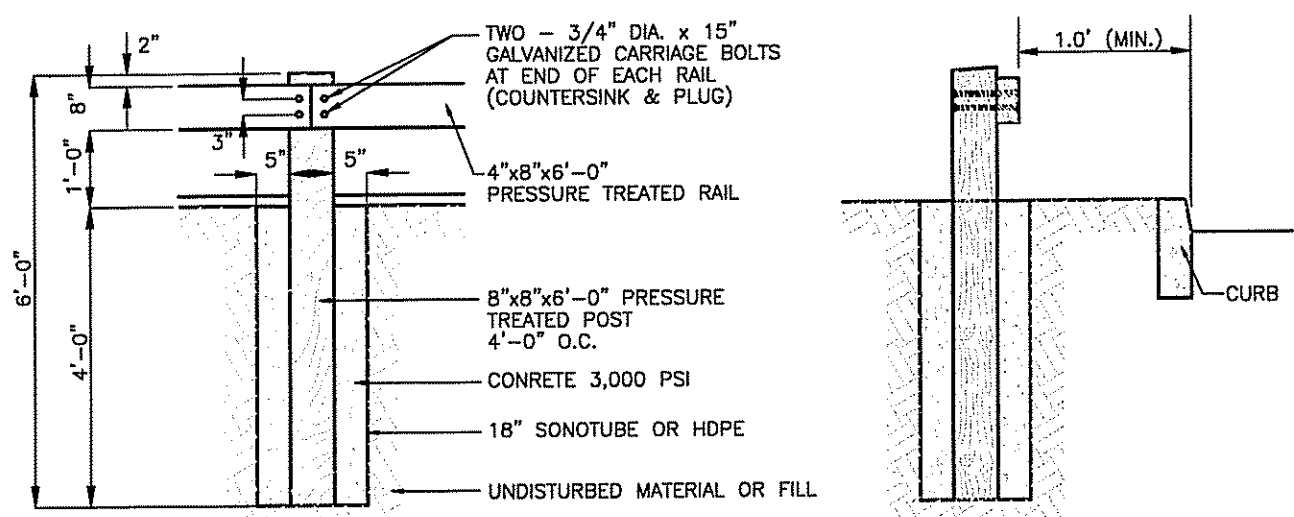
NOT TO SCALE



TIMBER GUARDRAIL DETAIL

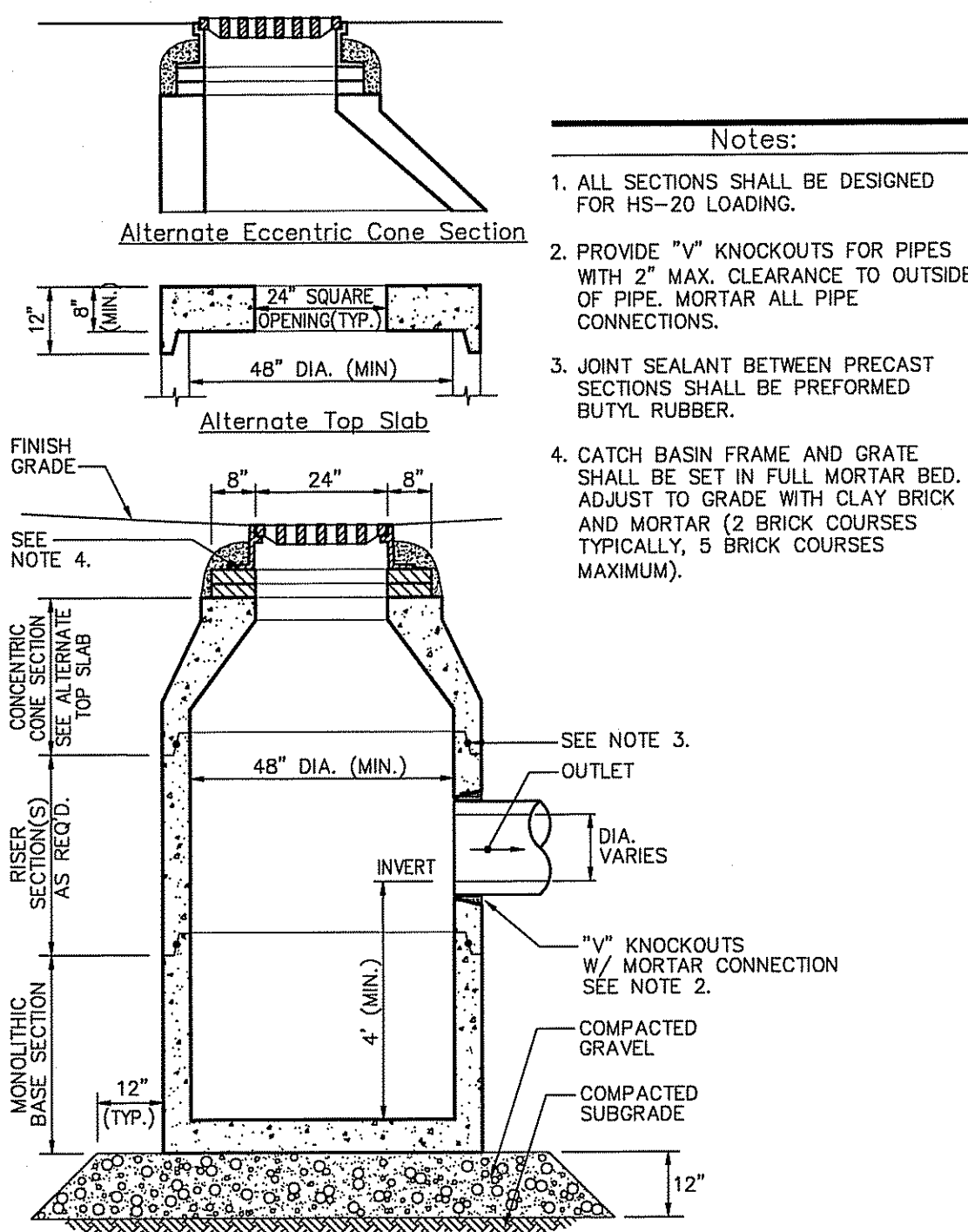
SETTING DETAIL @ RETAINING WALL

NOT TO SCALE



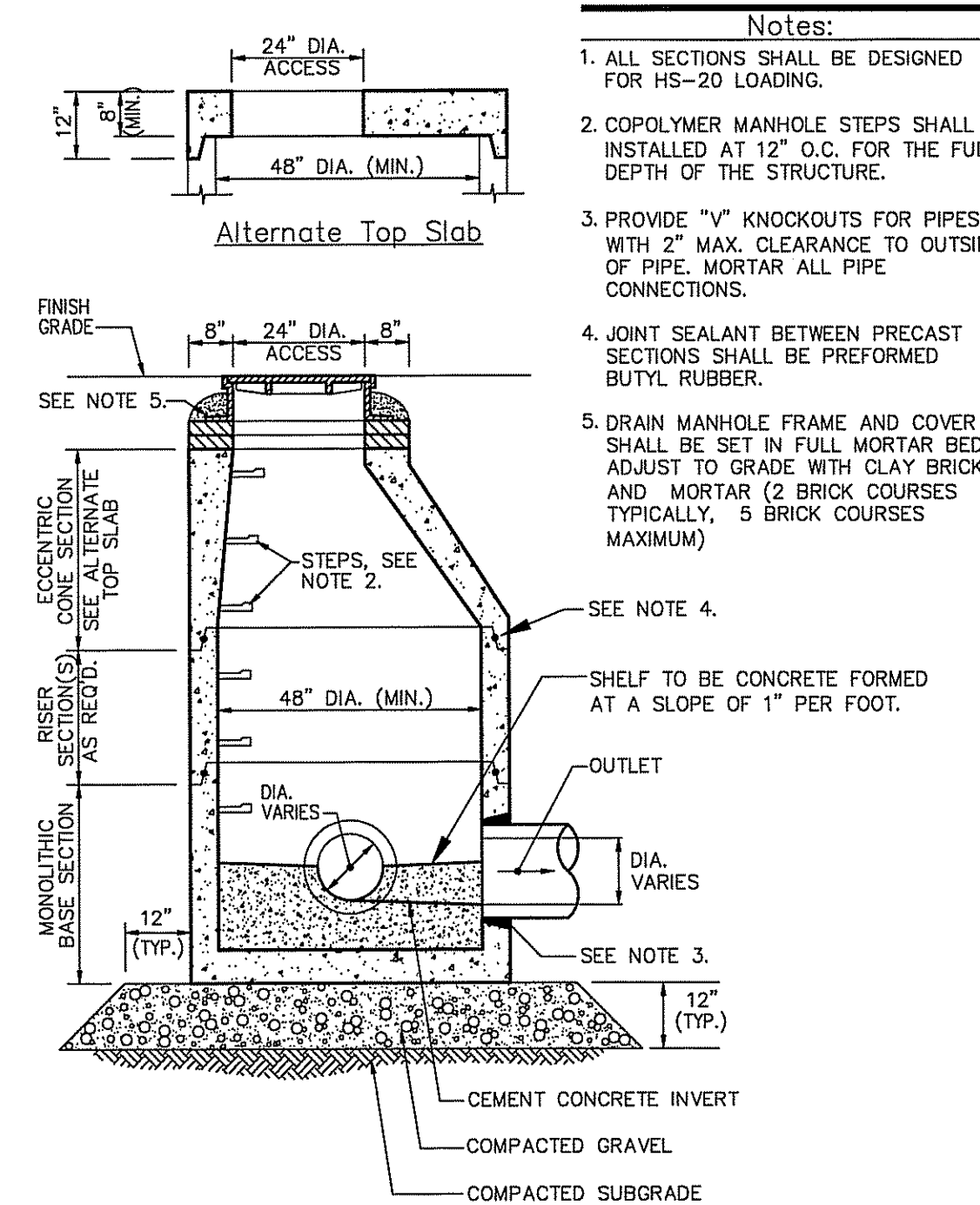
TYPICAL WATER SERVICE CONNECTION

NOT TO SCALE



PRECAST 48" DIA. CATCH BASIN

NOT TO SCALE

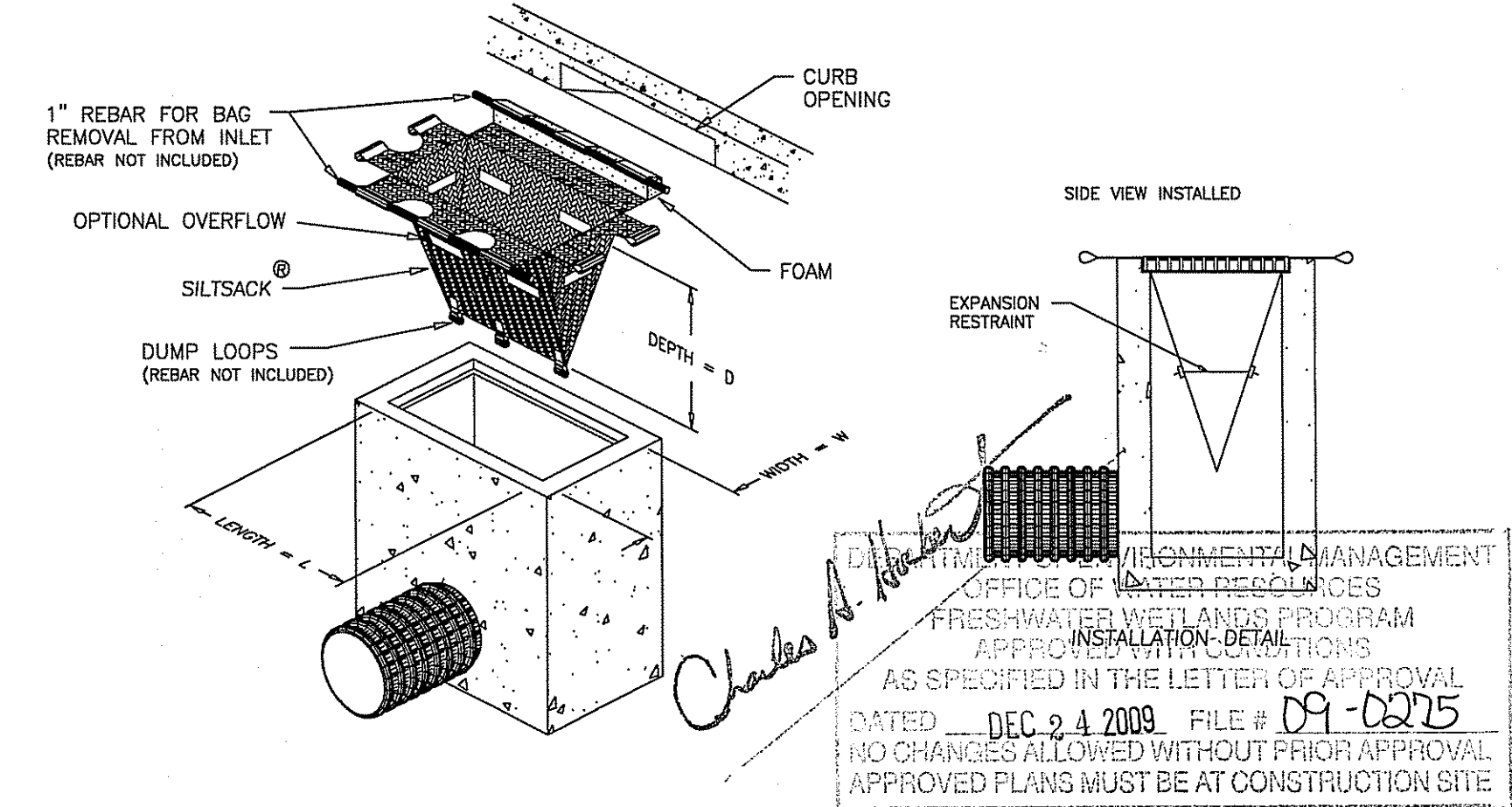


PRECAST 48" DIA. DRAIN MANHOLE

NOT TO SCALE

- Notes:**
- ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 - PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 - CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

- Notes:**
- ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 - COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
 - PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 - DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)



INLET PROTECTION DEVICE - SILT SACK

NOT TO SCALE

DETAILS-1
SASA PLAZA
A.P. 46 LOTS 43,44 & 45
HARTFORD PIKE JOHNSTON, RI
PREPARED FOR:
SAM SASA
40 HOPKINS AVENUE JOHNSTON, RI

NICHOLAS J. PIAMPIANO
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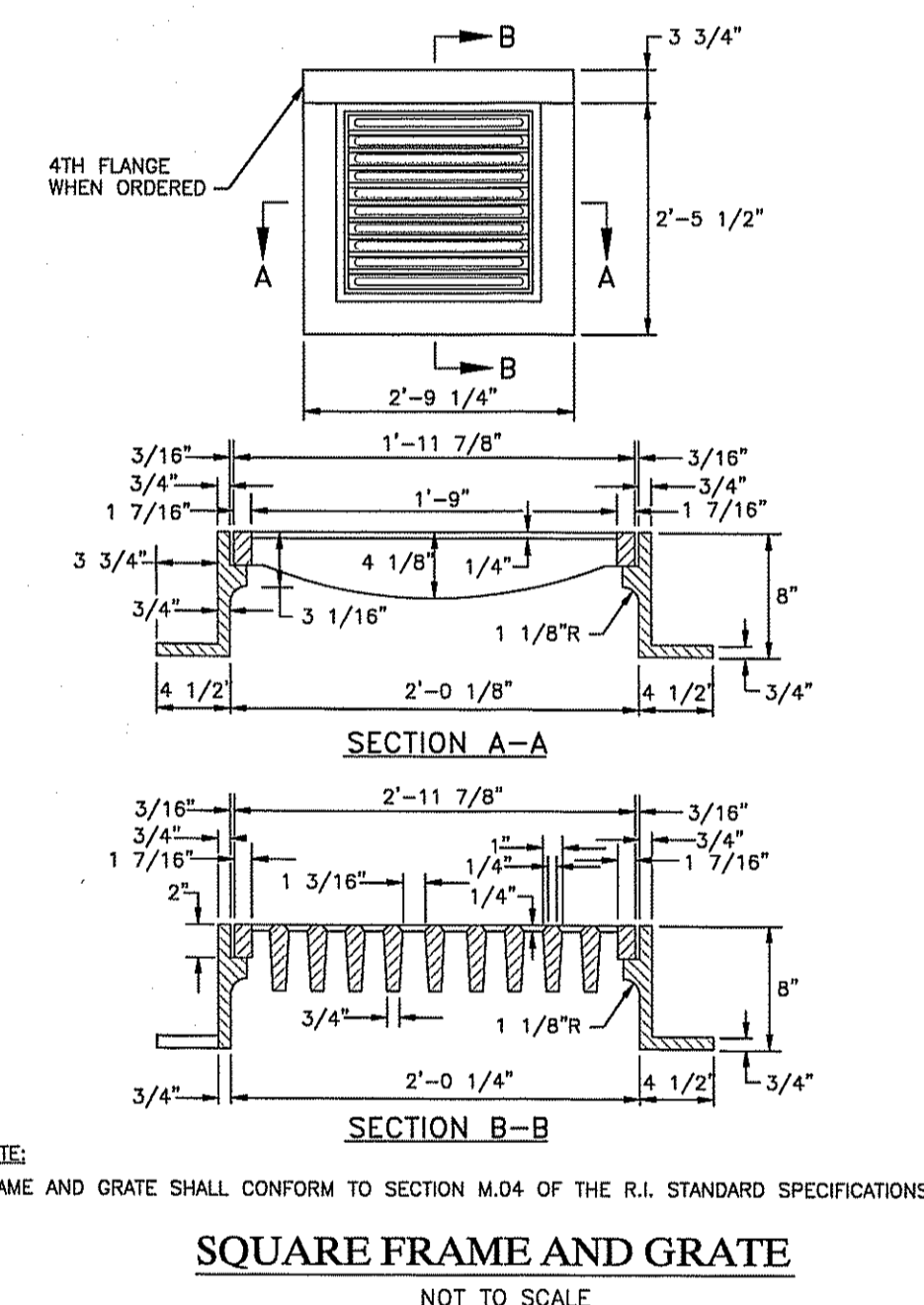
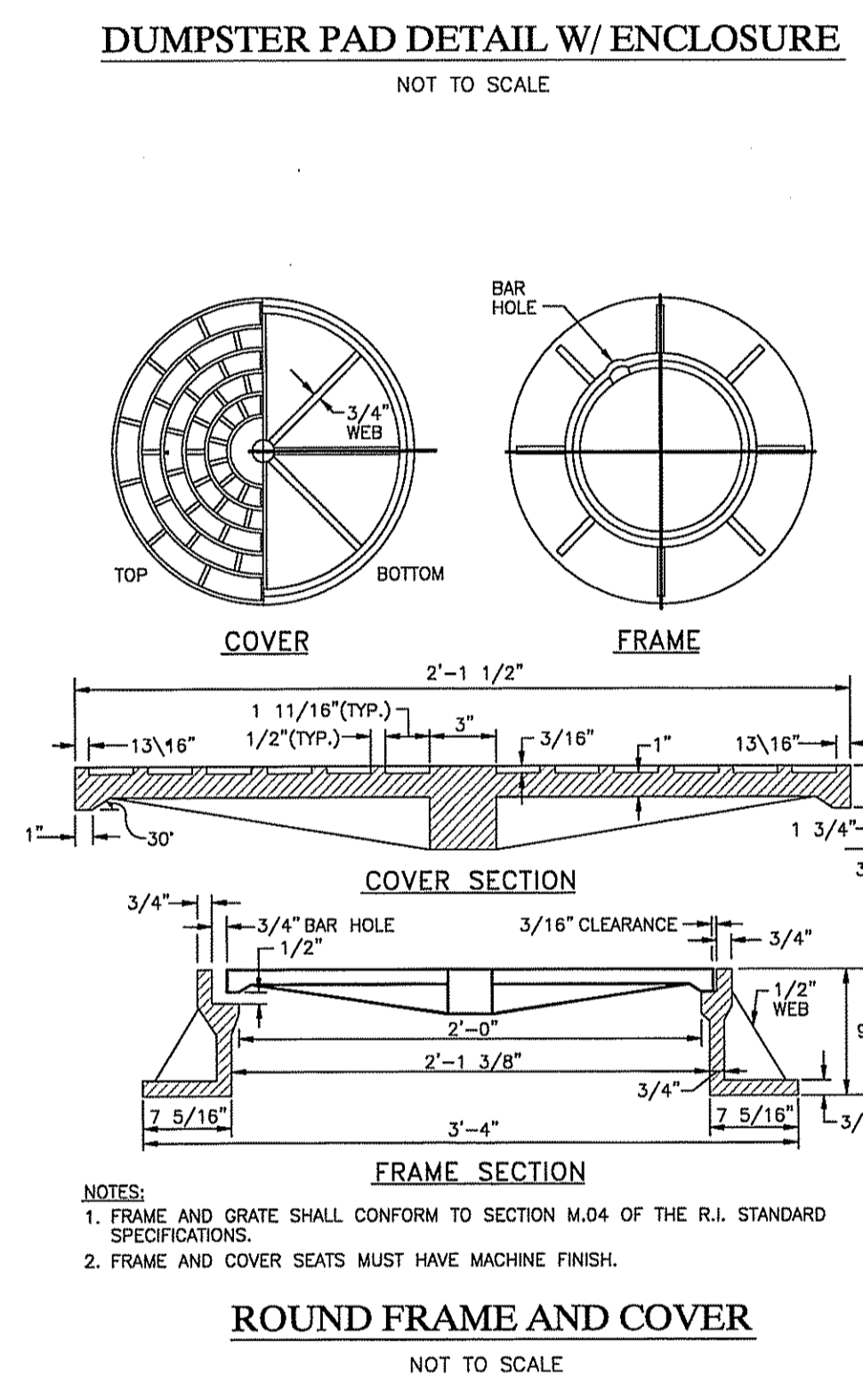
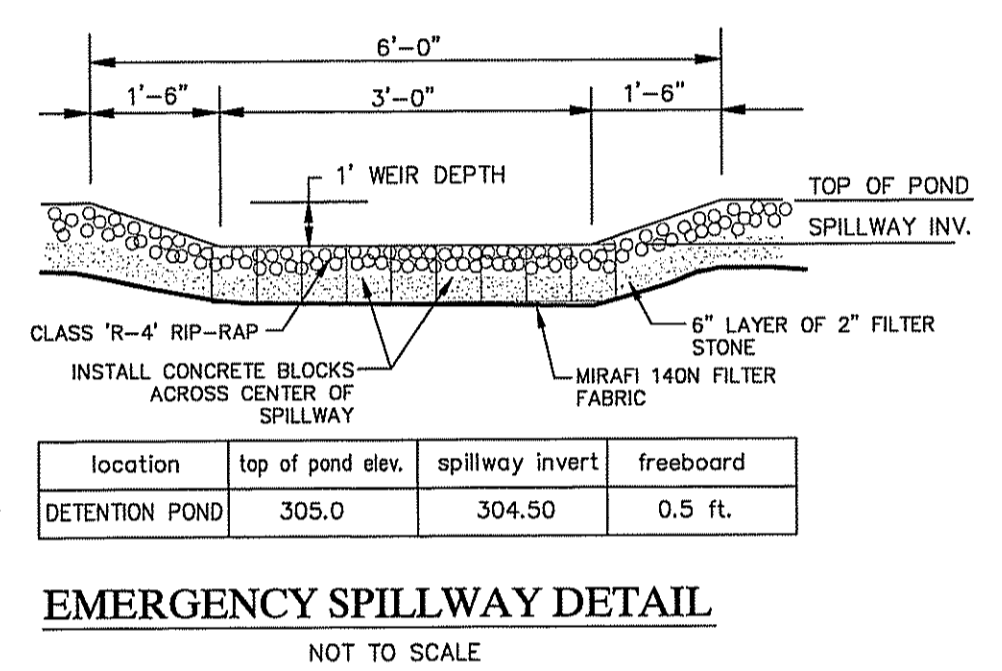
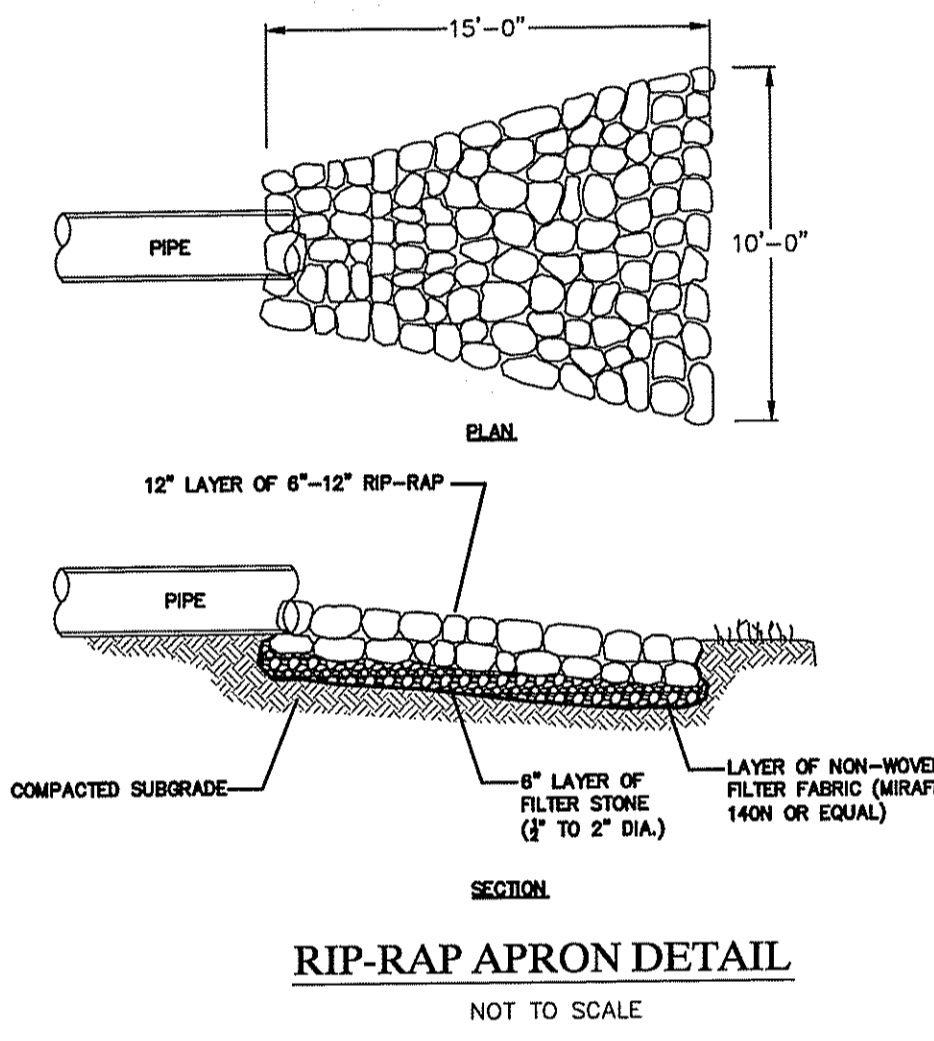
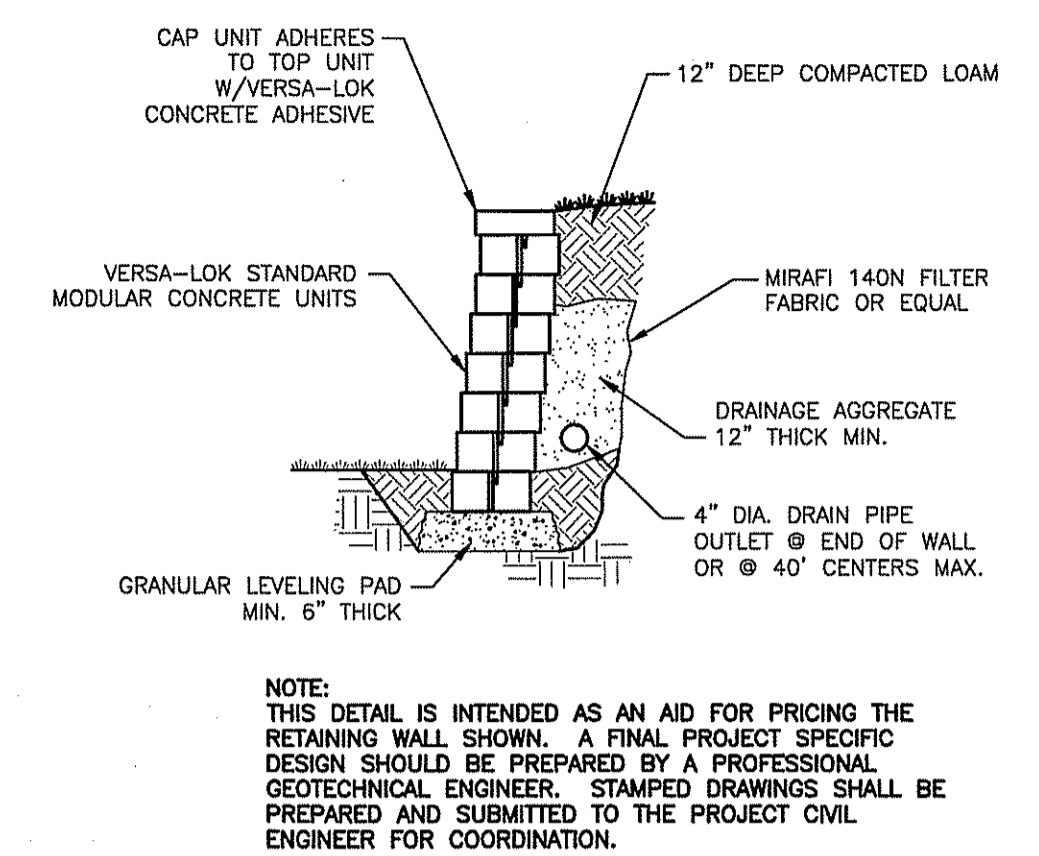
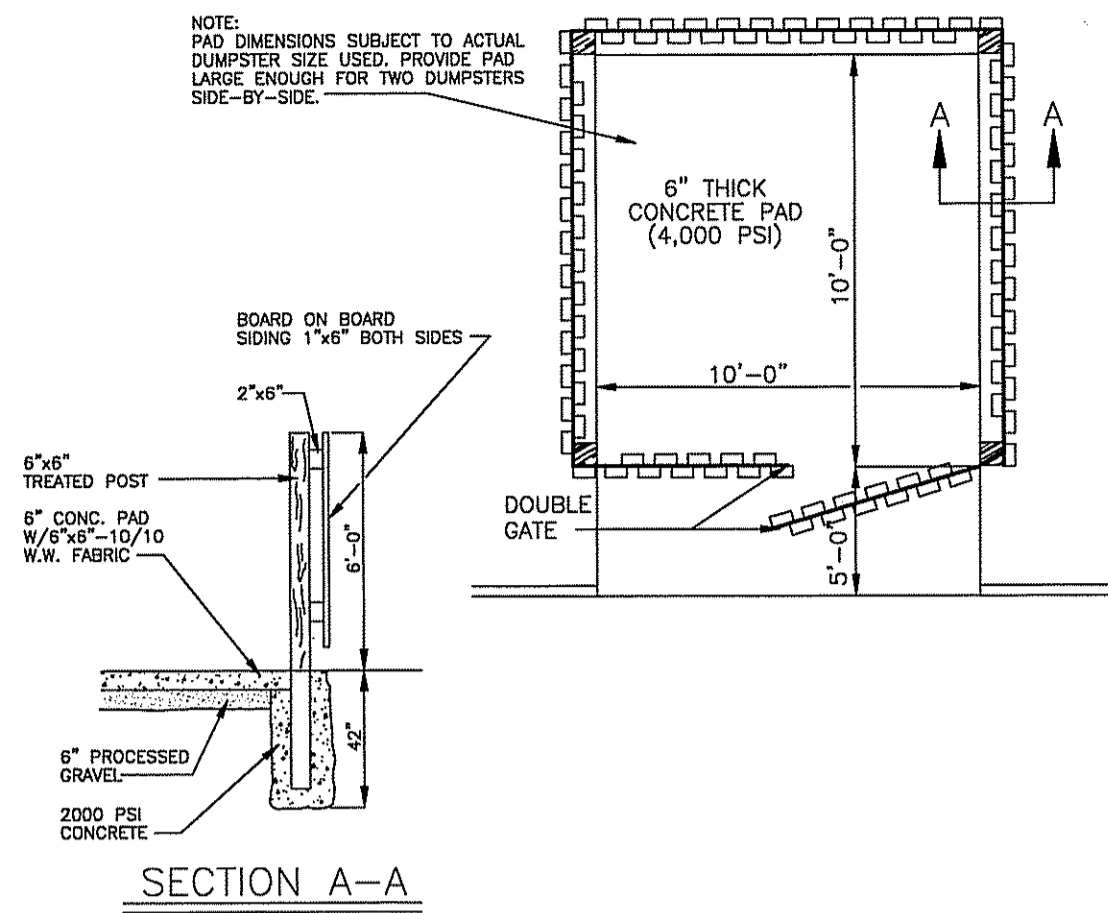
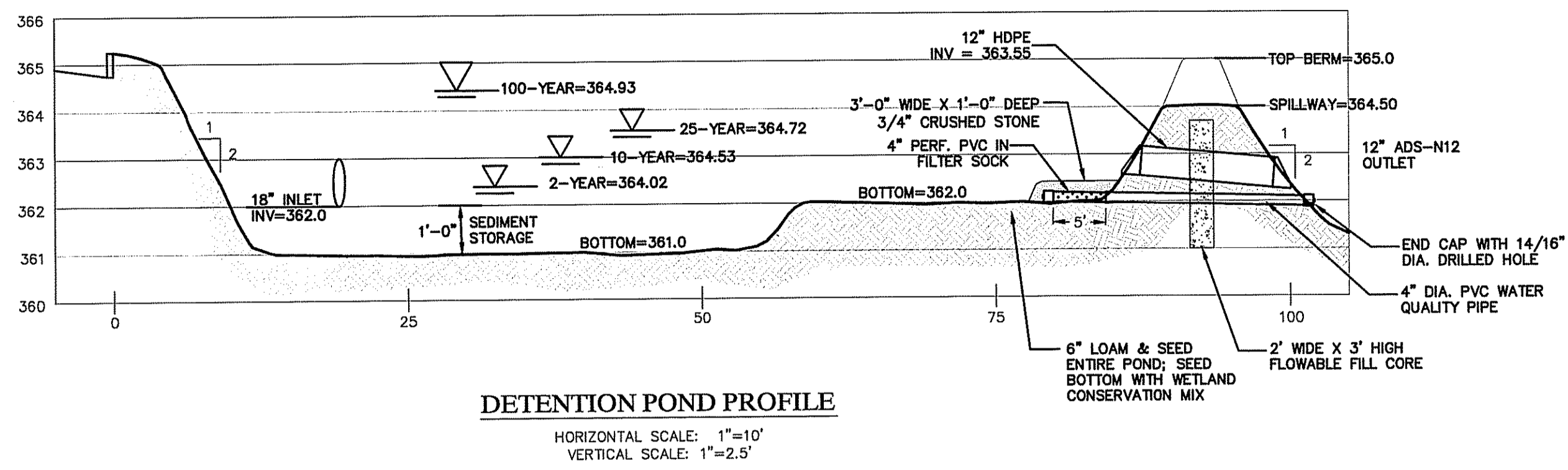
RECEIVED
OCT 30 2009
ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED INSTALLATION CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED DEC 24 2009 FILE # 09-0225
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

ADVANCED CIVIL DESIGN, INC.
CIVIL ENGINEERS

7. COUNTRYSIDE LANE
SCITUATE, RI 02857

PH 1: (401) 644-8656
PH 2: (401) 473-4404

SHEET NO.
C-6
6 OF 7



Charles J. Piampiano
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED DEC 24 2009. FILE # 09-0275
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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 OCT 30 2009
 ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES

DETAILS-1 SASA PLAZA A.P. 46 LOTS 43,44 & 45 HARTFORD PIKE JOHNSTON, RI PREPARED FOR: SAM SASA 40 HOPKINS AVENUE JOHNSTON, RI		NO.	DATE	DESCRIPTION
		DATE: OCTOBER 19, 2009 SCALE: 1"=20' DESIGN/CHECK BY: N.J.P./C.S.R.		
ADVANCED CIVIL DESIGN, INC. CIVIL ENGINEERS 7 COUNTRYSIDE LANE SCITUATE, RI 02857		SHEET NO. C-7 7 OF 7		

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