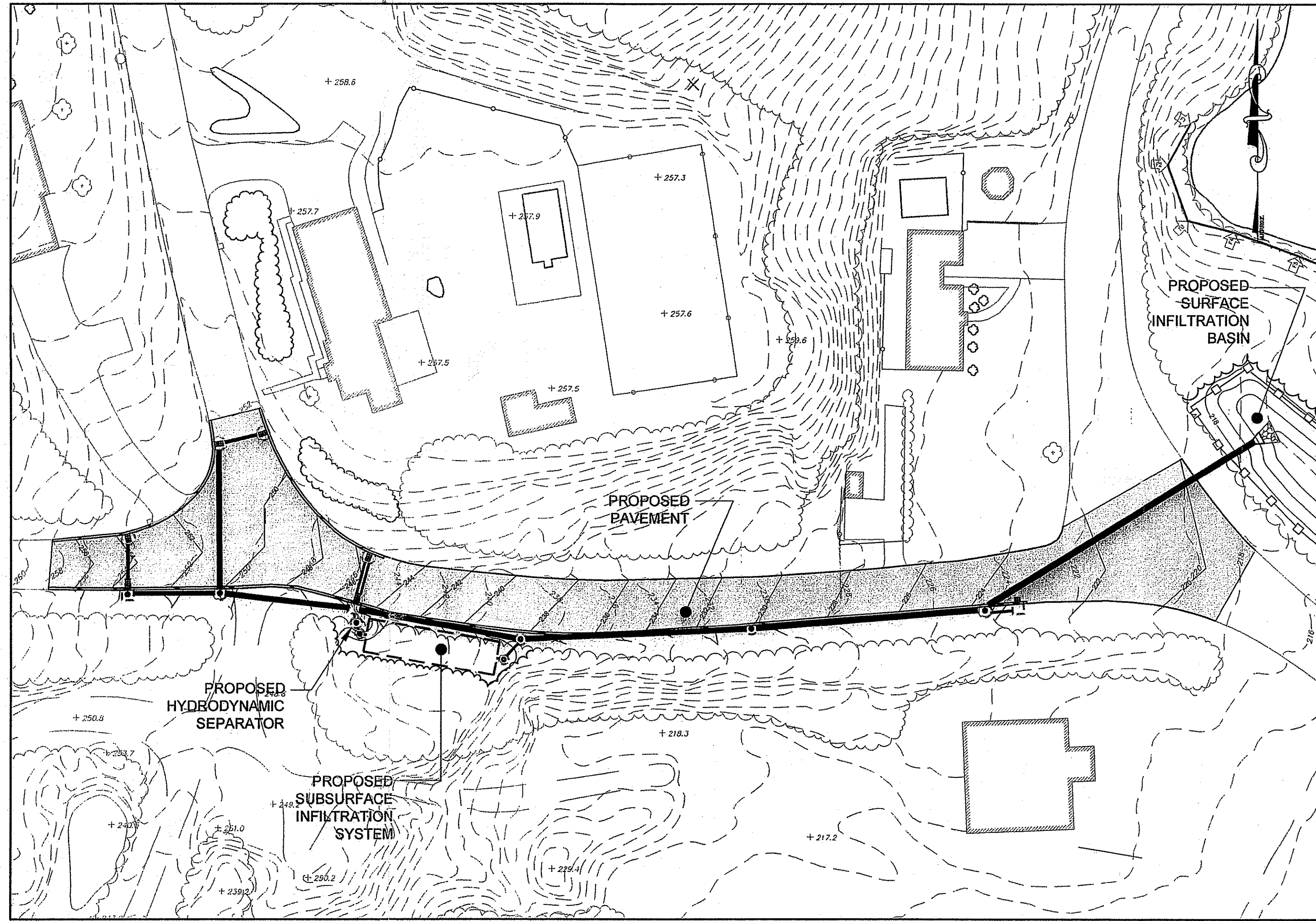


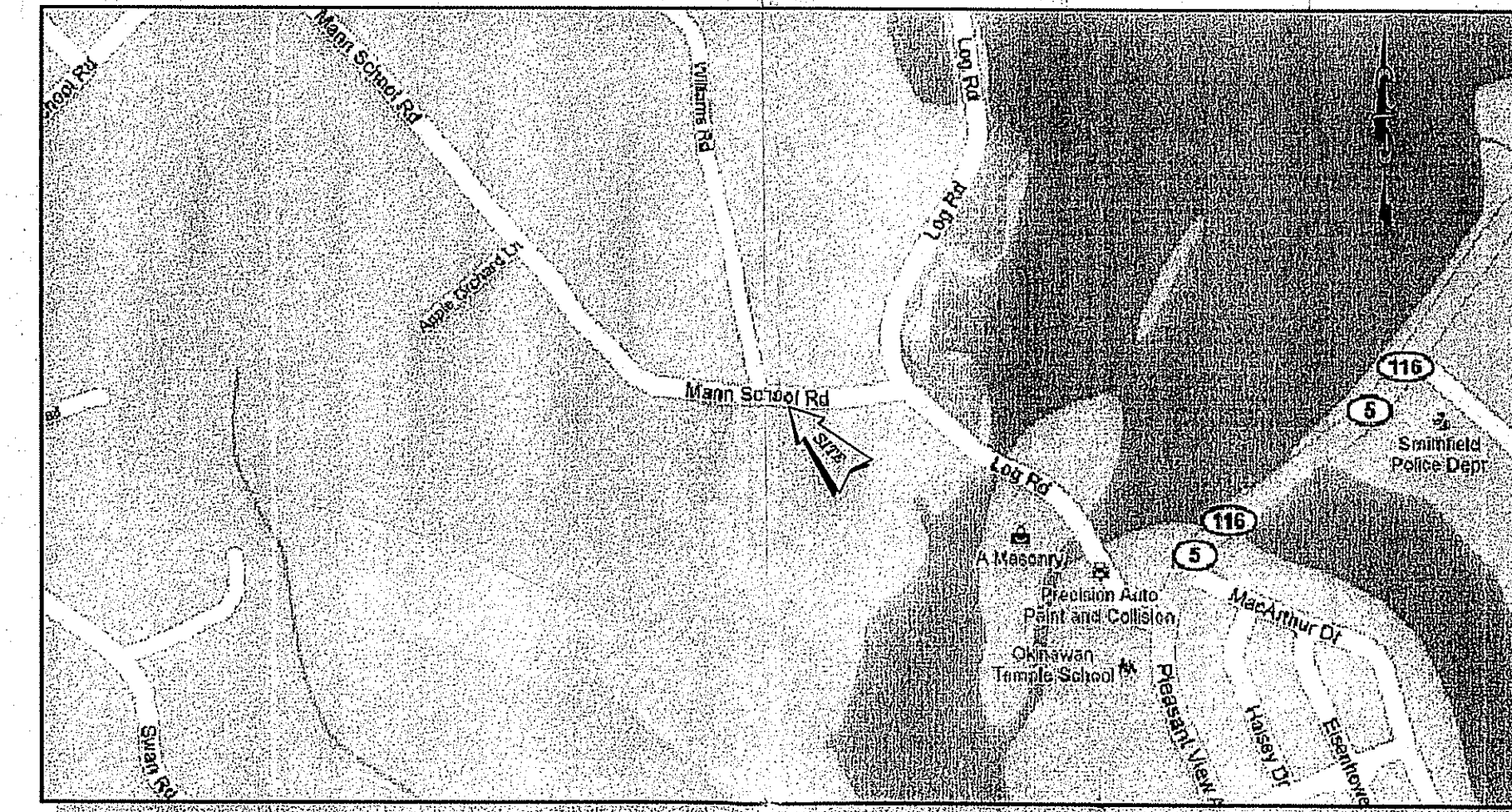
# MANN SCHOOL ROAD

## PROPOSED STORM DRAINAGE IMPROVEMENTS

### A.P. 46 LOTS 10 & 45 AND ADJACENT RIGHT OF WAYS MANN SCHOOL, WILLIAMS AND LOG ROADS SMITHFIELD, RHODE ISLAND



**SITE PLAN**  
1" = 40'

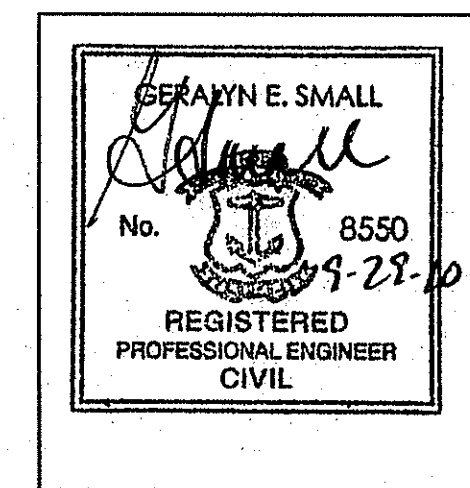


**LOCUS MAP**  
(TAX ASSESSORS - NTS)

**CLIENT/OWNER:**

TOWN OF SMITHFIELD  
C/O KEVIN CLEARY, TOWN ENG.  
64 FARNUM PIKE  
SMITHFIELD, RHODE ISLAND  
02917

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



**SHEET INDEX**

- |                                   |             |
|-----------------------------------|-------------|
| COVER SHEET                       | SHEET 1     |
| SITE / CIVIL NOTES                | SHEET 2     |
| EXISTING CONDITIONS               | SHEET 3     |
| PROPOSED IMPROVEMENTS             | SHEET 4     |
| PROFILES                          | SHEET 5     |
| SOIL EROSION AND SEDIMENT CONTROL | SHEET 6     |
| PROPOSED UTILITY CROSSINGS        | SHEET 7     |
| DETAILS                           | SHEETS 8-10 |

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED **DEC - 2 2010** FILE # **10-0212**  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

**SUBMISSION SUMMARY**

AGENCY:	DATE:	COMMENTS:
RIDEM WETLANDS	SEPT. 2010	PRELIMINARY DETERMINATION

Mann School Road Drainage (Dated 9-29-10)  
PLAT 46 LOT(s) 10 & 45 - SE # 10-230  
Proposed storm drainage improvements -  
Mann School, Williams & Log Roads  
TOWN OF SMITHFIELD - DATE RECEIVED: 10-05-2010

RECEIVED  
OCT 05 2010  
TOWN OF SMITHFIELD  
TOWN ENGINEERS OFFICE



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55 JOHN CLARKE ROAD • MIDDLETOWN • RI 02842 • P.401.849.0810 • F.401.846.4169 • [NORTHEASTENGINEERS.COM](http://NORTHEASTENGINEERS.COM)  
CIVIL • SITE • LAND DEVELOPMENT • COASTAL ENGINEERING • ENVIRONMENTAL • GEOTECHNICAL • STRUCTURAL • TRANSPORTATION • SURVEYING

**GENERAL NOTES:**

- ALL ELEVATIONS BASED ON THE NAVD 88.
- NORTH ARROW SCALED FROM TAX ASSESSOR'S PLAT MAP.
- TOPOGRAPHIC INFORMATION TAKEN FROM AERIAL PHOTOGRAMMETRY (JUNE 2001) AND PROVIDED BY THE TOWN OF SMITHFIELD. EXISTING UTILITY LOCATION DATA ALSO PROVIDED BY THE TOWN AND SHOULD BE CONSIDERED APPROXIMATE.
- WETLAND FLAGGING WAS PERFORMED BY GIFFORD DESIGN GROUP IN MAY 2010 AND SURVEY LOCATED BY THE TOWN OF SMITHFIELD.
- PROPERTY LINES ON THESE PLANS ARE TAKEN FROM PLANS PROVIDED BY THE TOWN OF SMITHFIELD AND SHOULD BE CONSIDERED APPROXIMATE.
- THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, MATERIAL, SPECIFICATIONS AND BENCHMARK AND SHALL NOTIFY THE TOWN AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS WITH THE TOWN OF SMITHFIELD. NO CONSTRUCTION IS TO COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED.
- METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE TOWN OF SMITHFIELD AND THE RI DEPARTMENT OF TRANSPORTATION. STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2004 AND ALL CURRENT ADDENDA, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF, AS IF ATTACHED HERETO.
- DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER AND TOWN.
- THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO BE MADE TO PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR IS REQUIRED TO VERIFY THE LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER UTILITIES NOT ON RECORD OR SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REPAIR AND REINSTATEMENT OF UTILITY SERVICES DAMAGED DURING CONSTRUCTION.
- NO RELOCATION OF ANY UTILITIES IS PROPOSED AS PART OF THIS CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, WALKS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK OF THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER."
- ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING PLANS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM ALL AVAILABLE INFORMATION. (PLEASE CONTACT DIG SAFE PRIOR TO CONSTRUCTION AT 1-888-DIG-SAFE (1-888-344-7233) AND/OR ALL LOCAL UTILITY COMPANIES).

**SOIL EROSION & SEDIMENT CONTROL NOTES:**

**GENERAL CONSTRUCTION SEQUENCE:**  
THE FOLLOWING GENERAL CONSTRUCTION SEQUENCE IS RECOMMENDED.

**I. CONSTRUCTION SEQUENCE:**

- DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- INSTALL RIDEM SIGNAGE FOR DISPLAY OF APPROVED PERMIT NUMBER.
- ESTABLISH RIGHT OF WAY LIMITS.
- INSTALL STONE CONSTRUCTION ENTRANCE AT UTILIZED PROJECT ENTRANCES WHERE APPROPRIATE.
- COMMENCE REMOVAL OF TREES INDICATED.
- INSTALL HAYBALES AND SILT FENCE AS DELINEATED ON PLAN.
- REMOVE AND DISPOSE OF EXISTING PAVEMENT IN AREA OF WORK.
- COMMENCE ROUGH GRADING.
- BEGIN INSTALLATION OF REQUIRED DRAINAGE SYSTEM, INSTALLING ALL INLET PROTECTION SILT SACKS AS THE CONSTRUCTION OF EACH STRUCTURE IS COMPLETED. DRAINAGE SYSTEM SHALL BE CONSTRUCTED STARTING WITH WATER QUALITY BASIN AND PROGRESSING UPSTREAM.
- PAVE AREA OF WORK AND MAINTAIN THE SITE IN ACCORDANCE WITH THE MAINTENANCE NOTES.

**II. GENERAL NOTES:**

- DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT, WHEN LAND IS EXPOSED DURING DEVELOPMENT. THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
- ANY ROUGH GRADED AREAS DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
- AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
- ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT SUBSIDENCE, OR OTHER RELATED PROBLEMS.
- ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 12" IN THICKNESS.
- FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LUGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION SUBGRADE
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF FINISH GRADING IN ACCORDANCE WITH THE VEGETATIVE PRACTICE NOTES.
- REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.
- WATER DOUSING TO AREAS OF EXPOSED SOIL DURING PERIODS OF DRY WEATHER SHALL BE USED TO MINIMIZE THE POTENTIAL FOR AIRBORNE DUST FROM CONSTRUCTION AREAS. A TACKIFIER SHALL BE USED IN PARTICULARLY DRY WEATHER IF DEEMED NECESSARY BY THE SITE ENGINEER OR THE TOWN ENGINEER.
- ALL ADJACENT PAVED ROADWAYS SHALL BE SWEEPED AT REGULAR INTERVALS TO ASSIST IN DUST CONTROL.

**SOIL EROSION & SEDIMENT CONTROL NOTES (CONT):**

**III. VEGETATIVE PRACTICE:**

- SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL UNLESS OTHERWISE SPECIFIED.
- LOAM SHALL BE SCREENED TO 3/4" AND SHALL BE FREE OF ROOTS, STICKS AND VEGETATION. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED AND GRADED TO A SMOOTH CONDITION.
- LIMESTONE AND FERTILIZER SHALL BE APPLIED TO THE FOLLOWING RATE:  
LIMESTONE: 9 TONS/ACRE  
FERTILIZER: (10-10-10): 600 LBS/ACRE
- SEED SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 112 LB/ACRE
- HAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.

**GRADING & DRAINAGE NOTES**

- NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED BY THE TOWN AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT RUNOFF FROM LEAVING THE SITE.
- ALL GRADED AREAS SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER THE GRUBBING WORK HAS BEEN COMPLETED.
- THE TOWN SHALL BE INFORMED OF THE LOCATION OF THE DISPOSAL SITE, IF ANY, FOR THE PROJECT.
- THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. THIS PROJECT WILL REQUIRE A RIDEM FRESHWATER WETLANDS AND UIC PERMIT.
- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE GRADING WORK IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.
- NONCOMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECT TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.
- SLOPES GREATER THAN 2:1 ARE NOT ALLOWED. SLOPES UP TO 3:1 SHALL BE LOAMED AND SEEDED. SLOPES GREATER THAN 3:1 (BUT LESS THAN 2:1) SHALL RECEIVE A MINIMUM OF 1 FOOT THICK MULCH AND SHALL BE PROPERLY PLANTED WITH SLOPE STABILIZING SPECIES SUCH AS JUNIPER. MULCHING MATERIAL AS WELL AS PLANT SPECIES MUST BE APPROVED BY THE TOWN ENGINEER
- REFERENCE PUBLICATION FOR EROSION AND SEDIMENT CONTROLS SHALL BE THE LATEST EDITION OF THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK".

**STORMWATER MAINTENANCE SCHEDULE**

- GRASSES AND/OR SPECIFIED VEGETATION SHALL BE PLANTED AROUND AND WITHIN THE INFILTRATION BASIN IMMEDIATELY FOLLOWING CONSTRUCTION TO STABILIZE SLOPES AND PREVENT EROSION.
- IF A MINIMUM COVERAGE OF 50% OF THE BASIN IS NOT ACHIEVED AFTER A SECOND GROWING SEASON, A SECOND SEEDING IS RECOMMENDED.
- THE INFILTRATION BASIN SHALL BE MOWED AT LEAST THREE TIMES PER GROWING SEASON TO PREVENT UNWANTED GROWTH.
- THE BASIN SHALL BE INSPECTED AT LEAST TWICE A YEAR FOR EVIDENCE OF EROSION. AREAS WHERE EROSION PROBLEMS ARE OBSERVED SHALL BE RE-SEEDING AND, IF DEEMED NECESSARY BY THE DESIGN OR TOWN ENGINEER, AN EROSION CONTROL BLANKET SHALL BE INSTALLED TO PREVENT FURTHER DAMAGE.
- THE INFILTRATION BASIN SHALL BE INSPECTED FOR POOLS OF STAGNANT WATER. EVIDENCE OF PONDING CAUSED BY AN UNLEVEL BASIN BOTTOM SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER, AND THE AREA SHALL BE RE-GRADED AND RESTORED TO PREVENT THE FORMATION OF HABITAT AREAS FOR NUISANCE INSECTS.
- IF THERE IS AN OBVIOUS LOSS OF DRAINAGE FROM THE INFILTRATION BASIN, THE BASIN SHALL BE DRAINED AND THE BOTTOM DEEP TILLED. THE BASIN SHALL BE IMMEDIATELY RESEED. THIS WORK SHALL BE DONE ONLY DURING THE GROWING SEASON.
- TRASH, LITTER AND DEBRIS SHALL BE REMOVED FROM ALL SURFACE STORMWATER FACILITIES AT LEAST FOUR TIMES A YEAR TO PREVENT BLOCKAGE OF OUTLET PIPES. IN LOCATIONS WHERE SIGNIFICANT VOLUMES OF DEBRIS ARE OBSERVED, THE DEVICES SHALL BE CAREFULLY INSPECTED TO IDENTIFY IF ANY DAMAGE HAS OCCURRED.
- THE STRUCTURAL INTEGRITY OF ALL OUTLET STRUCTURES SHALL BE CHECKED AT LEAST TWICE A YEAR. STRUCTURAL FAULTS, CRACKED PIPES OR DAMAGED GRATES/TRASH RACKS SHALL BE REPAIRED IMMEDIATELY.
- STORMCEPTER UNIT SHOULD BE CHECKED QUARTERLY DURING THE FIRST YEAR OF OPERATION TO DETERMINE THE RATE OF SEDIMENT AND OIL ACCUMULATION. MAINTENANCE SHOULD BE PERFORMED ONCE THE SEDIMENT DEPTH IN THE BOTTOM OF THE UNIT REACHES 18". SUBSEQUENT MAINTENANCES SHOULD BE COMPLETED AT INTERVALS BASED ON THE TIME TILL RECOMMENDED ACCUMULATION. STORMCEPTER CLEANING SHALL BE ACCOMPLISHED BY VACUUM TRUCK.
- INLET DRAIN BASIN UG1 (SEE SHEET PR-1) AND INFILTRATION GALLEYS SHALL BE INSPECTED ANNUALLY FOR SEDIMENTS. SHOULD SEDIMENTS BE PRESENT GREATER THAN 3" IN DEPTH IN THE BASIN SUMP OR 1" IN THE GALLEYS, THE SEDIMENT REMOVAL MAINTENANCE FREQUENCY OF THE STORMCEPTER UNIT SHALL BE INCREASED. BASIN SUMP AND GALLEY CLEANING SHALL BE ACCOMPLISHED BY A VACUUM TRUCK.
- ALL ROADS SHALL BE SWEEPED ANNUALLY IN THE SPRING, TO REMOVE ACCUMULATED SEDIMENTS.
- MAINTENANCE OF THE STORMWATER SYSTEM DURING CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTORS.
- UPON COMPLETION OF CONSTRUCTION, MAINTENANCE OF THE STORMWATER SYSTEM SHALL BECOME THE RESPONSIBILITY OF THE TOWN OF SMITHFIELD PUBLIC WORKS AND SHOULD BE COMPLETED AS RECOMMENDED.

**ABBREVIATIONS:**

AC	ASPHALT PAVEMENT
ADJ	ADJACENT
AP	ASSESSOR'S PLAT
ACCESS	ACCESSIBLE
ARCH	ARCHITECT
BC	BOTTOM OF CURB
BH	BORING HOLE
BIT	BITUMINOUS
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECT
COTG	CLEAN OUT TO GRADE
CF	CUBIC FOOT
DEMO	DEMOLISH
DI	DRAIN INLET
DIA	DIAMETER
DMH	DRAIN MANHOLE
EQ	DROP PIPE
DS	DOWN SPOUT
DWG	DRAWING
E	ELECTRIC
ELEV/EL	ELEVATION
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EXIST	EXISTING
EXP	EXPANSION
FFE	FINISH FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FT	FEET
G	GAS
GAL	GALLON
GV	GATE VALVE
INV	INVERT
JT	JOINT
L	LENGTH
LAND	LANDSCAPE
NTS	NOT TO SCALE
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
PAVT	PAVEMENT
PVC	POLYVINYLCHLORIDE
R	RADIUS
RC	REINFORCED CONCRETE
RECONN	RECONNECT
RHB	RHODE ISLAND HIGHWAY BOUND
RIDOT	RI DEPARTMENT OF TRANSPORTATION
ROW	RIGHT OF WAY
S	SLOPE, SEWER
SE	SQUARE FEET
SHT	SHEET
SMH	SEWER MANHOLE
STA	STATION
STRUCT	STRUCTURAL
TC	TOP OF CURB
TOP	TOP OF SURFACE
UGT	UNDERGROUND TELEPHONE
TYP	TYPICAL
W	WATER
W	WITH

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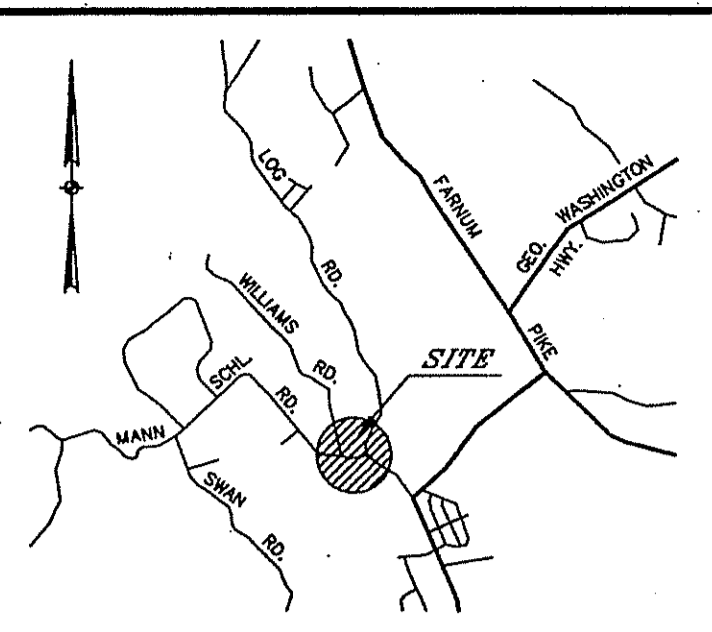
- SITE/CIVIL
- LAND PLANNING
- WATERFRONT
- SURVEYING
- GEOTECHNICAL
- ENVIRONMENTAL
- TRANSPORTATION
- STRUCTURAL
- MATERIALS TESTING

No.	Revision	Date	App.
Designed By:	Drawn by: JJR	Checked by:	
Scale:	N/A	Date:	01SEP10
Project Title: <b>MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS</b> SMITHFIELD, RHODE ISLAND			
Client/Owner: TOWN OF SMITHFIELD			
Issued for:			
Drawing Title: <b>SITE / CIVIL NOTES</b>			
Drawing Number: <b>N-1</b>		Sheet <b>2</b> of <b>10</b>	
No. <b>8550</b>		Project Number: <b>10001</b>	
Dated <b>DEC - 2 2010</b>		Survey Index: <b>NOV</b>	
<p>OWNERSHIP AND USE OF DOCUMENTS: DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THESE DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECTS OR PURPOSES, OR BY ANY OTHER PARTIES, THAN THOSE PROPERLY AUTHORIZED BY CONTRACT, WITHOUT THE EXPRESS AUTHORIZATION OF THE ENGINEER.</p>			

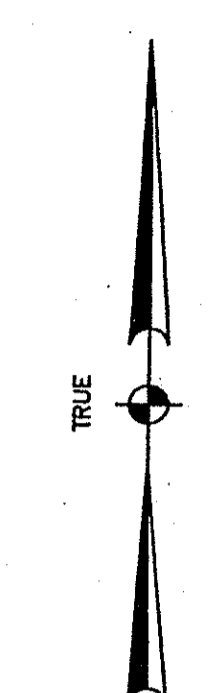
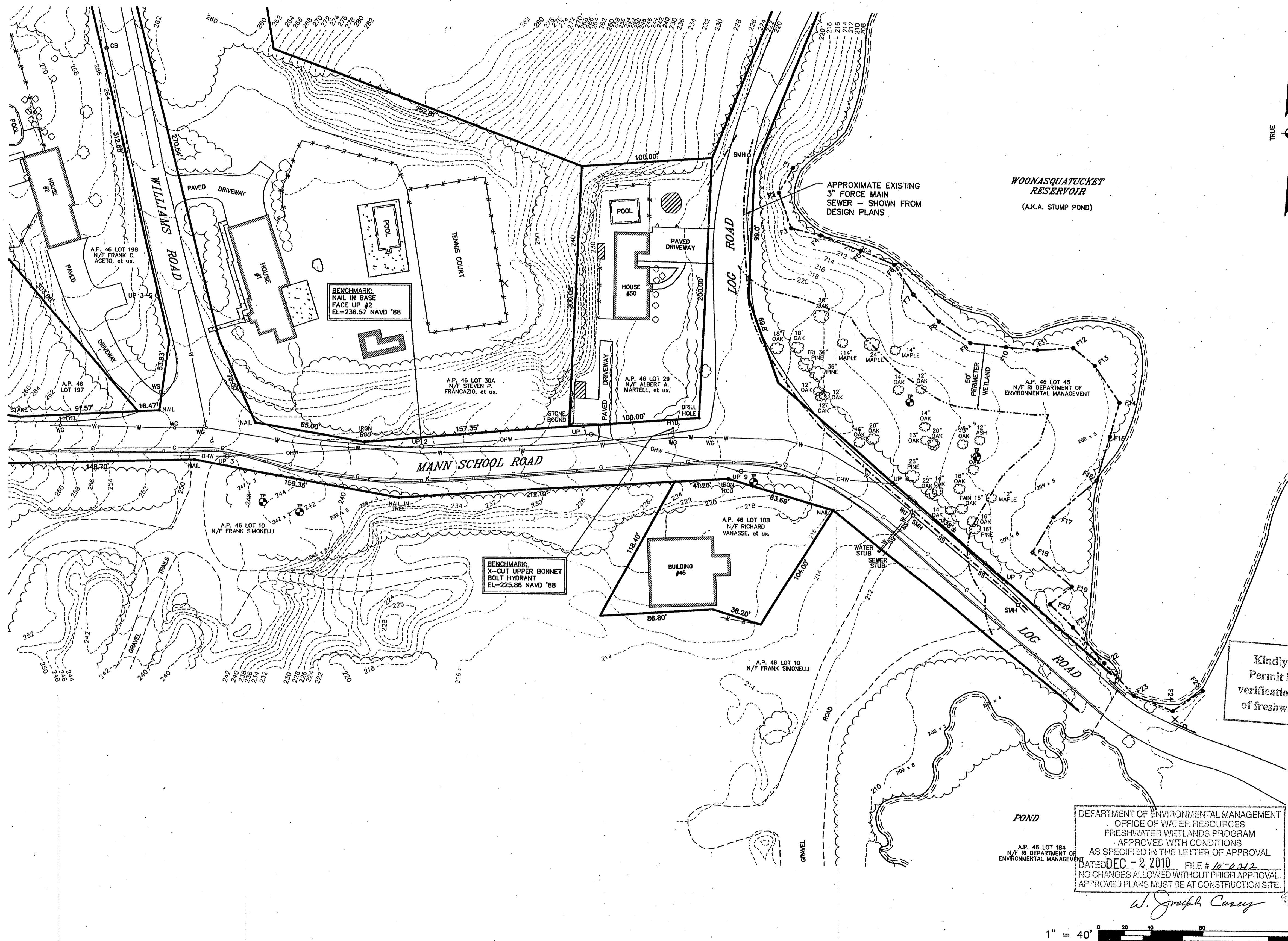
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED DEC - 2 2010 FILE # 12-0212  
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*J. Joseph Carey*



LOCUS MAP  
(NOT TO SCALE)



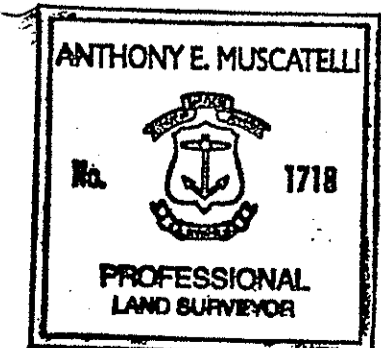
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

**LEGEND:**

- EXISTING SPOT ELEVATION 238 x 5
- EXISTING WATER LINE — W —
- EXISTING WATER GATE ○ WG
- EXISTING HYDRANT ○ HYD.
- EXISTING SERVICE ○ WS
- EXISTING SANITARY SEWER LINE — SS —
- EXISTING SEWER MANHOLE ○ SMH
- EXISTING GAS LINE — G —
- EXISTING CATCH BASIN ○ CB
- EXISTING UTILITY POLE ○ U
- APPROXIMATE EXISTING 3" FORCE MAIN SEWER — - - - -
- EXISTING OVERHEAD WIRES — OHW —
- EXISTING CONTOUR — 250
- WETLAND FLAG — F —
- 50' PERIMETER WETLAND — F —
- EXISTING TREE / APPROXIMATE SIZE & TYPE ○ 20' OAK

**NOTE:**  
1) THE UTILITIES HEREON ARE SHOWN FROM SURVEY LOCATIONS OF SURFACE STRUCTURES AND PAINT MARKINGS AND ARE TO BE FIELD VERIFIED PRIOR TO ANY EXCAVATION. CONTACT DIG-SAFE PRIOR TO CONSTRUCTION. (1-888-DIG-SAFE)

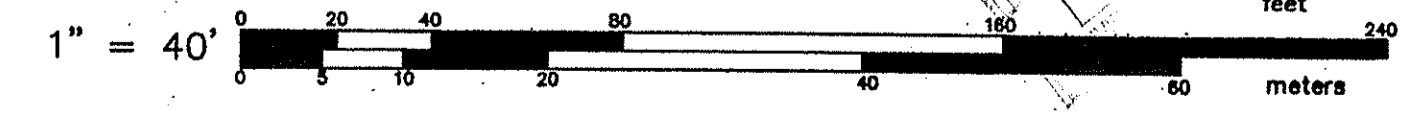
**CERTIFICATION:**  
THIS SURVEY AND PLAN CONFORM TO THE FOLLOWING CLASS STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.  
BOUNDARY SURVEY CLASS I  
SITE PLAN CLASS III  
TOPOGRAPHIC SURVEY CLASS III



By *Anthony Muscatelli* 10-1-10  
REGISTERED PROFESSIONAL LAND SURVEYOR DATE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED DEC - 2 2010 FILE # 12-0222  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

*W. Joseph Carney*



<b>TOWN OF SMITHFIELD</b>		
64 FARNUM PIKE, ESMOND, RI 02917 (401) 233-1041		
<b>EXISTING CONDITIONS PLAN</b>		
TOWN OF SMITHFIELD - DEPT. OF PUBLIC WORKS LOG ROAD, MANN SCHOOL ROAD & WILLIAMS ROAD SMITHFIELD, RI		
ADDED TREES & PLANTS	10/06/10	2
ADDED TOPO	03/03/10	1
REVISIONS	DATE	NO.
DRAWN BY	PAK	
CKD. BY	KRR	
APPRD. BY	AEM	
DATE	2/11/10	
SCALE	1"=40'	
SHEET	1 OF 1	
DWG. NO.	100102-SP	

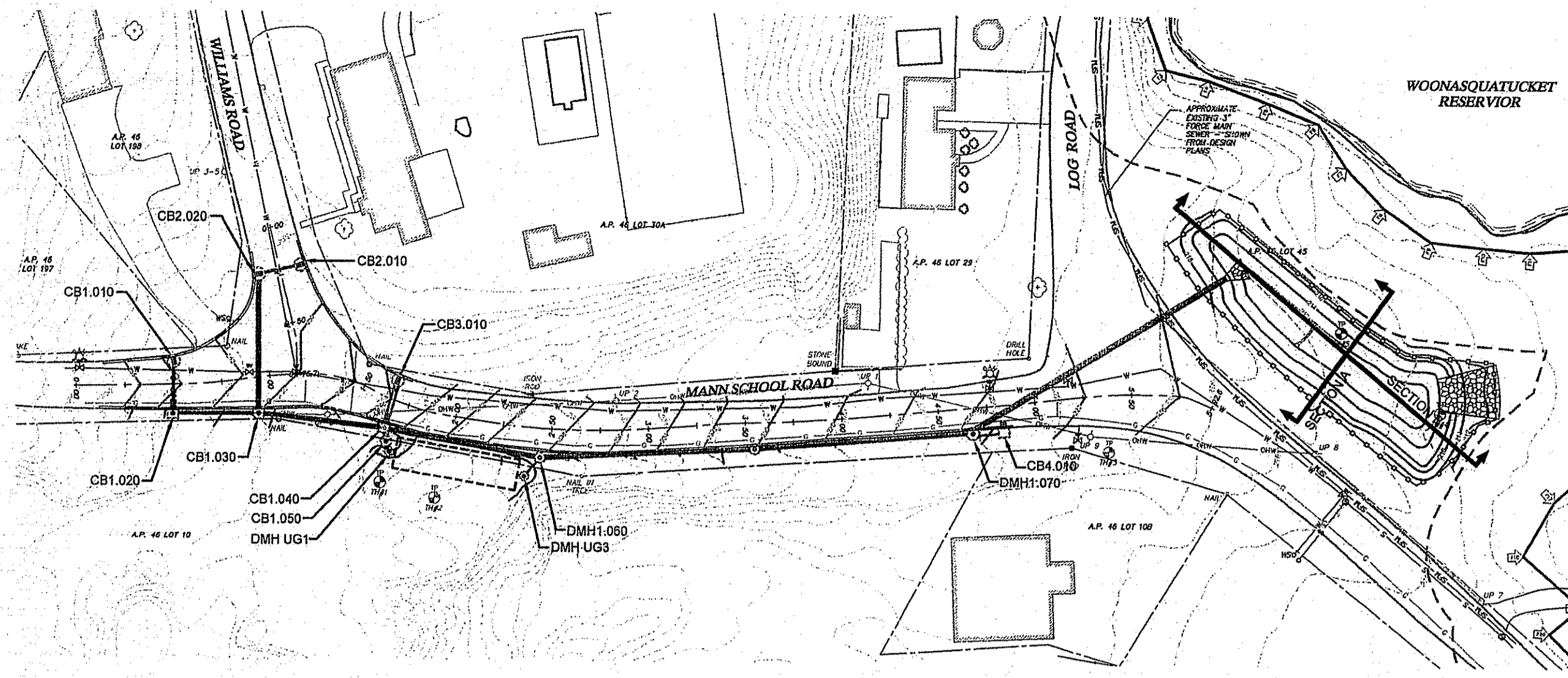




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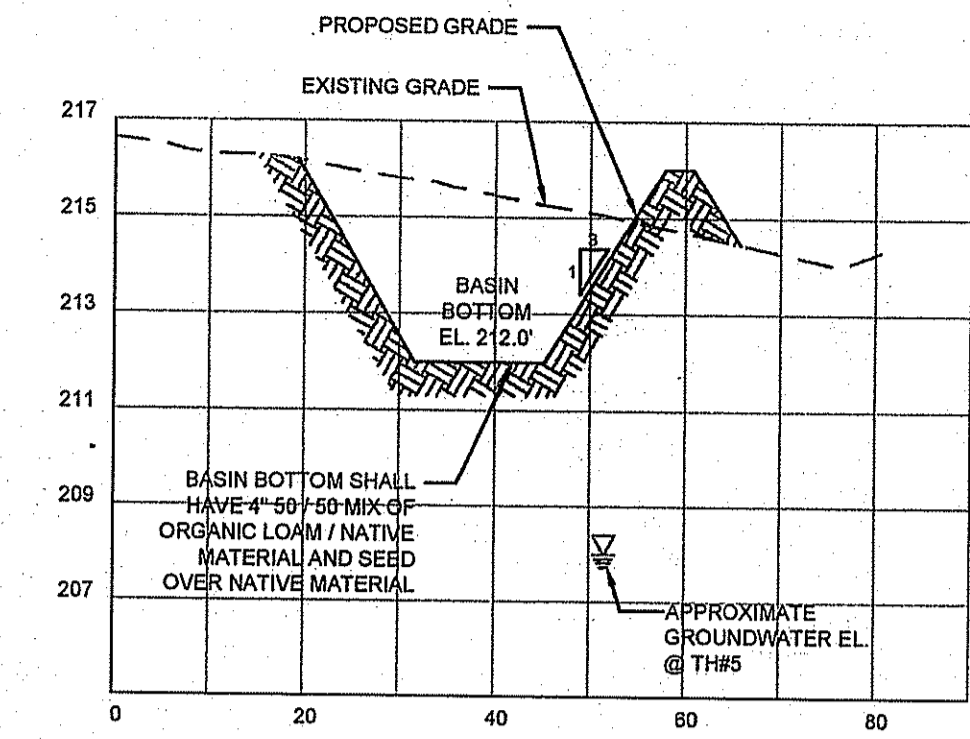
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MATERIALS TESTING



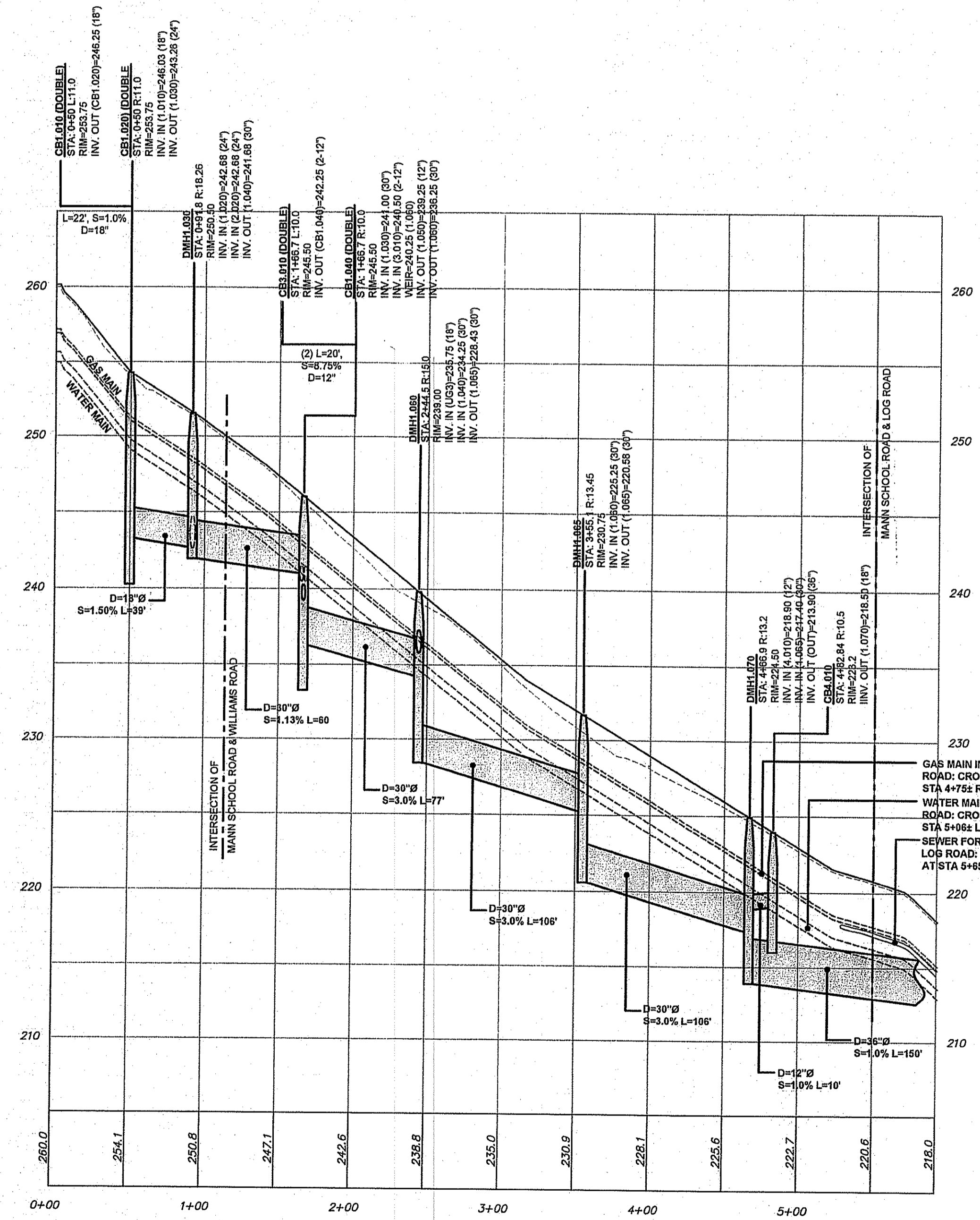
PLAN VIEW STA 0+00 -5+92.6

HORIZONTAL SCALE: 1"=60'



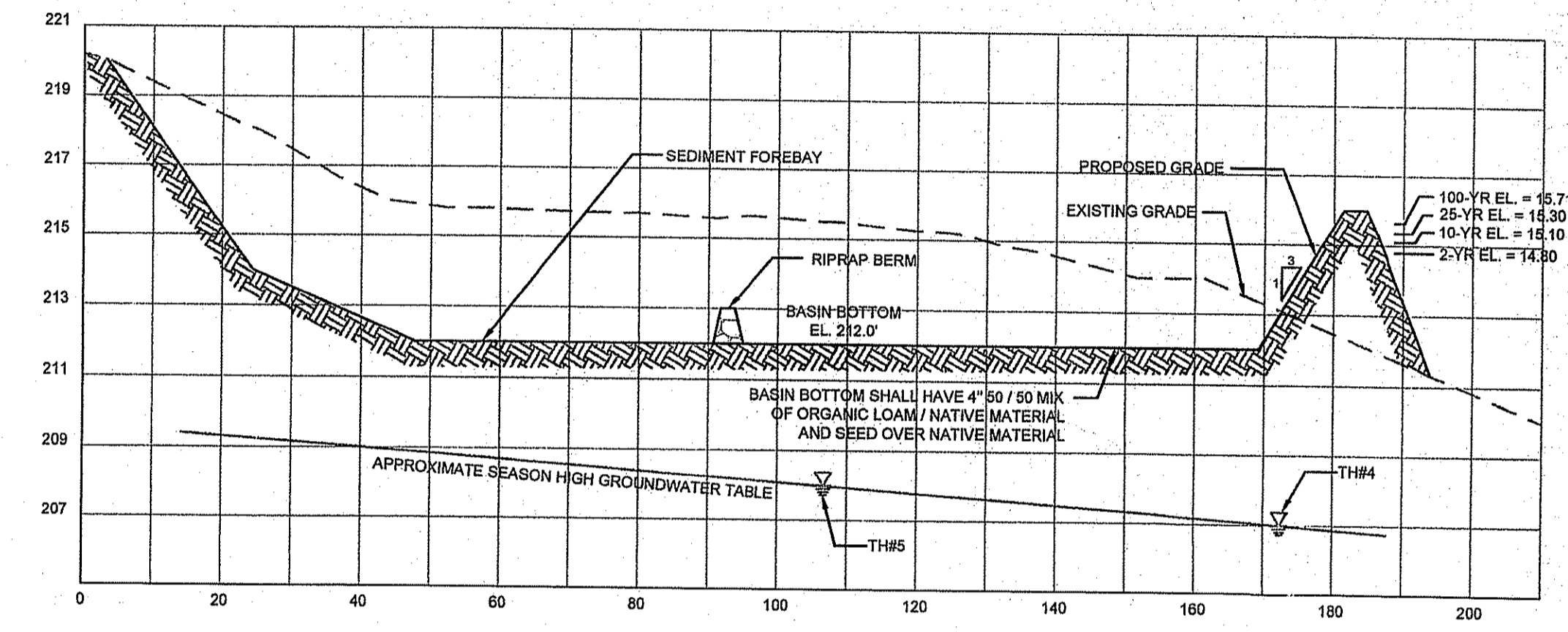
SECTION A - INFILTRATION POND P1

HORIZONTAL SCALE: 1"= 20'  
VERTICAL SCALE: 1"=2'



MANN SCHOOL RD PROFILE STA 0+00 - 5+92.6

HORIZONTAL SCALE: 1"=60'  
VERTICAL SCALE: 1"=6'



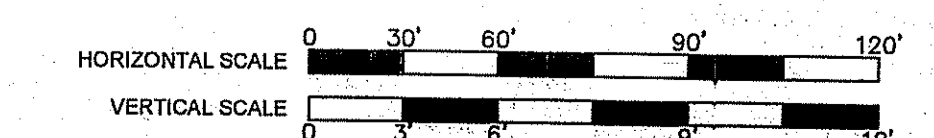
SECTION B - INFILTRATION POND P1

HORIZONTAL SCALE: 1"= 20'  
VERTICAL SCALE: 1"=2'

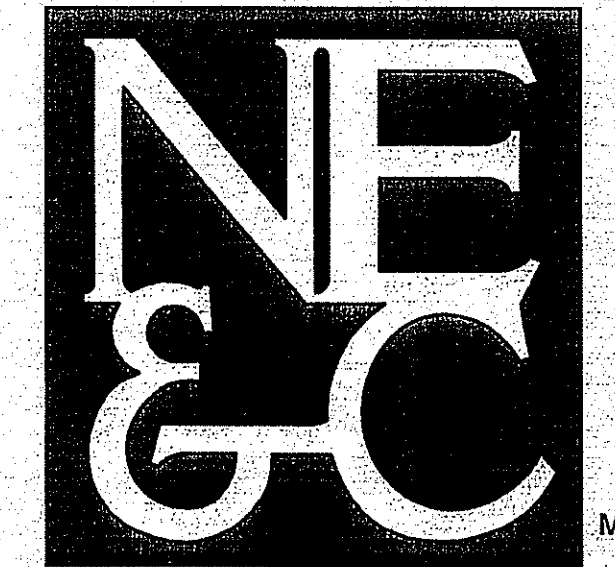
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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*W. Joseph Casey*

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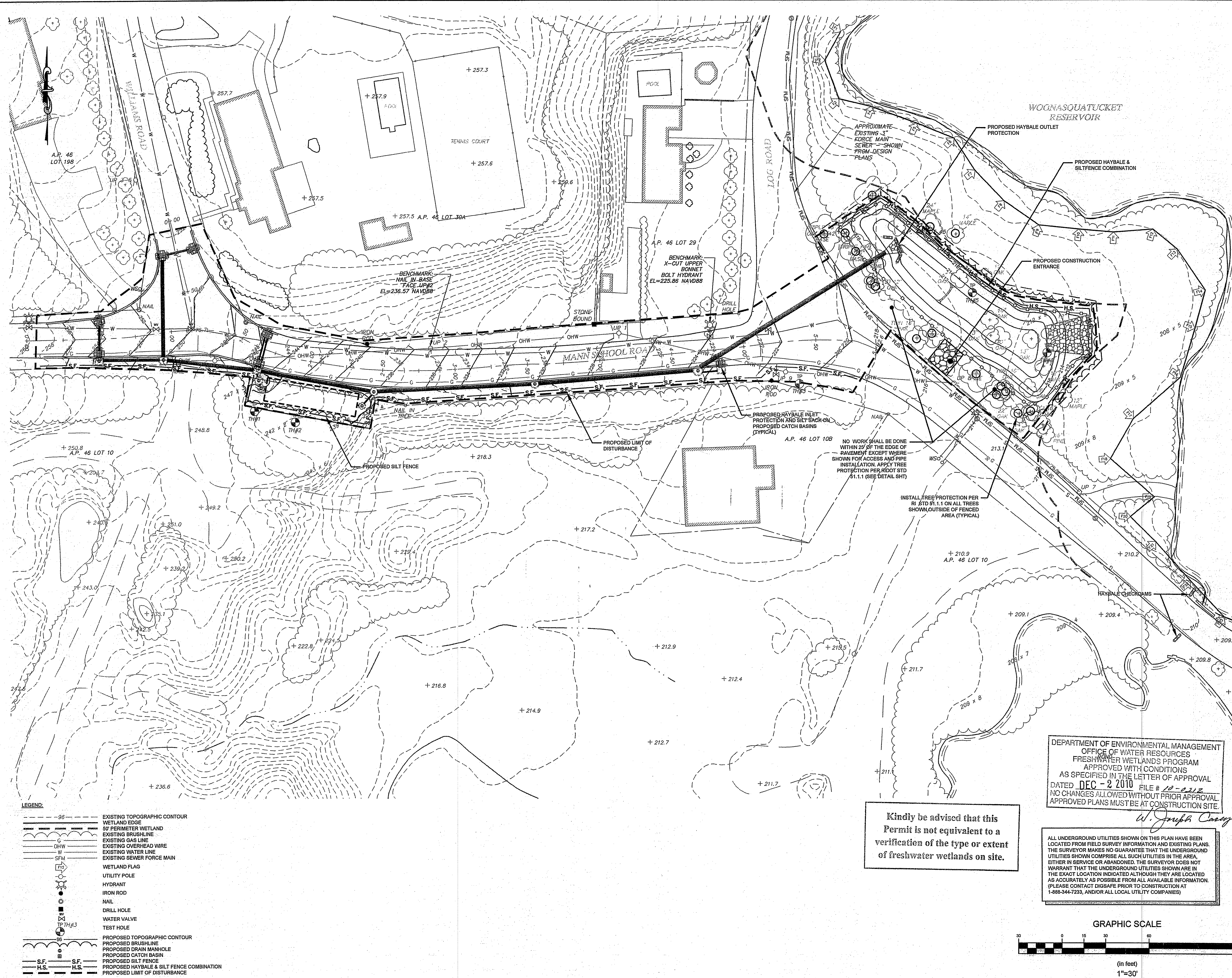


No.	Revision	Date	App.
Designed By: JJR	Drawn by: SMH	Checked by:	
Scale: AS SHOWN	Date: 01SEP10		
Project Title: <b>MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS</b> SMITHFIELD, RHODE ISLAND			
Client/Owner: TOWN OF SMITHFIELD			
Issued for:			
Drawing Title: <b>PROPOSED ROAD &amp; POND PROFILES</b>			
Drawing Number: <b>PR-2</b>		Sheet <b>5</b> of <b>10</b>	
Project Number: <b>10001</b>		Survey Index:	
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**LEGEND:**

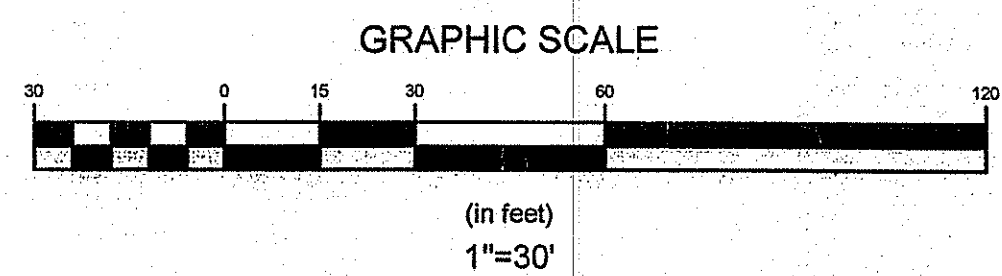
	EXISTING TOPOGRAPHIC CONTOUR
	WETLAND EDGE
	50' PERIMETER WETLAND
	EXISTING BRUSHLINE
	EXISTING GAS LINE
	EXISTING OVERHEAD WIRE
	EXISTING WATER LINE
	EXISTING SEWER FORCE MAIN
	WETLAND FLAG
	UTILITY POLE
	HYDRANT
	IRON ROD
	NAIL
	DRILL HOLE
	WATER VALVE
	TEST HOLE
	PROPOSED TOPOGRAPHIC CONTOUR
	PROPOSED BRUSHLINE
	PROPOSED DRAIN MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED SILT FENCE
	PROPOSED HAYBALE & SILT FENCE COMBINATION
	PROPOSED LIMIT OF DISTURBANCE

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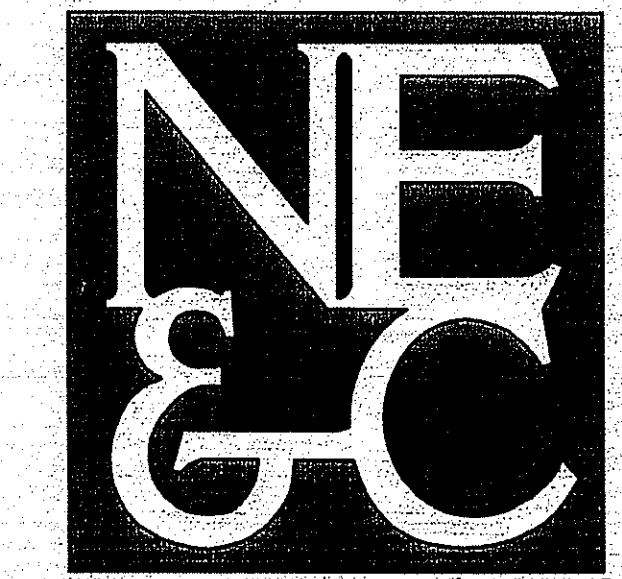
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*W. Joseph Conroy*

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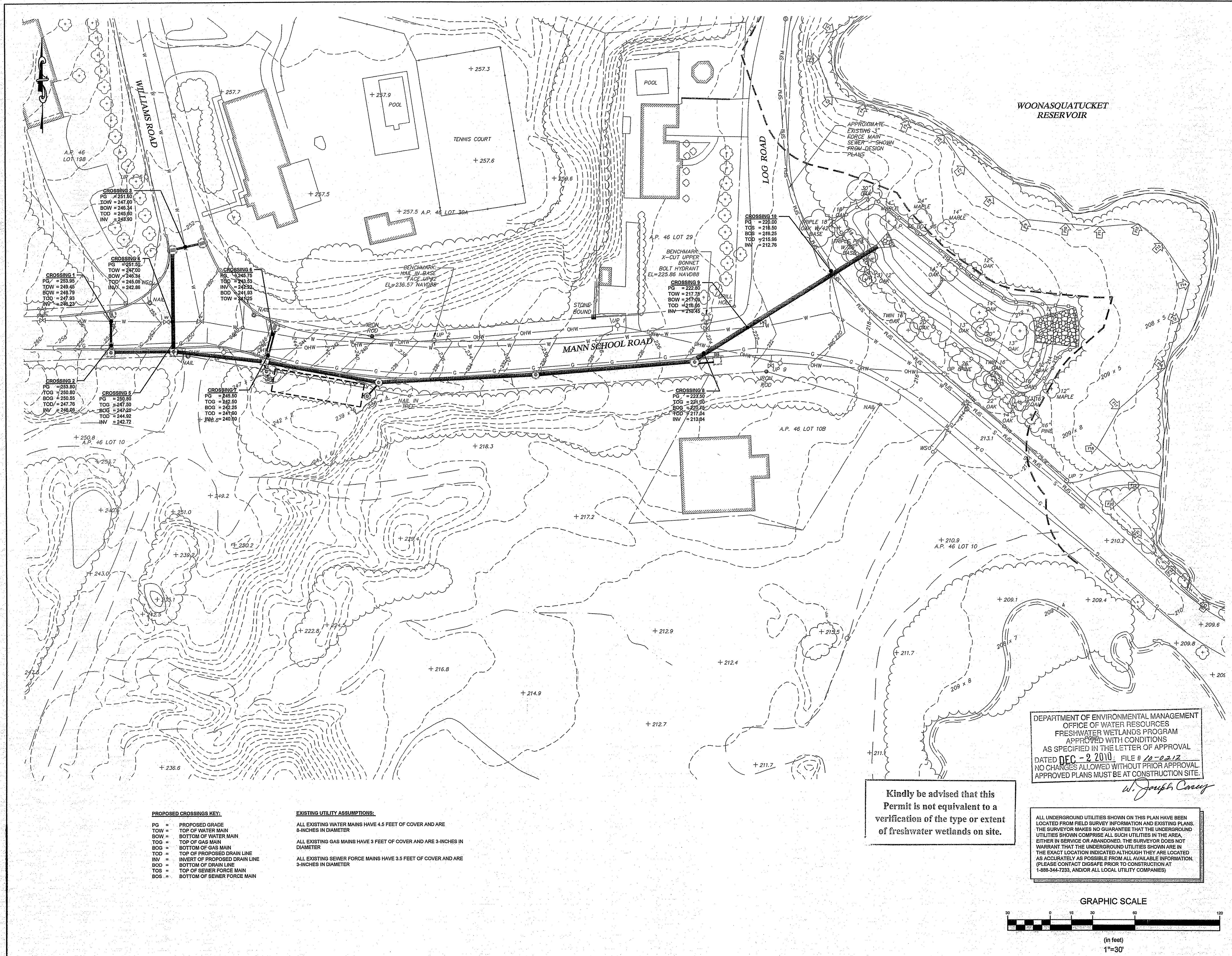


No.	Revision	Date	App.
Designed By:	Drawn by: JJR	Checked by:	
Scale:	1"=30'	Date:	01SEP10
Project Title: <b>MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS</b> SMITHFIELD, RHODE ISLAND			
Client/Owner: TOWN OF SMITHFIELD			
Issued for:			
Drawing Title: <b>SOIL EROSION &amp; SEDIMENT CONTROL PLAN</b>			
Drawing Number: <b>SESC-1</b>		Sheet 6 of 10	
Project Number: 10001		Survey Index:	
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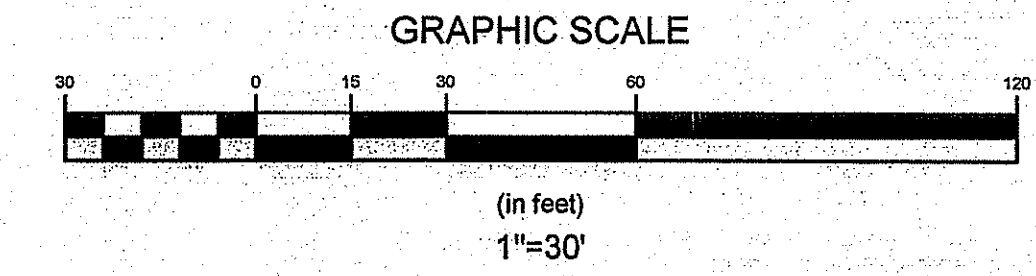
MANN SCHOOL ROAD

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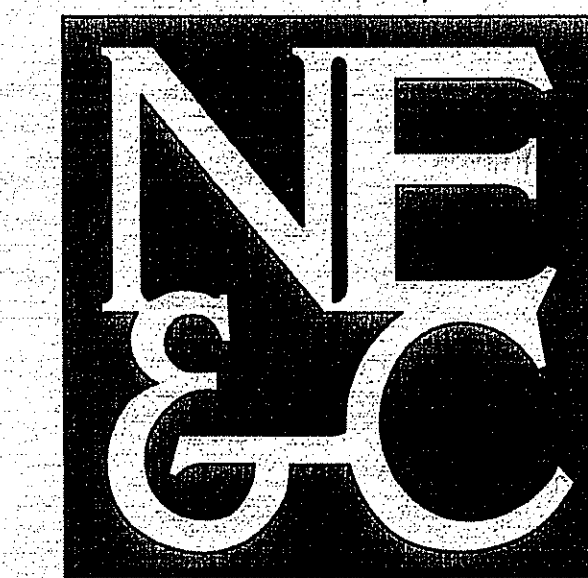
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- PROPOSED CROSSINGS KEY:**
- PG = PROPOSED GRADE
  - TOW = TOP OF WATER MAIN
  - BOW = BOTTOM OF WATER MAIN
  - TOG = TOP OF GAS MAIN
  - BOS = BOTTOM OF GAS MAIN
  - TOD = TOP OF PROPOSED DRAIN LINE
  - INV = INVERT OF PROPOSED DRAIN LINE
  - BOD = BOTTOM OF DRAIN LINE
  - TOS = TOP OF SEWER FORCE MAIN
  - BOS = BOTTOM OF SEWER FORCE MAIN
- EXISTING UTILITY ASSUMPTIONS:**
- ALL EXISTING WATER MAINS HAVE 4.5 FEET OF COVER AND ARE 8-INCHES IN DIAMETER
  - ALL EXISTING GAS MAINS HAVE 3 FEET OF COVER AND ARE 3-INCHES IN DIAMETER
  - ALL EXISTING SEWER FORCE MAINS HAVE 3.5 FEET OF COVER AND ARE 3-INCHES IN DIAMETER



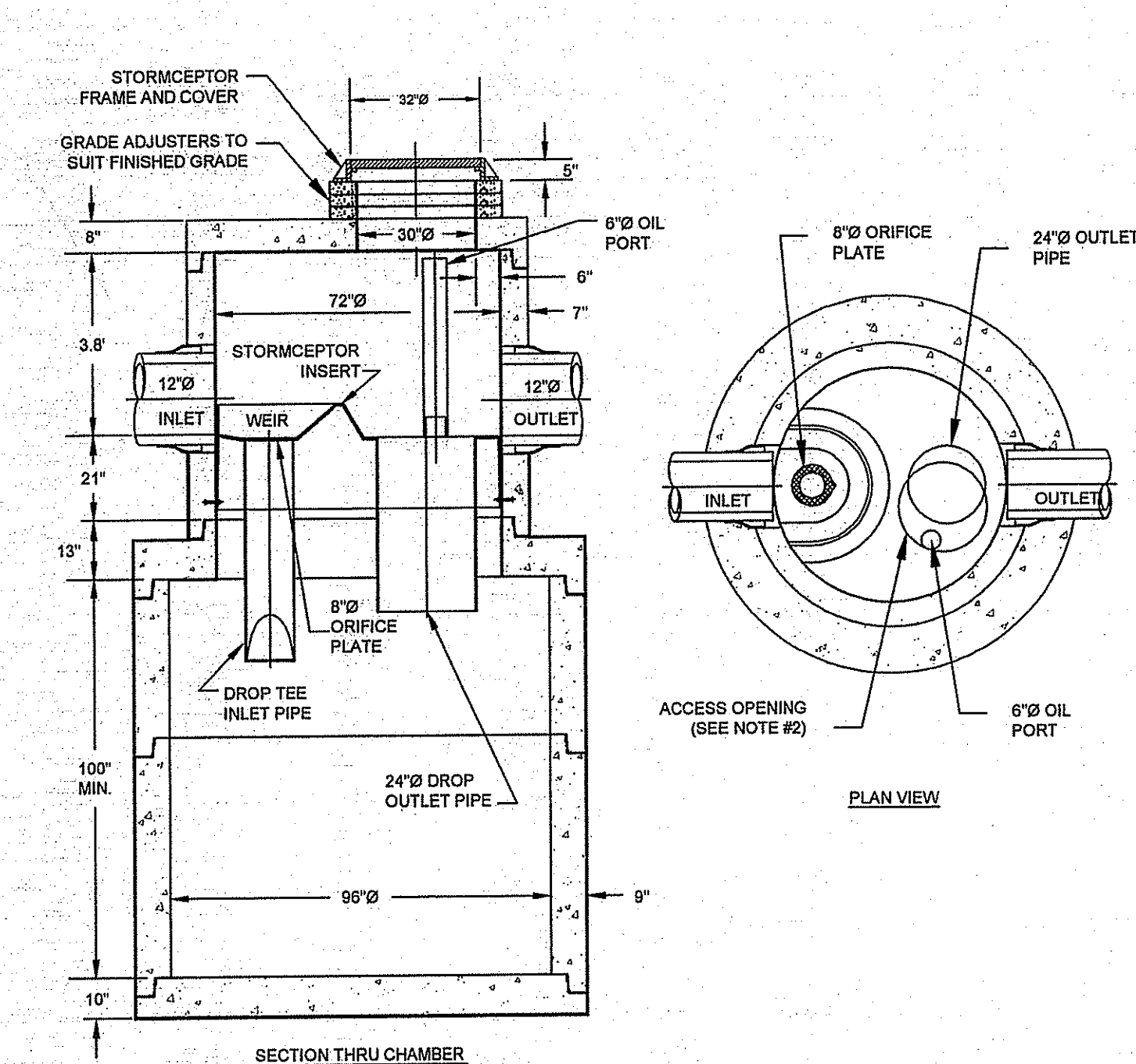
No.	Revision	Date	App.
Designed By:	Drawn by: JJR	Checked by:	
Scale:	1"=30'	Date:	01SEP10
Project Title:			
<b>MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS</b> SMITHFIELD, RHODE ISLAND			
Client/Owner:			
TOWN OF SMITHFIELD			
Issued for:			
Drawing Title:			
<b>PROPOSED UTILITY CROSSINGS</b>			
Drawing Number:			
PR-3			
Sheet 7 of 10			
Project Number:			
10001			
Survey Index:			
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NOTES:  
1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.  
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL PORT.  
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS:  
#4865148, #5498931, #5725760, #5753115, #5849181, #6008765, #6371690.

STC 3600 PRECAST CONCRETE STORMCEPTOR  
(3600 U.S. GALLON CAPACITY)  
SCALE: NOT TO SCALE

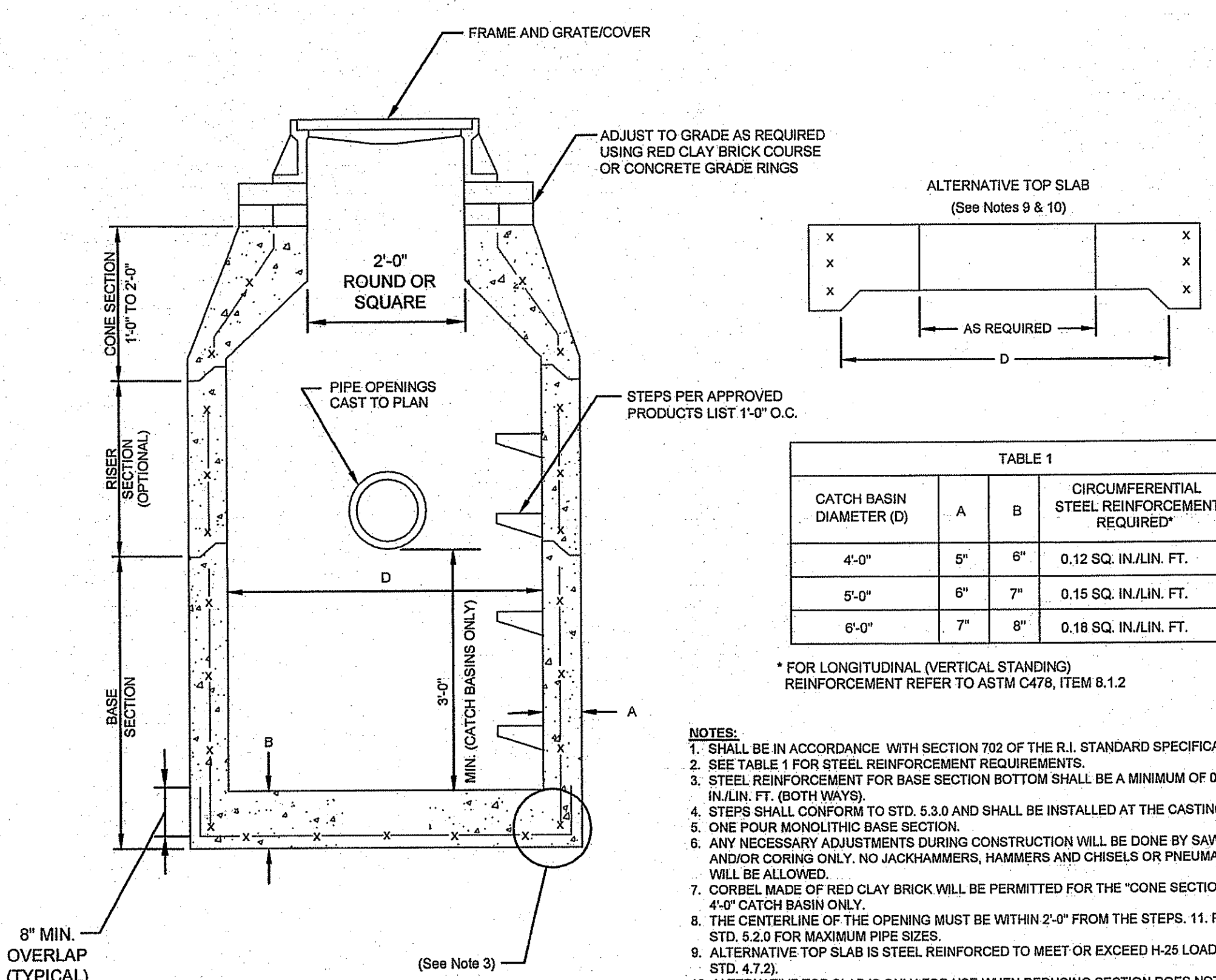


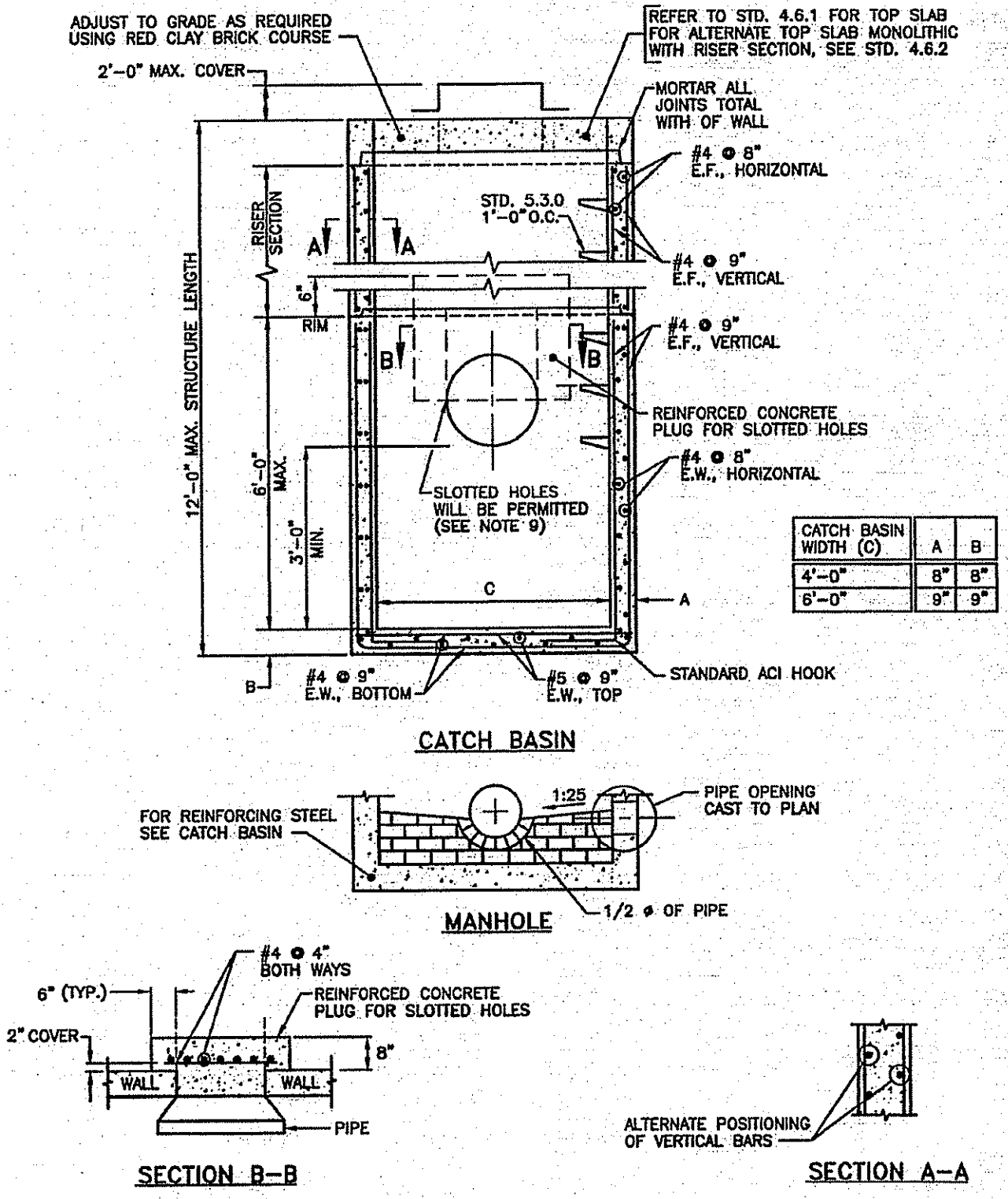
TABLE 1  
CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED\*

CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

\* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

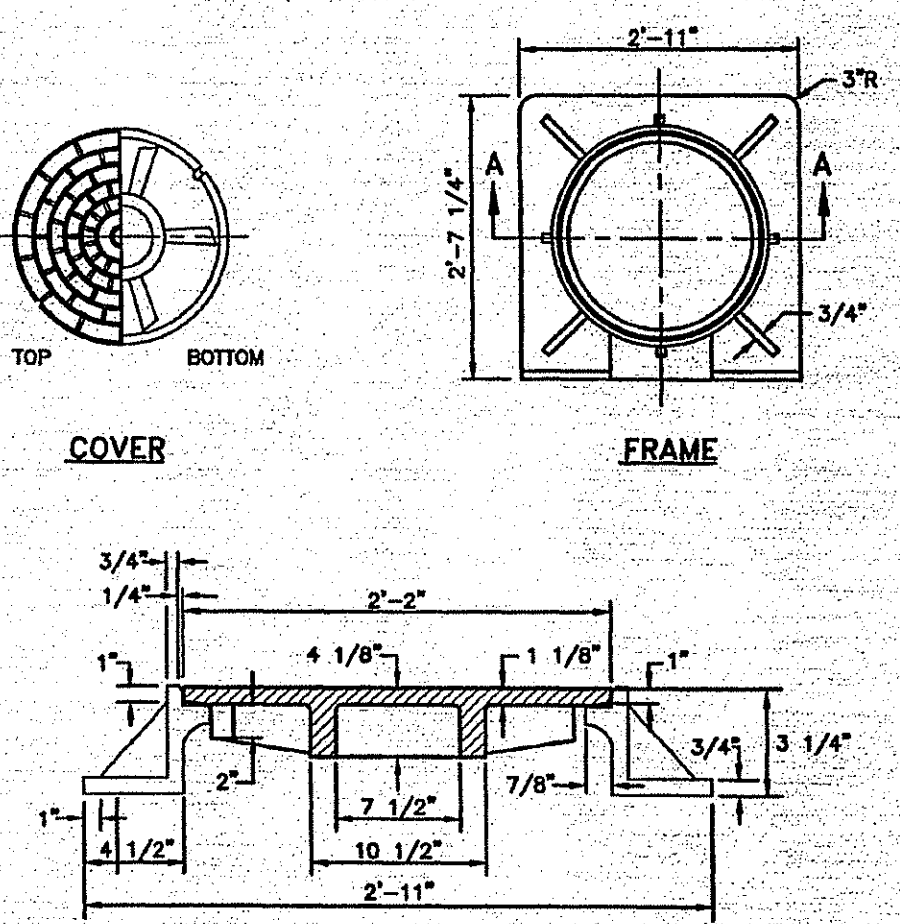
- NOTES:  
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATION.  
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.  
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).  
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE 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. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.  
8. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS. 11. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.  
9. ALTERNATIVE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).  
10. ALTERNATIVE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.  
11. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST ROUND CATCH BASIN & DRAIN MANHOLE (RIDOT 4.4.0)  
SCALE: NOT TO SCALE



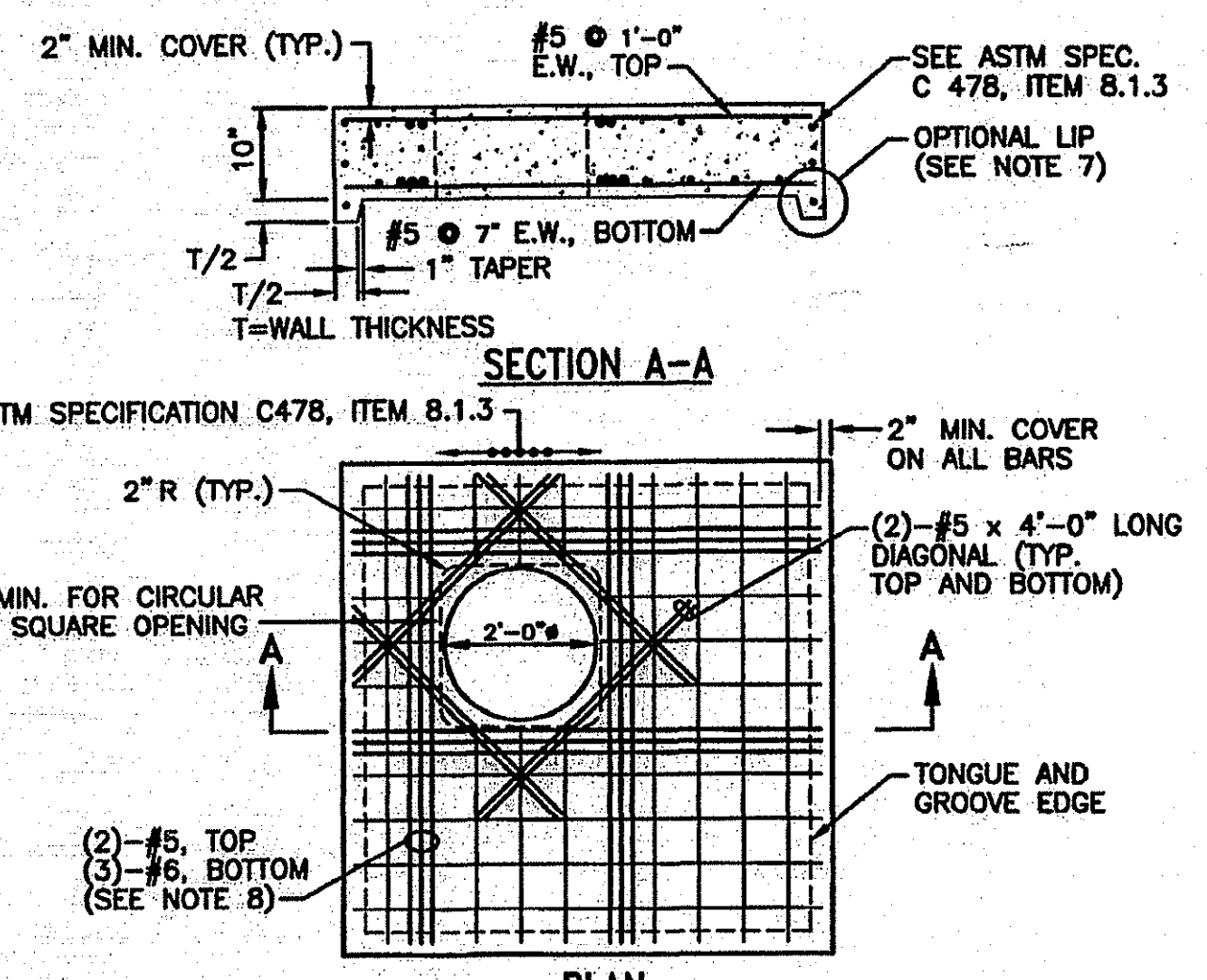
- NOTES:  
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.  
2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.  
3. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.  
4. TOP SLAB, RISER AND BASE SECTIONS HAVE BEEN REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB, RISER AND BASE SECTIONS ARE DESIGNED FOR AXLE LOAD OF NO GREATER THAN 20 TONS.  
5. THERE IS TO BE 2" MINIMUM COVER ON ALL REBARS.  
6. ALL REBARS ARE TO HAVE MINIMUM 2" CLEARANCE FROM OPENING.  
7. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.  
8. THE SPICE LENGTHS ON TIES ARE TO BE A MINIMUM OF 1'-1".  
9. WHERE THE CLEARANCE FROM THE TOP OF THE PIPE TO THE RIM IS "B" OR LESS, PLUGS SHALL BE USED IN CONJUNCTION WITH SLOTTED HOLES. NO SLOTTED HOLE WILL BE PERMITTED WHERE THE CLEARANCE IS GREATER THAN "B". IN CASES WHERE SLOTTED HOLES ARE NOT USED AND THE WALL OPENING COMES WITHIN 1'-2" OF THE RIM, AN ADDITIONAL #8 BAR SHALL BE USED ABOVE THE OPENING THE WIDTH "C" OF THE WALL.

PRECAST SQUARE MANHOLE OR CATCH BASIN (RIDOT 4.3.0)  
SCALE: NOT TO SCALE



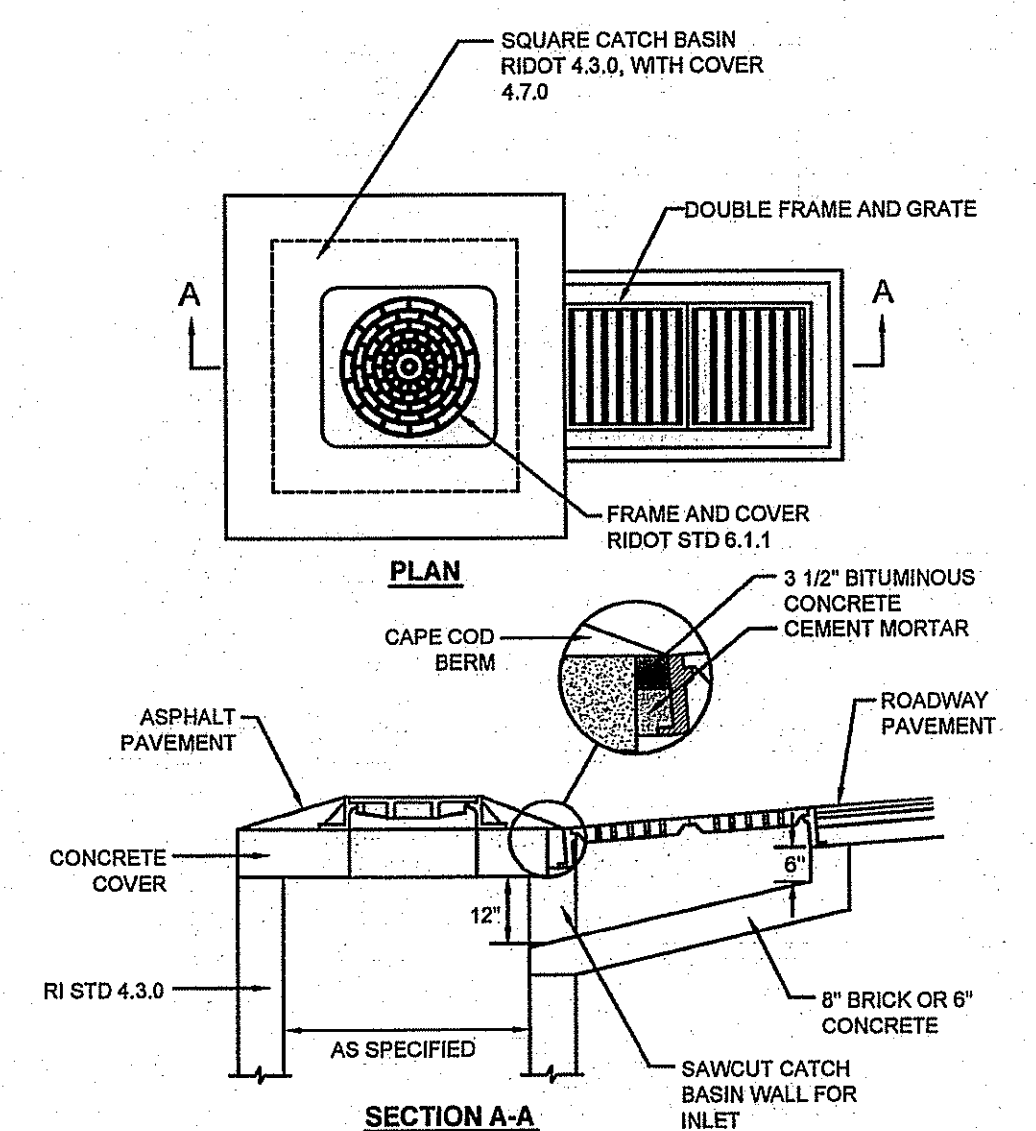
- NOTES:  
1. FRAME AND COVER SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.  
2. FRAME AND COVER SEATS TO BE MACHINE FINISH.

HEAVY DUTY SQUARE FRAME AND ROUND COVER (RIDOT 6.1.1)  
SCALE: NOT TO SCALE



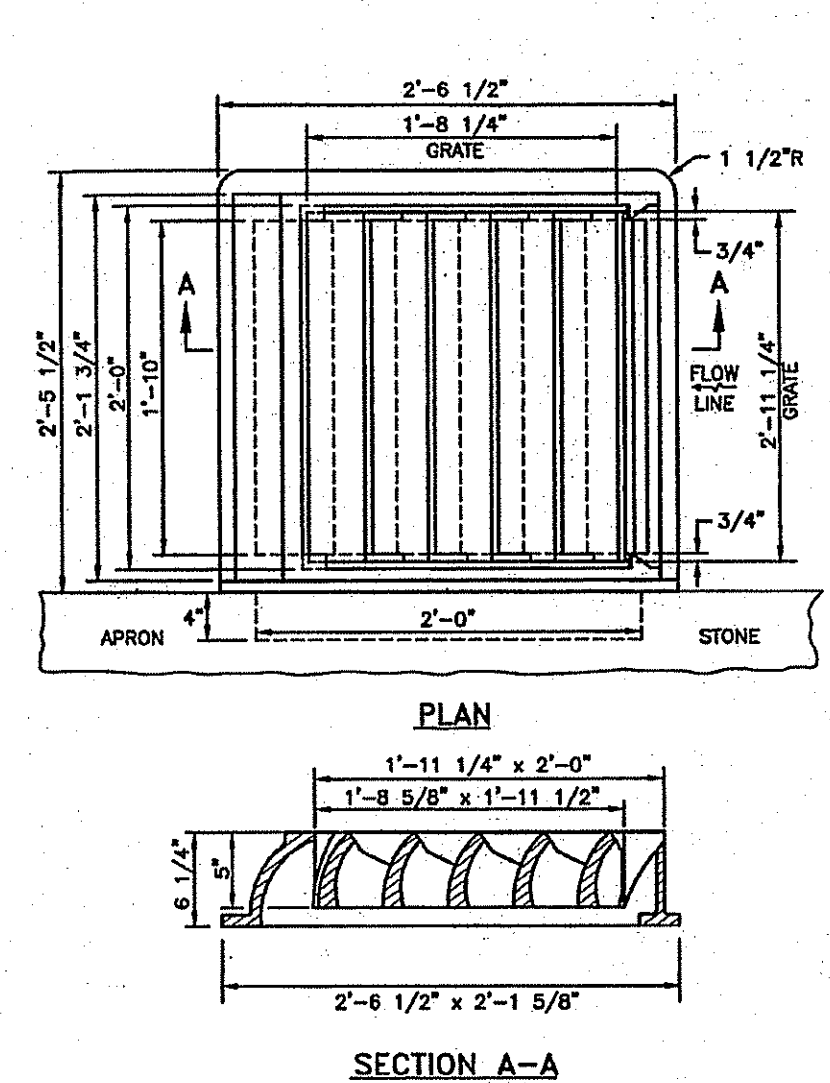
- NOTES:  
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.  
2. THIS TOP COVER IS FOR STD. 4.3.0.  
3. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.  
4. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.  
5. TOP SLAB HAS BEEN 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.  
6. ALL REBARS ARE TO HAVE A MINIMUM 2" CLEARANCE FROM OPENING.  
7. WHERE NO LIP IS PROVIDED, THE ASTM SPECIFICATION REFERENCE SHALL BE IGNORED. IN ALL CASES, THE CONTACT SURFACES SHALL MATCH.  
8. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 7" BOTH WAYS WITH 2" MINIMUM COVER, EXCEPT FOR BARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (3)-#6 (SHOWN WITH HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #5 @ 1'-0" BOTH WAYS WITH 2" MINIMUM COVER, EXCEPT FOR BARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (2)-#5 BARS.  
9. FOR DOUBLE GRATE OPENINGS, THE REBARS SURROUNDING THE OPENING IN THE BOTTOM MAT SHALL BE #7 BARS.

COVER FOR SQUARE MANHOLE OR CATCH BASIN (RIDOT 4.7.0)  
SCALE: NOT TO SCALE



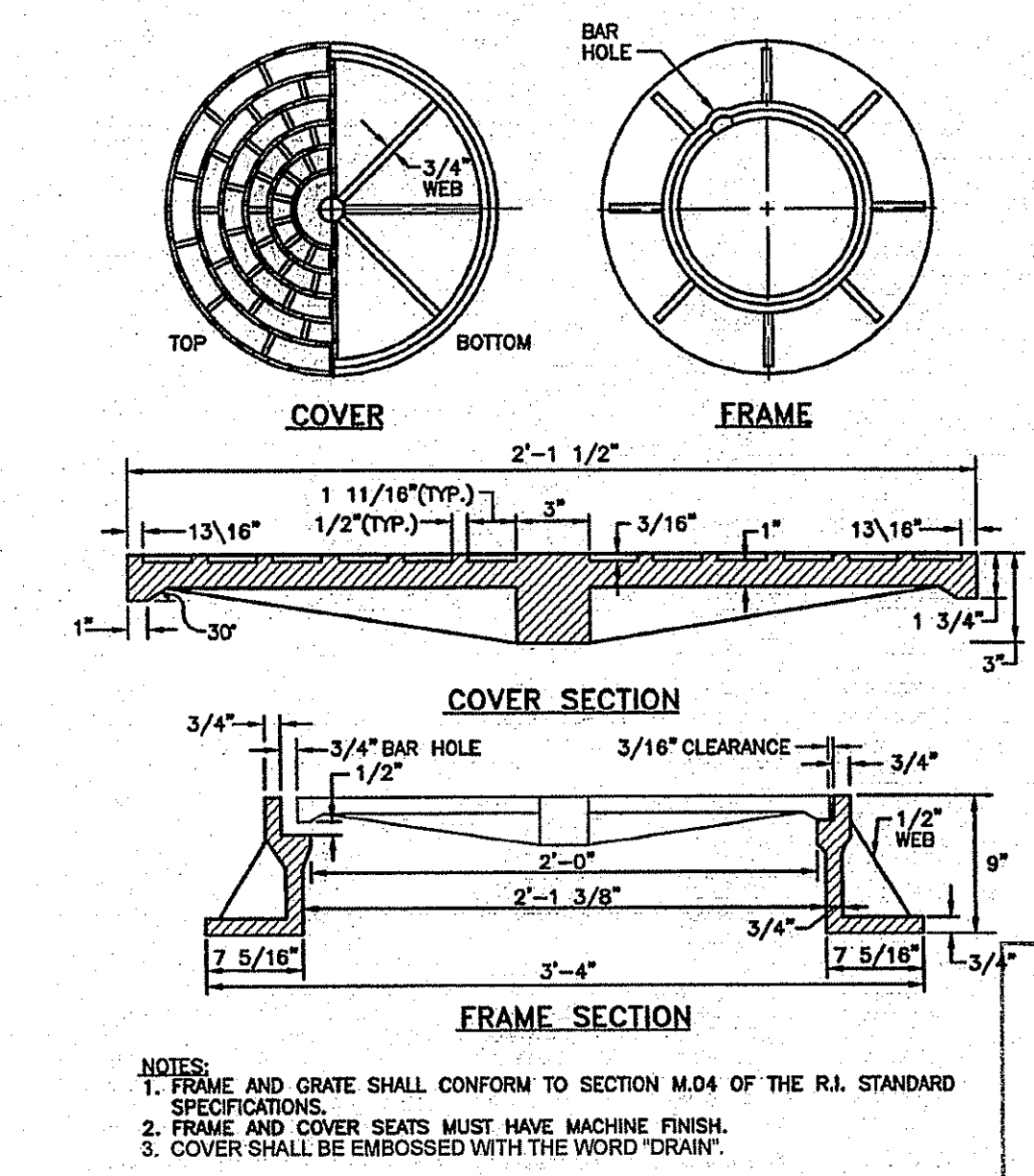
- NOTE:  
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.

BRICK / SOLID BLOCK DOUBLE CATCH BASIN INLET  
SCALE: NOT TO SCALE



- NOTES:  
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.  
2. GRATES CAN BE INSTALLED IN ONLY ONE POSITION IN THE FRAME. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FRAME FOR PROPER ORIENTATION OF GRATE.  
3. ORDER 2 FLANGE FRAME WHEN USED WITH CURBING OR APRON STONE.

HIGH CAPACITY FRAME AND GRATE (RIDOT 6.3.3)  
SCALE: NOT TO SCALE



- NOTES:  
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.  
2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.  
3. COVER SHALL BE EMBOSSED WITH THE WORD "DRAIN".

HEAVY DUTY ROUND FRAME AND COVER (RIDOT 6.2.1)  
SCALE: NOT TO SCALE

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No.	Revision	Date	App.

Designed By: \_\_\_\_\_ Drawn by: **JJR** Checked by: \_\_\_\_\_  
Scale: **AS SHOWN** Date: **01SEP10**

Project Title:  
**MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS**  
SMITHFIELD, RHODE ISLAND

Client/Owner:  
**TOWN OF SMITHFIELD**

Issued for:

Drawing Title:  
**DETAILS**

Drawing Number:  
**D-1**

Sheet **8** of **10**

Project Number:  
**10001**

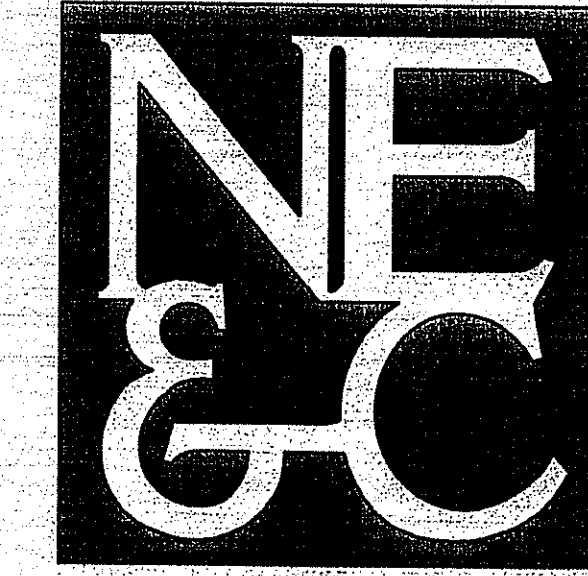
Survey Index:

REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
No. **8550**  
Date **9-27-10**

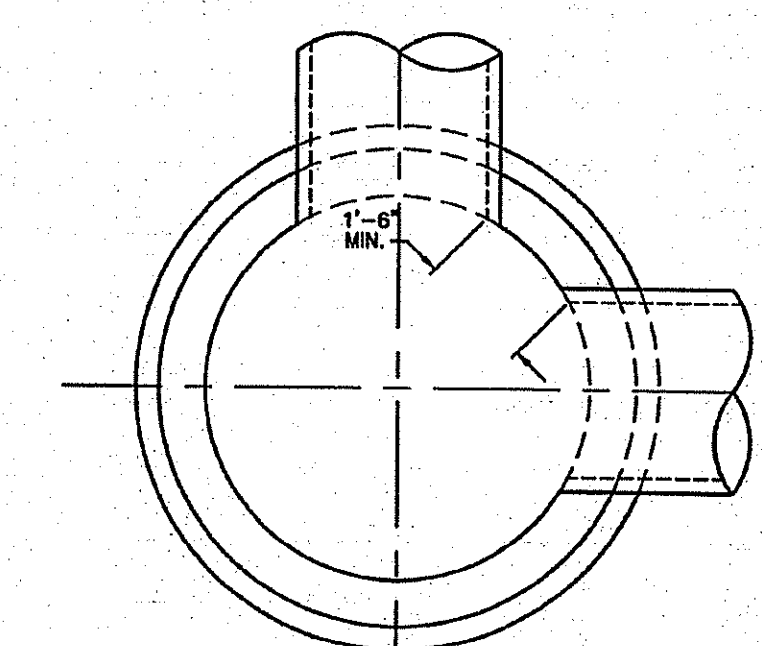
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OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED **DEC - 2 2010** FILE # **10212**  
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*W. Joseph Conroy*

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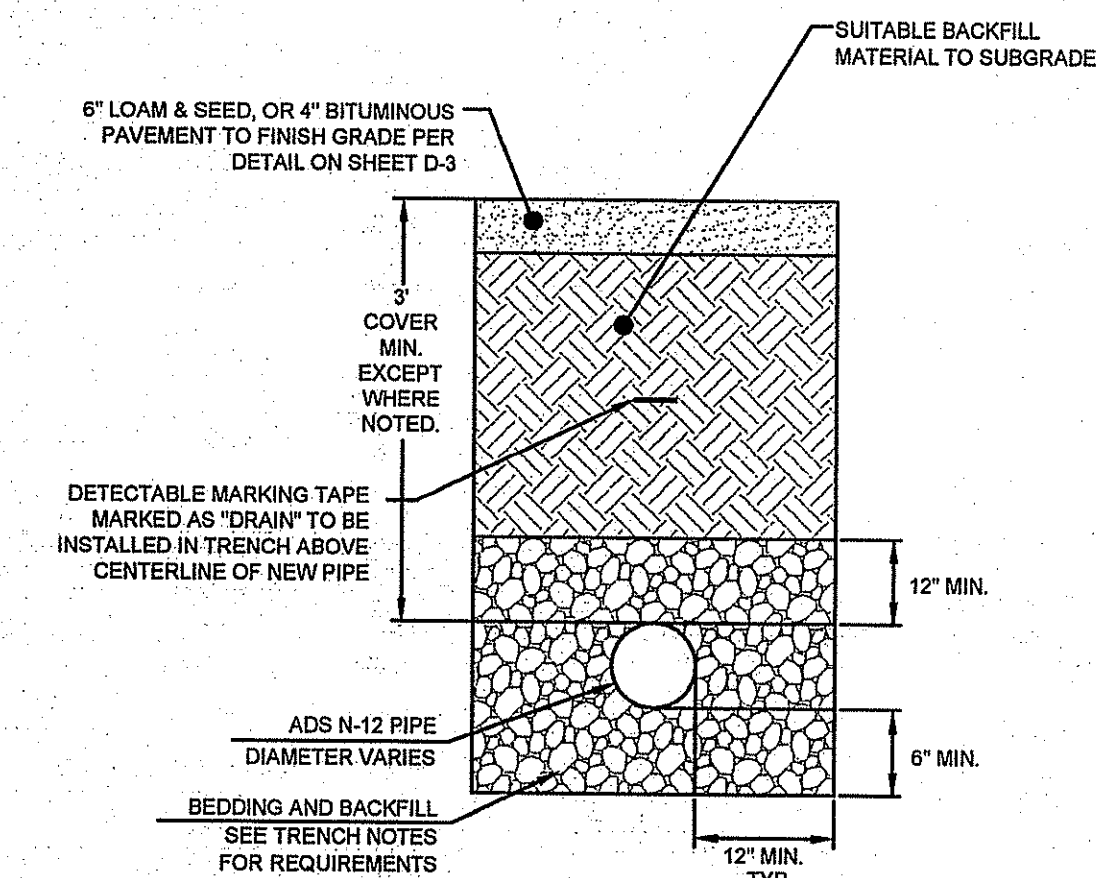
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CROSS SECTION OF MANHOLE OR CATCH BASIN

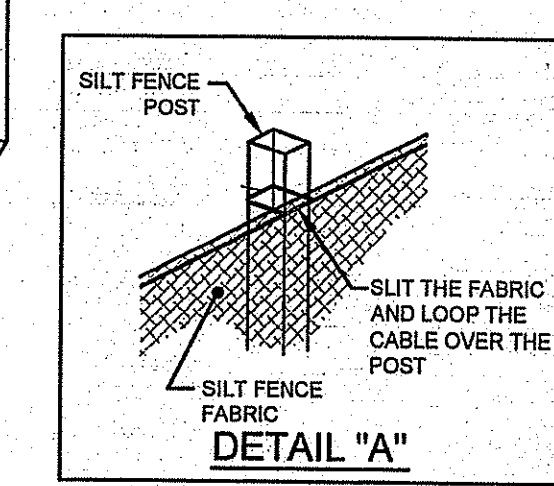
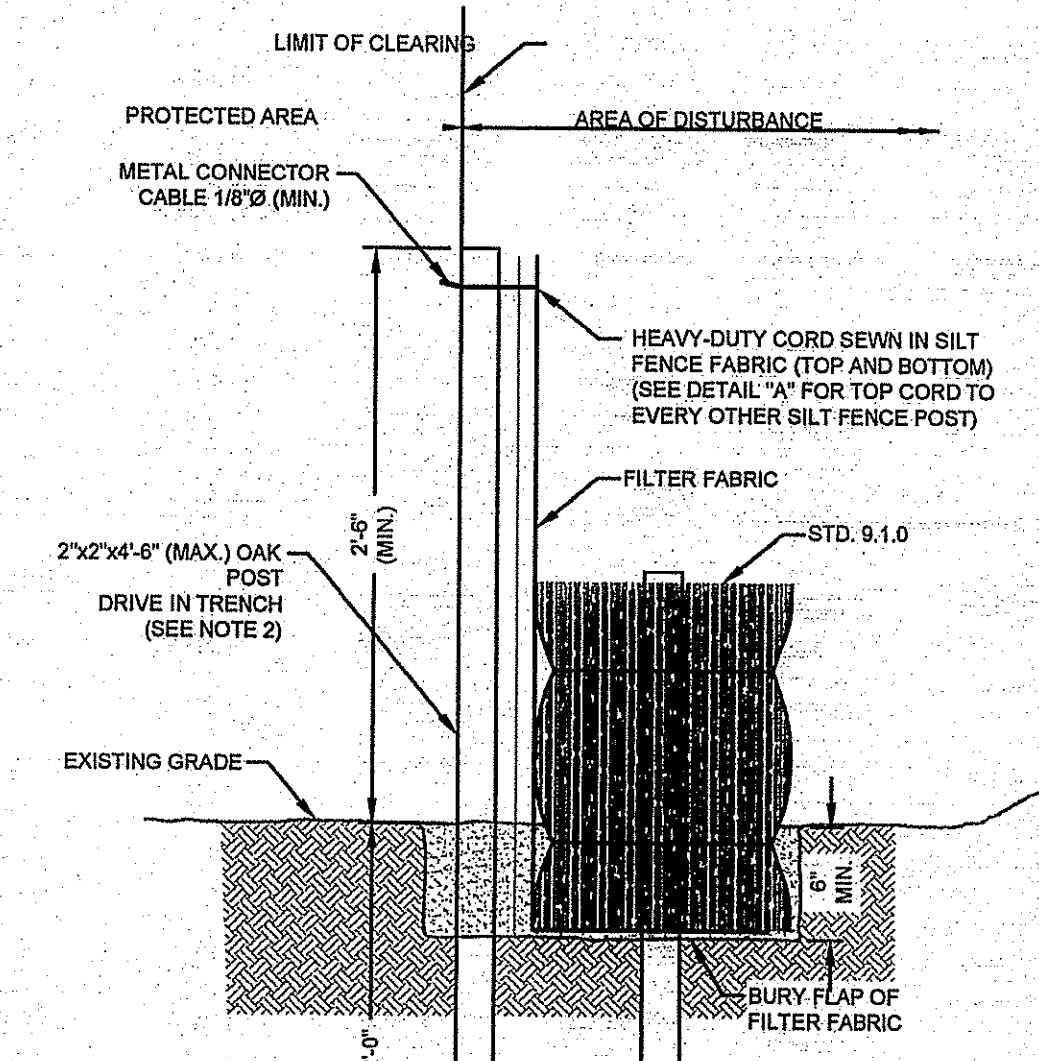
	4 FT. MANHOLE OR CATCH BASIN	5 FT. MANHOLE OR CATCH BASIN	6 FT. MANHOLE OR CATCH BASIN
MAX. PIPE O.D. STRAIGHT THRU TO 45° DEFLECTION	33 1/2" O.D. 27" R.C. PIPE	44" O.D. 36" R.C. PIPE	51" O.D. 42" R.C. PIPE
MAX. PIPE O.D. 90° DEFLECTION	23" O.D. 18" R.C. PIPE	33 1/2" O.D. 27" R.C. PIPE	37" O.D. 30" R.C. PIPE

NOTE:  
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.  
2. THE MINIMUM DISTANCE BETWEEN PIPES ENTERING MANHOLES AND CATCH BASINS MUST BE 1'-6". THE SIZE OF THE CATCH BASIN WILL BE DETERMINED BY THE PIPE SIZE AND ENTRY ANGLE. (SEE TABLE ABOVE.)



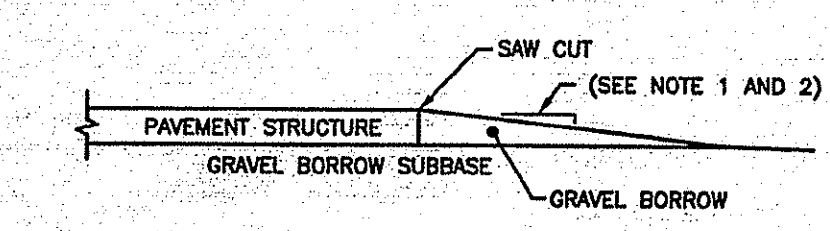
STORMWATER TRENCH DETAIL  
SCALE: NOT TO SCALE

- NOTES:
- UNSATURATED MATERIAL SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 6-INCHES BELOW THE DESIGN INVERT ELEVATION.
  - TRENCH PROTECTION SHALL BE REQUIRED IN ACCORDANCE WITH OSHA REGULATIONS, AND AS OTHERWISE REQUIRED TO PROTECT UTILITIES, ROADWAYS, AND ADJACENT STRUCTURES.
  - DRAIN PIPES SHALL BE LAID BEGINNING AT THE DOWNSTREAM END OF THE PIPE LINE.
  - ALL DRAIN PIPES SHALL BE ROP CLASS III TYPES UNLESS OTHERWISE INDICATED.
  - BACKFILL MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12" IN HEIGHT. THESE LAYERS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (ASHSTO T180). SUITABLE BACKFILL SHALL BE FREE OF LOAM, CLAY, ORGANIC MATTER AND PARTICLES LARGER THAN 2 INCHES IN DIAMETER.
  - DRAINAGE PIPE TRENCHES SHALL BE BEDDED WITH CRUSHED STONE OR SCREENED GRAVEL, THESE MATERIALS MUST CONFORM TO ROOT STANDARD M.01.09 TYPE II MATERIAL.
  - DRAIN INSTALLATIONS SHALL CONFORM TO ALL REQUIREMENTS OF THE TOWN OF SMITHFIELD PUBLIC WORKS DEPARTMENT RULES AND REGULATIONS.



- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  - STD. 9.1.0 IS INSTALLED "TIGHT" AGAINST SILT FENCE. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICE. SILT FENCE FABRIC SHALL NOT BE SLIT. STD. 9.1.0 POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC. 2"x2"x4'-6" (MAX.) OAK POST FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP OFF AREAS AS SHOWN ON PLANS.
  - 1"x1"x4'-6" (MIN.) POSTS ARE PERMITTED FOR PRE-FABRICATED SILT FENCE.
  - SILT FENCE AND BALED HAY SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

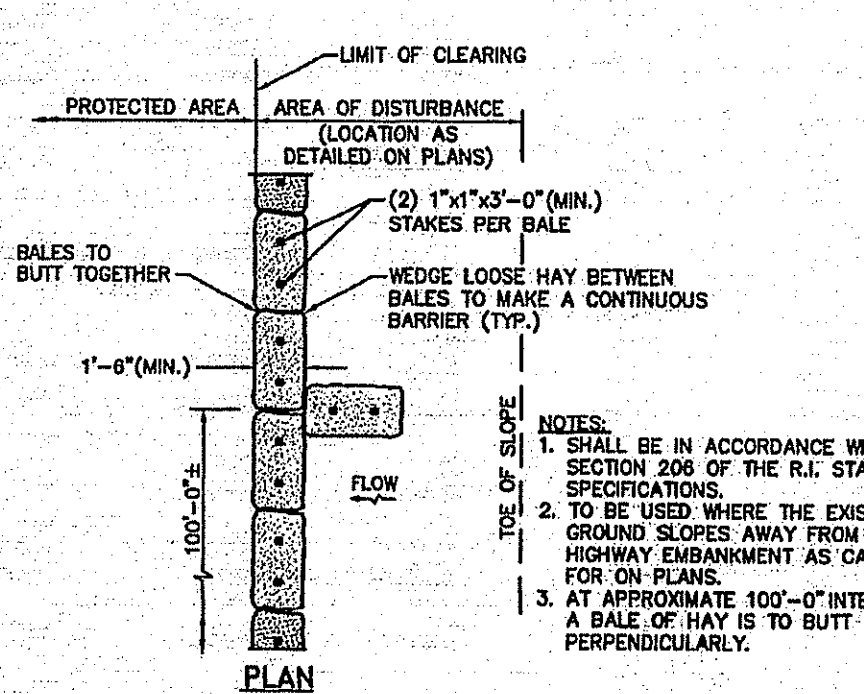
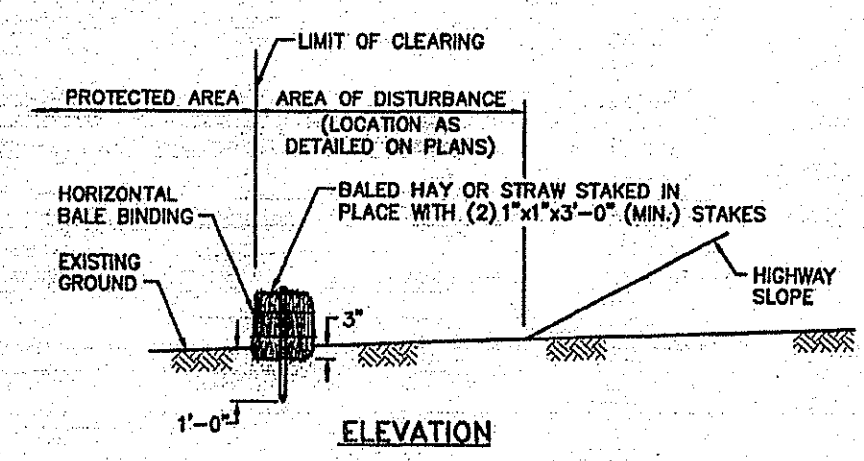
BALED HAY EROSION CHECK AND SILT FENCE COMBINED (RIDOT 9.3.0)  
NOT TO SCALE



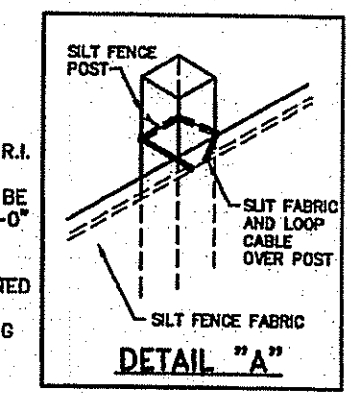
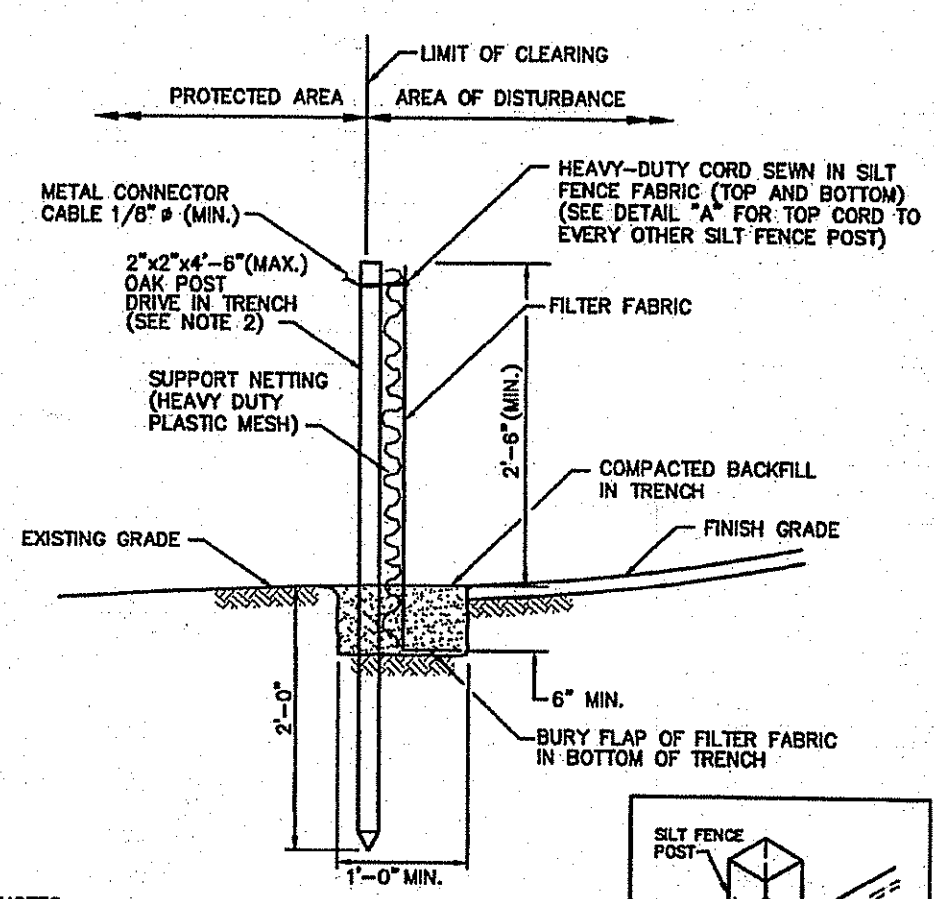
- NOTES:
- TRANSVERSE DROP-OFF: POSTED SPEED < 35 M.P.H.: 5 FEET HORIZONTALLY TO 1 INCH VERTICALLY. POSTED SPEED > 35 M.P.H.: 10 FEET HORIZONTALLY TO 1 INCH VERTICALLY.
  - LONGITUDINAL DROP-OFF (OUTSIDE EDGES OF PAVEMENT): POSTED SPEED < 35 M.P.H.: DROP-OFFS > 3" BUT < 5" SHALL BE TAPERED TO A 1:1 OR FLATTER SLOPE TO EXISTING GROUND. ALL DROP-OFFS > 5" SHALL BE TAPERED TO A 4:1 OR FLATTER SLOPE TO EXISTING GROUND.
  - LONGITUDINAL DROP-OFFS WILL NOT BE PERMITTED WITHIN 2'-0" OF A TRAVEL LANE. THIS AREA MUST BE AT GRADE WITH THE TRAVEL LANE. HOWEVER, SHOULD THE CONTRACTOR'S APPROVED SEQUENCE OF OPERATIONS RESULT IN OVERSIGHT DROP-OFFS GREATER THAN THREE INCHES OCCURRING BETWEEN 2'-0" TO 6'-0" FROM A TRAVEL LANE, THEN THE DROP-OFFS SHALL BE TAPERED TO A 4:1 OR FLATTER SLOPE TO EXISTING GROUND.

PAVEMENT REMOVAL DROP-OFF DETAIL (RIDOT 47.1.0)  
NOT TO SCALE

ROUND MANHOLES AND CATCH BASINS MAXIMUM PIPE SIZE STANDARD (RIDOT 5.2.0)  
SCALE: NOT TO SCALE

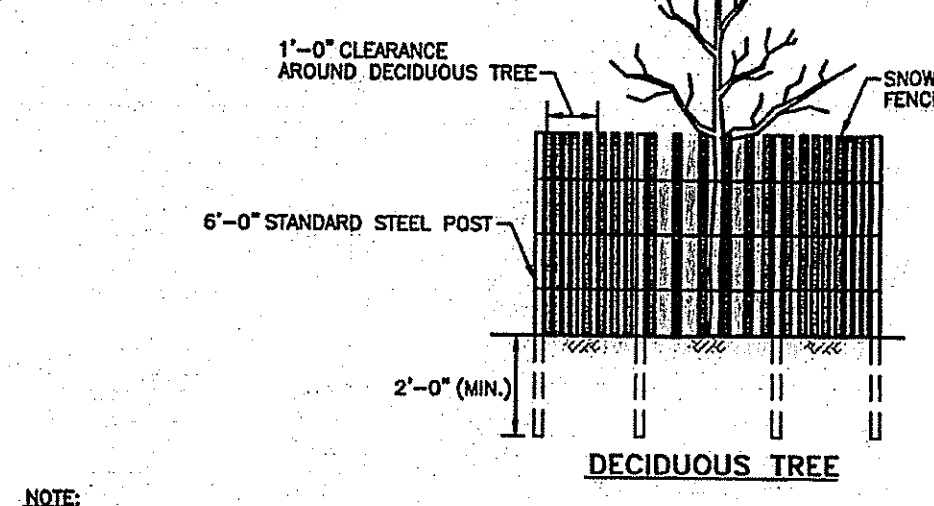
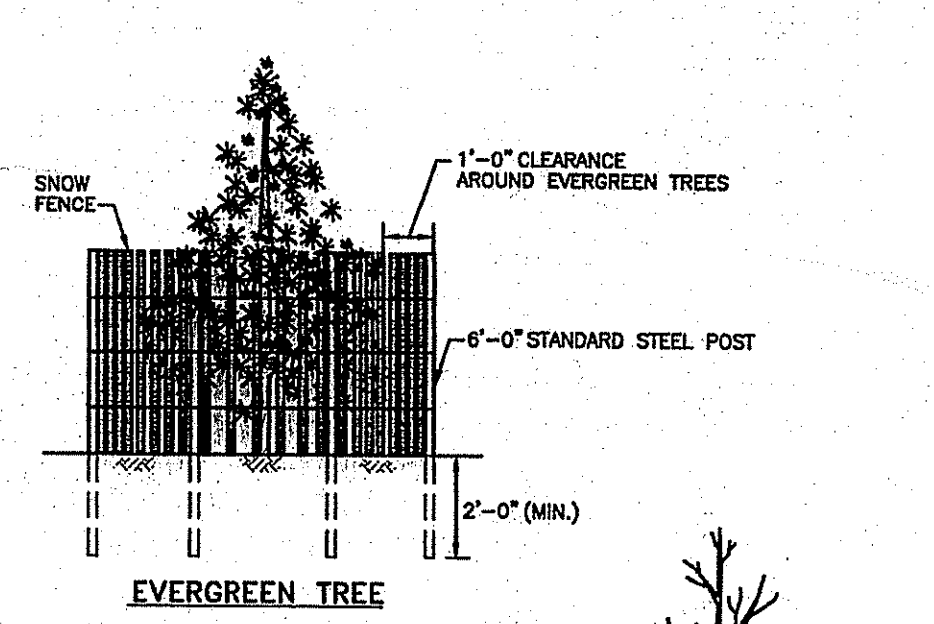


HAY BALE SEDIMENT BARRIER (RIDOT 9.1.0)  
NOT TO SCALE

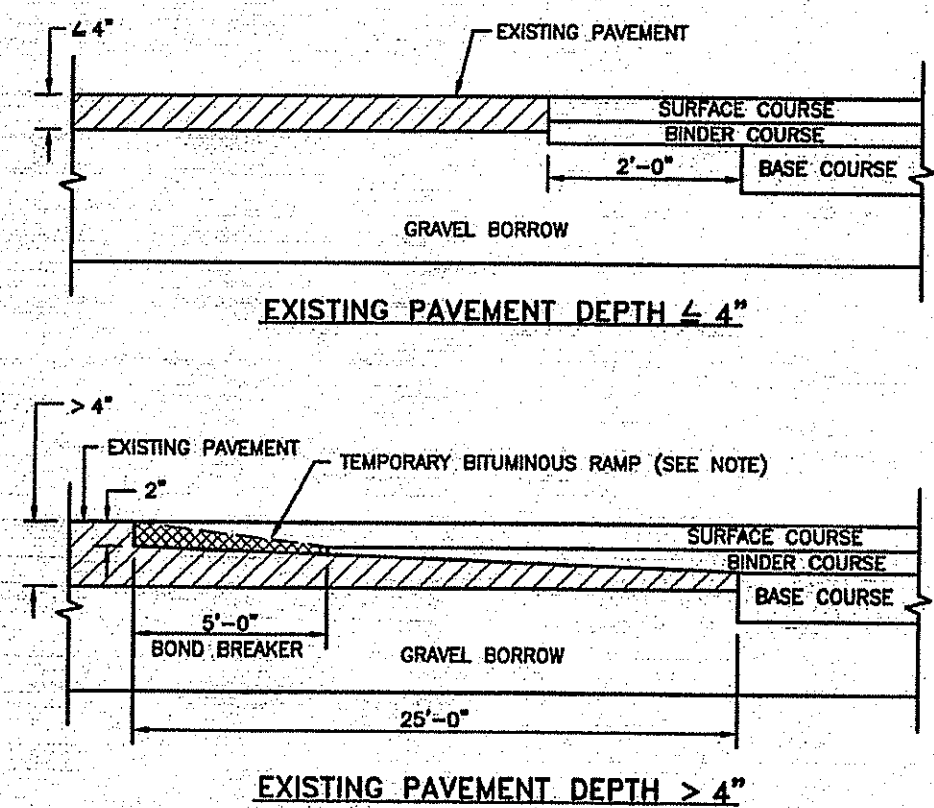


- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  - 2"x2"x4'-6" (MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
  - 1"x1"x4'-6" (MIN.) POSTS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

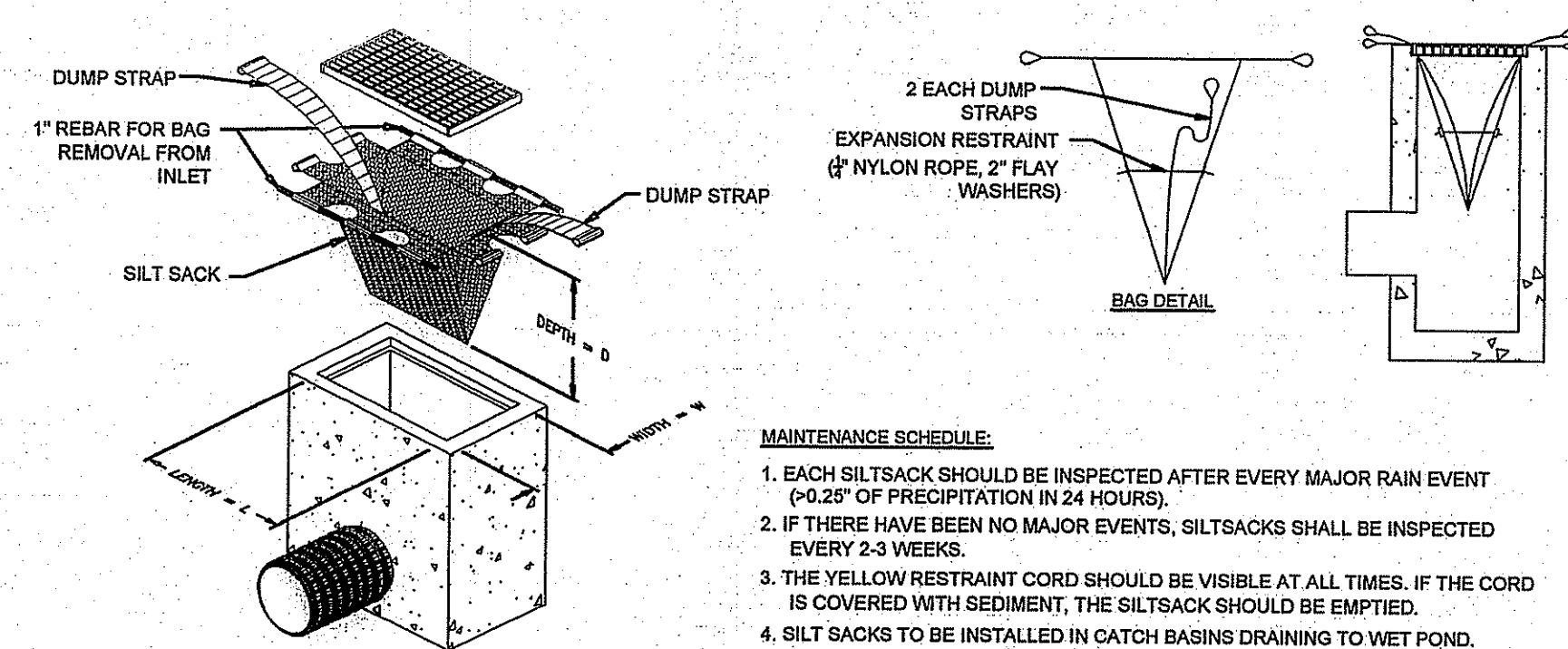
SILT FENCE (RIDOT 9.2.0)  
NOT TO SCALE



TREE PROTECTION DEVICE (RIDOT 51.1.1)  
NOT TO SCALE

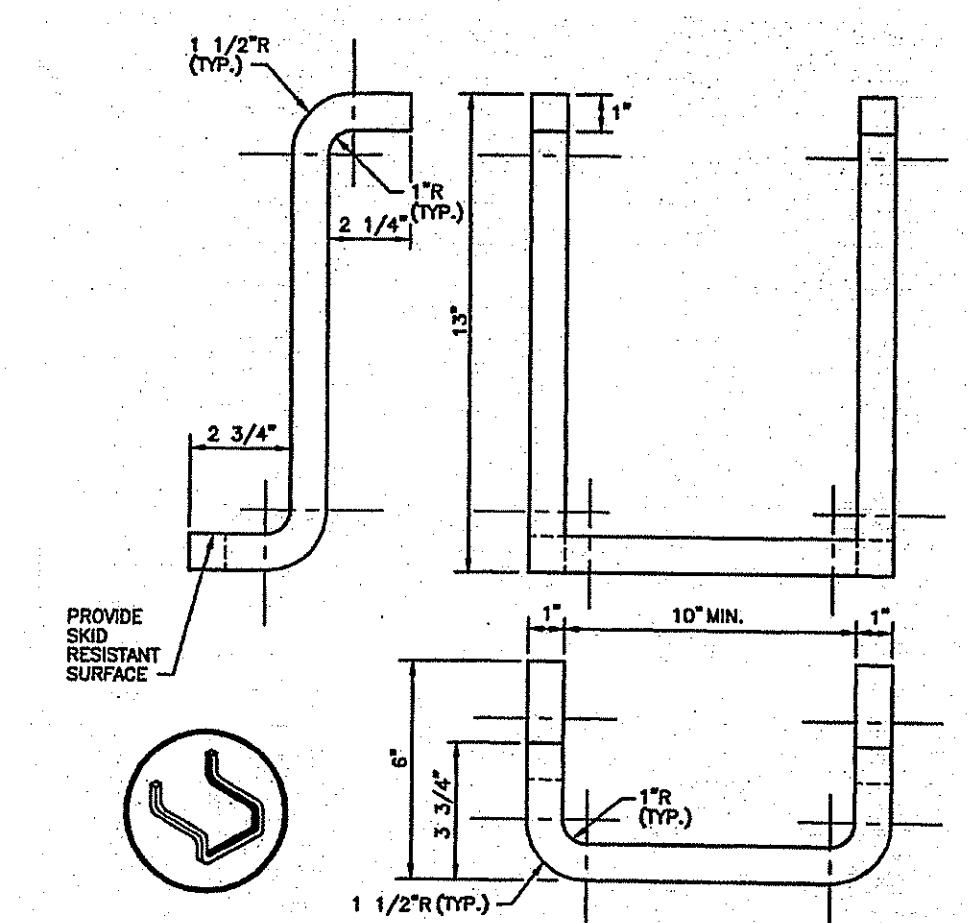


PAVEMENT CUT AND MATCH (RIDOT 47.1.1)  
NOT TO SCALE

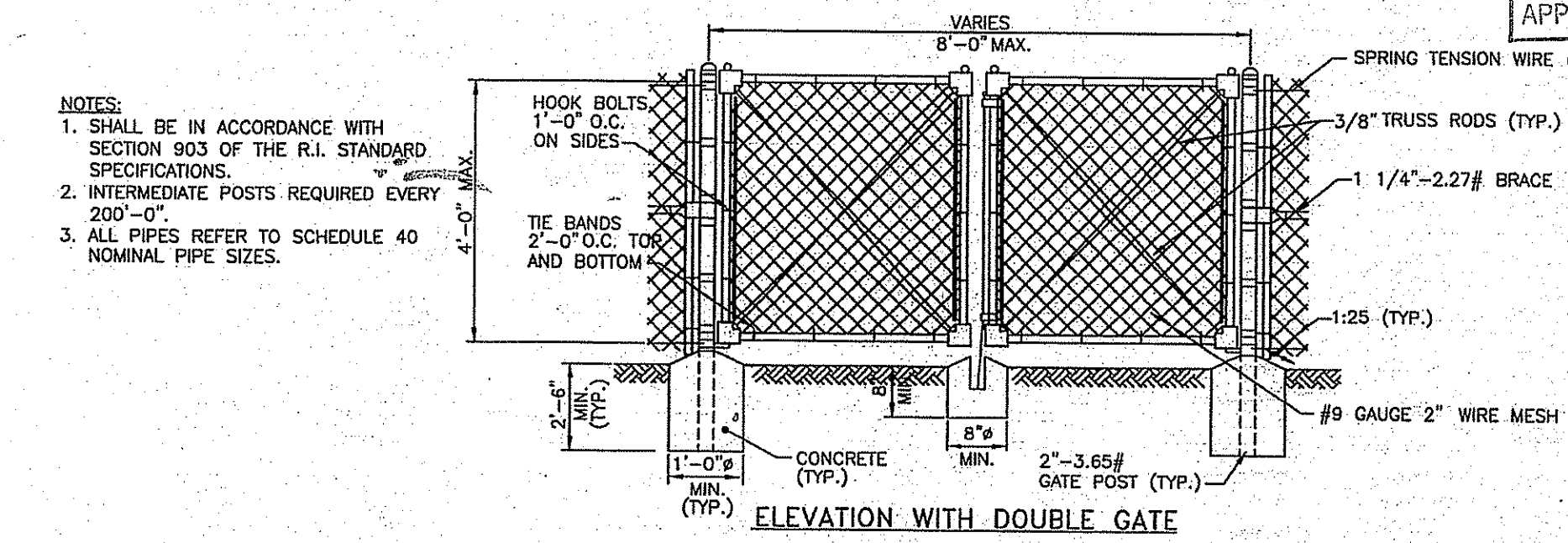
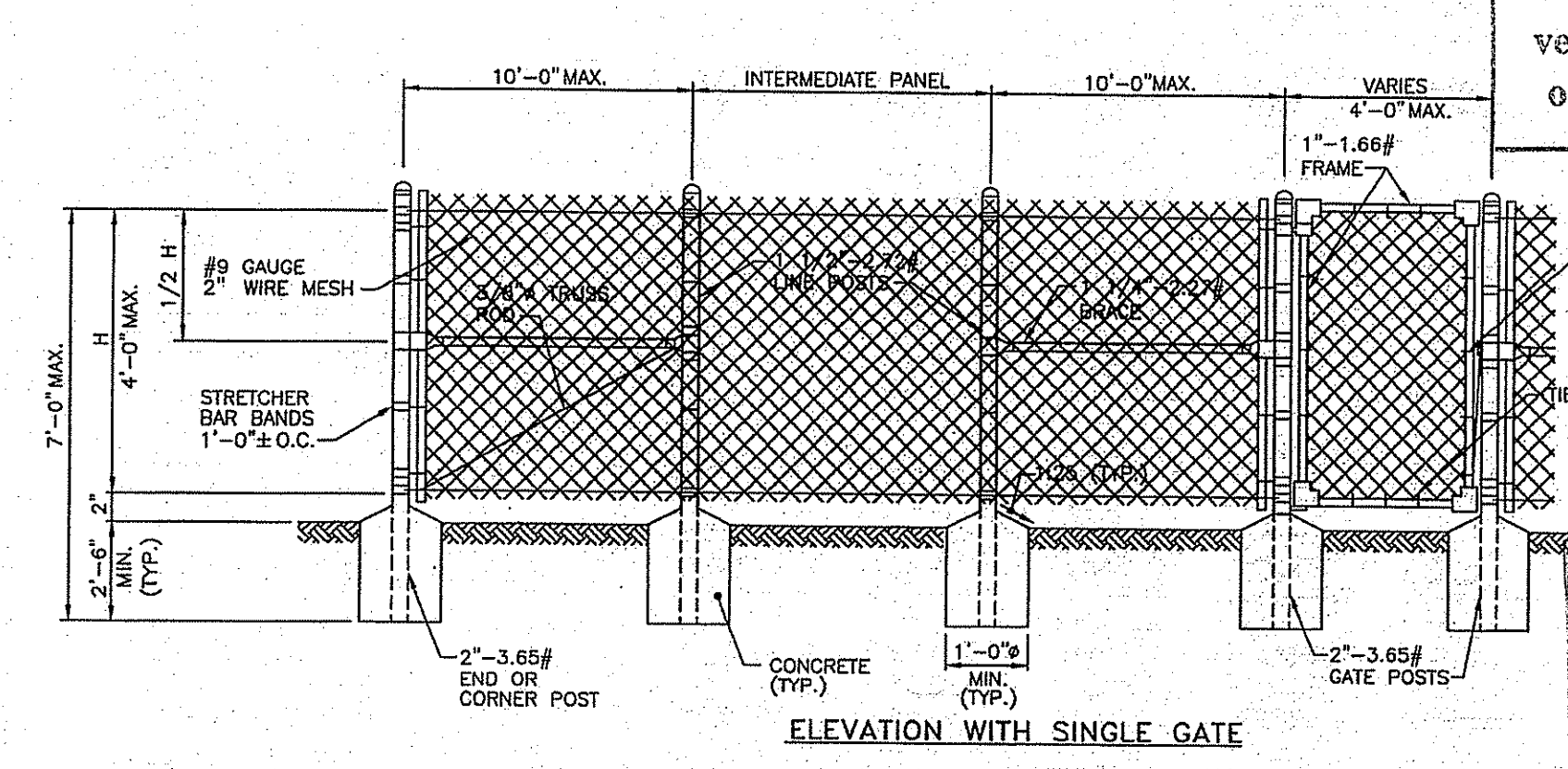


- MAINTENANCE SCHEDULE:
- EACH SILT SACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT (>0.2" OF PRECIPITATION IN 24 HOURS).
  - IF THERE HAVE BEEN NO MAJOR EVENTS, SILT SACKS SHALL BE INSPECTED EVERY 2-3 WEEKS.
  - THE YELLOW RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SILT SACK SHOULD BE EMPTIED.
  - SILT SACKS TO BE INSTALLED IN CATCH BASINS DRAINING TO WET POND.

SILT SACK DETAIL  
SCALE: NOT TO SCALE

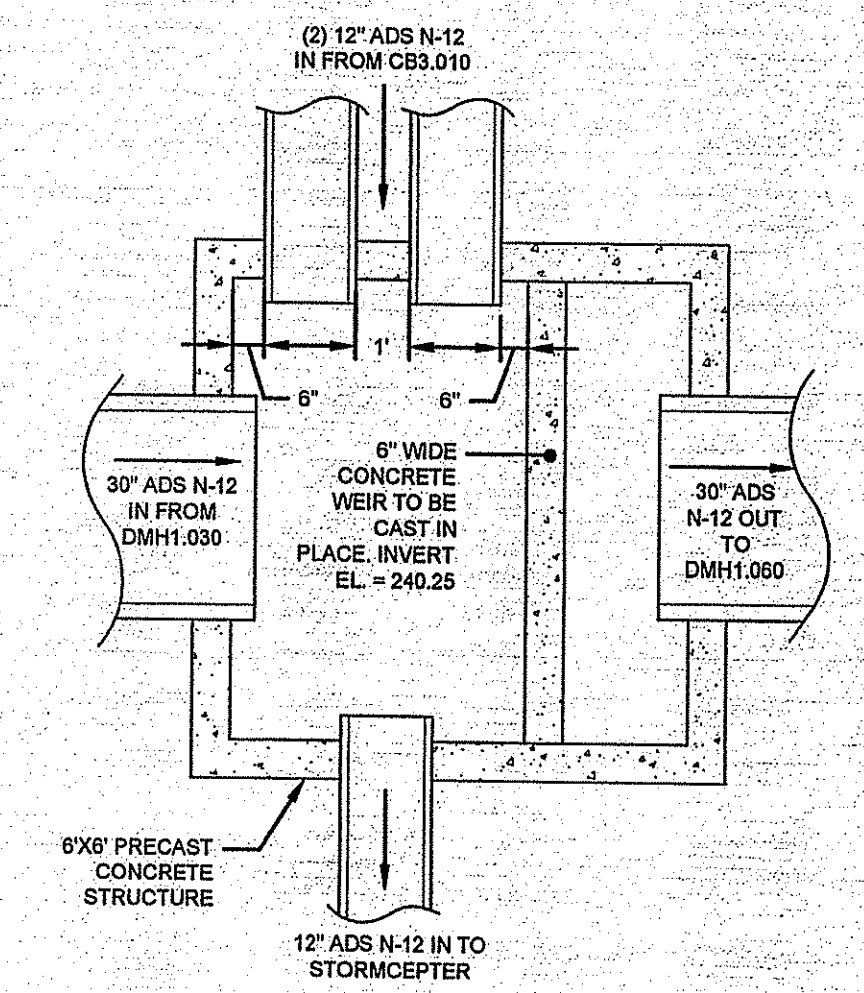


CATCH BASIN AND MANHOLE STEP (RIDOT 5.3.0)  
SCALE: NOT TO SCALE



- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 903 OF THE R.I. STANDARD SPECIFICATIONS.
  - INTERMEDIATE POSTS REQUIRED EVERY 200'-0".
  - ALL PIPES REFER TO SCHEDULE 40 NOMINAL PIPE SIZES.

4'-0" CHAIN LINK FENCE (RIDOT 31.1.1)  
NOT TO SCALE



CATCH BASIN 1.040 WEIR DETAIL  
NOT TO SCALE

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

No.	Revision	Date	App.

Designed By: *JJR* Drawn By: *JJR* Checked By: *JJR*  
Scale: AS SHOWN Date: 01SEP10  
Project Title: MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS SMITHFIELD, RHODE ISLAND

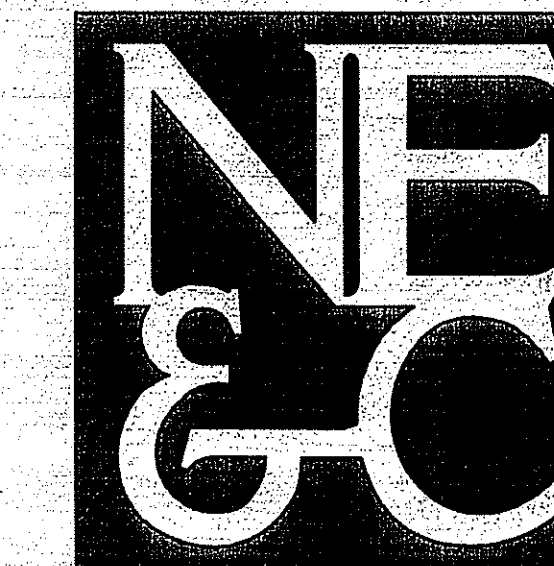
Client/Owner: TOWN OF SMITHFIELD  
Issued for:

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED DEC - 2 2010 FILE # 10-0212  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

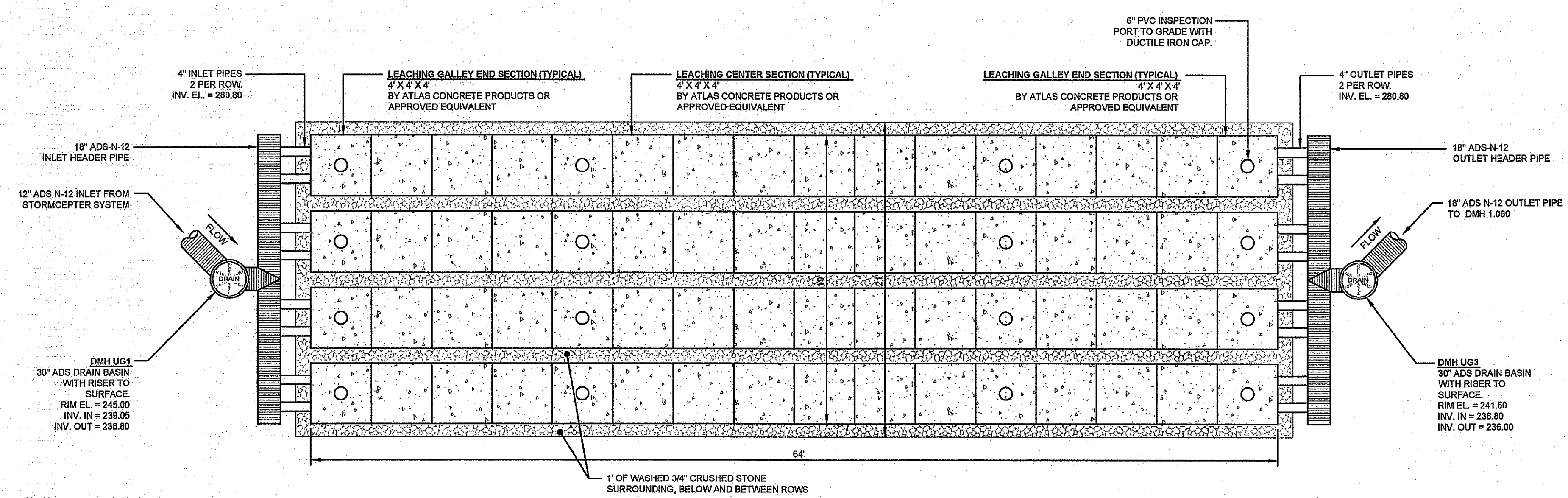
DETAILS

	Drawing Number: D-2
	Sheet 9 of 10
	Project Number: 10001
	Survey Index: <i> </i>

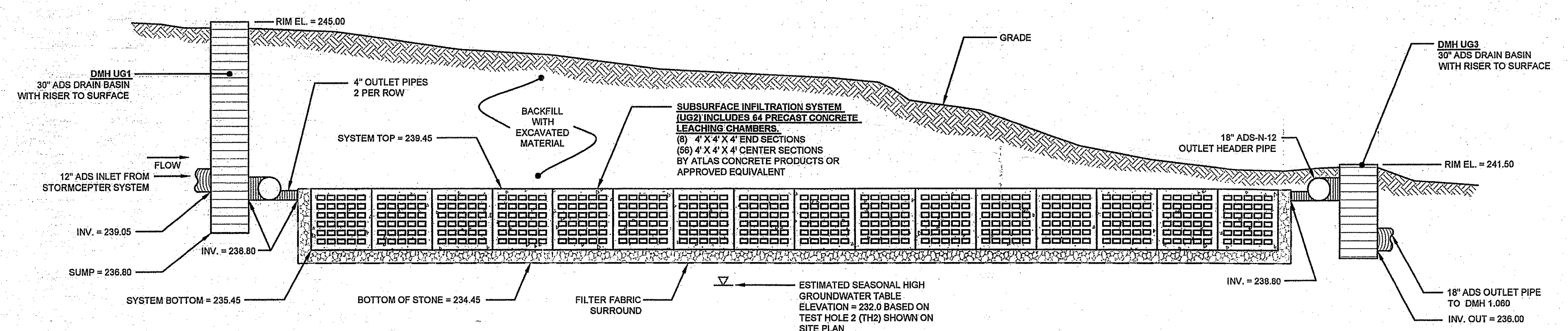
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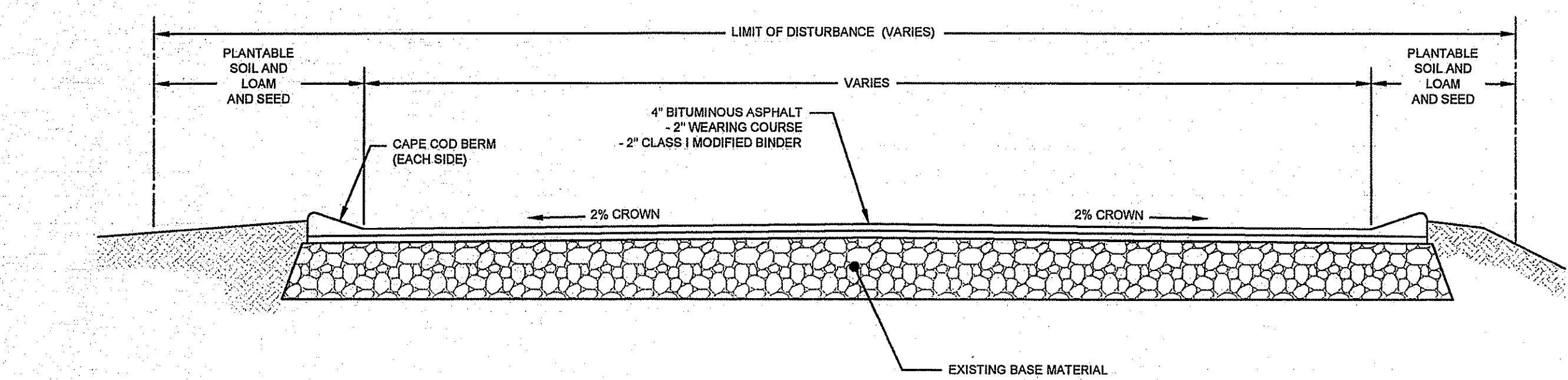
A KNOWLEDGE CORPORATION®  
55 JOHN CLARKE ROAD MIDDLETOWN RHODE ISLAND 02842  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM



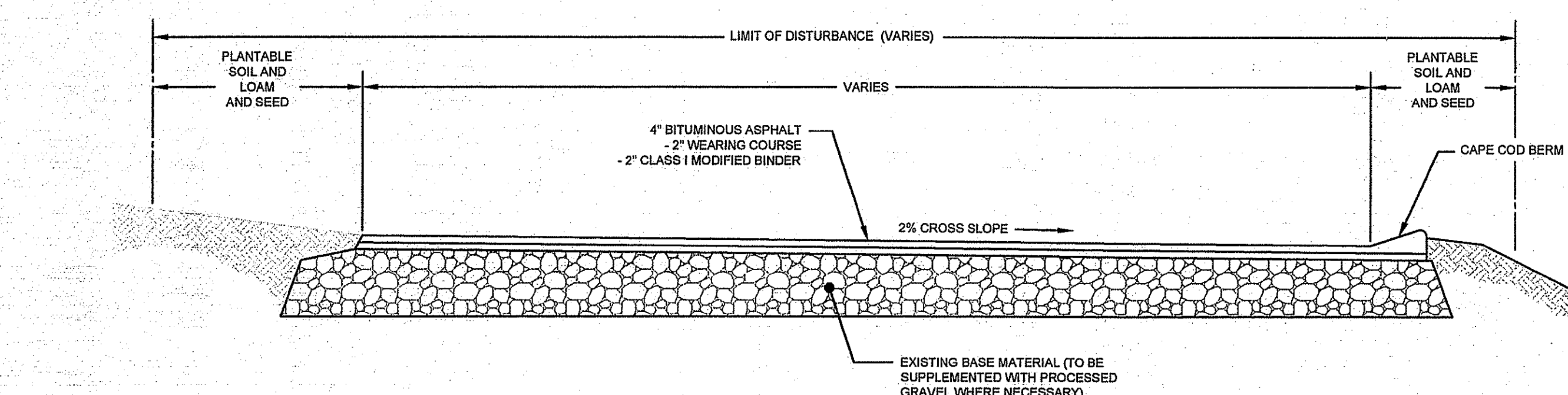
**UNDERGROUND INFILTRATION SYSTEM PLAN VIEW**  
SCALE: NOT TO SCALE



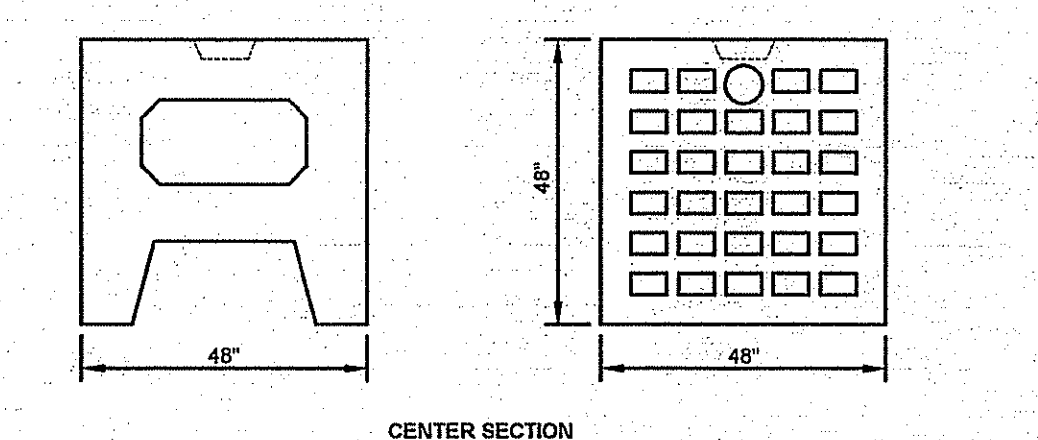
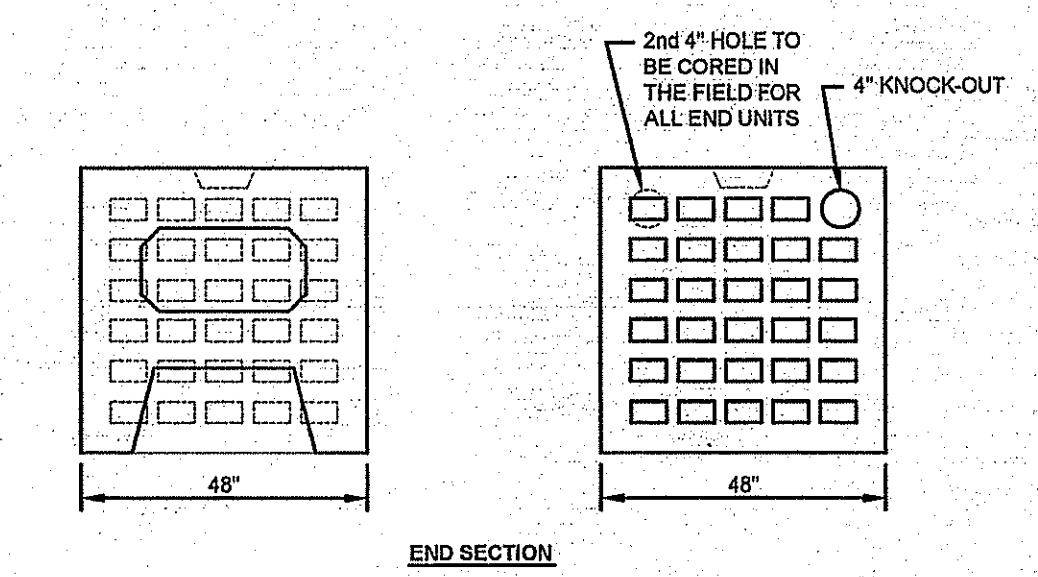
**UNDERGROUND INFILTRATION SYSTEM PROFILE VIEW**  
SCALE: NOT TO SCALE



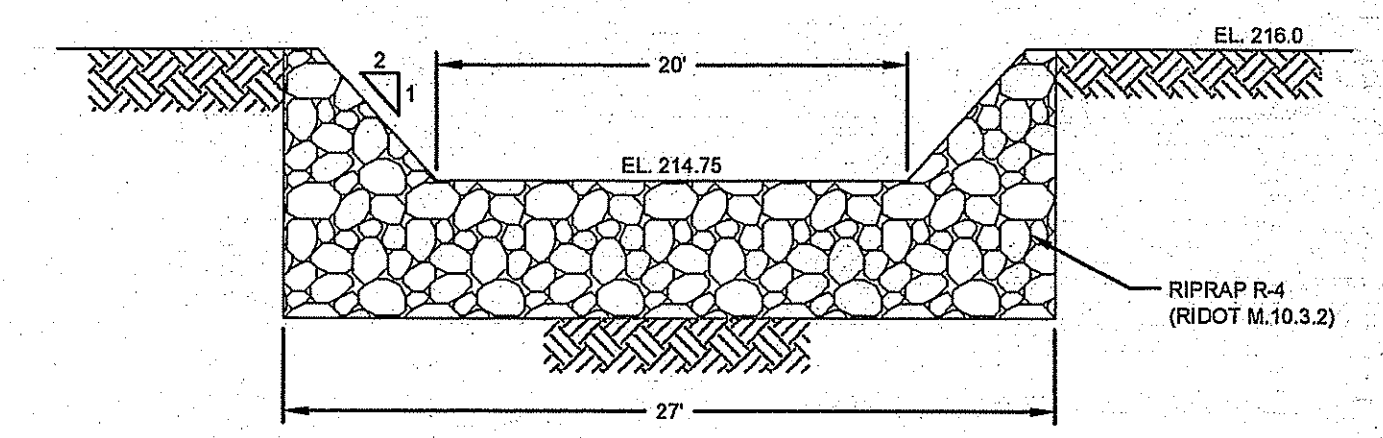
**TYPICAL PROPOSED REPAVEMENT CROSS-SECTION (2% CROWN)**  
FOR STA 0+00 TO STA 1+70± AND STA 4+80± TO END (MANN SCHOOL ROAD)  
SCALE: NOT TO SCALE



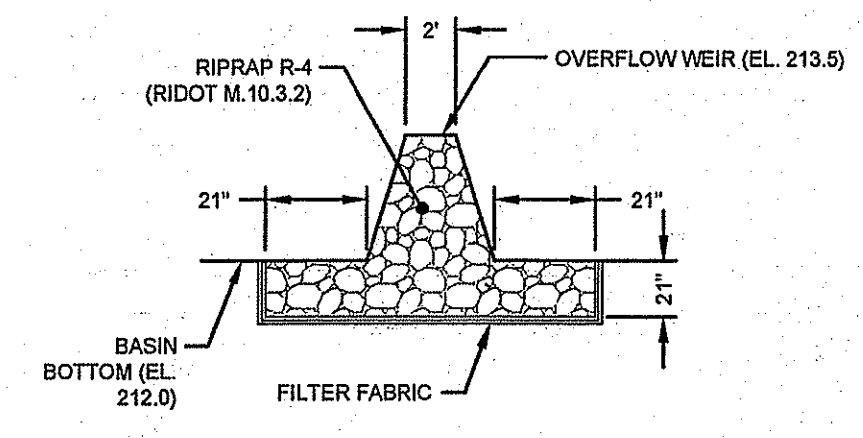
**TYPICAL PROPOSED REPAVEMENT CROSS-SECTION (2% CROSS-SLOPE)**  
FOR STA 1+70± TO STA 4+80± (MANN SCHOOL ROAD)  
SCALE: NOT TO SCALE



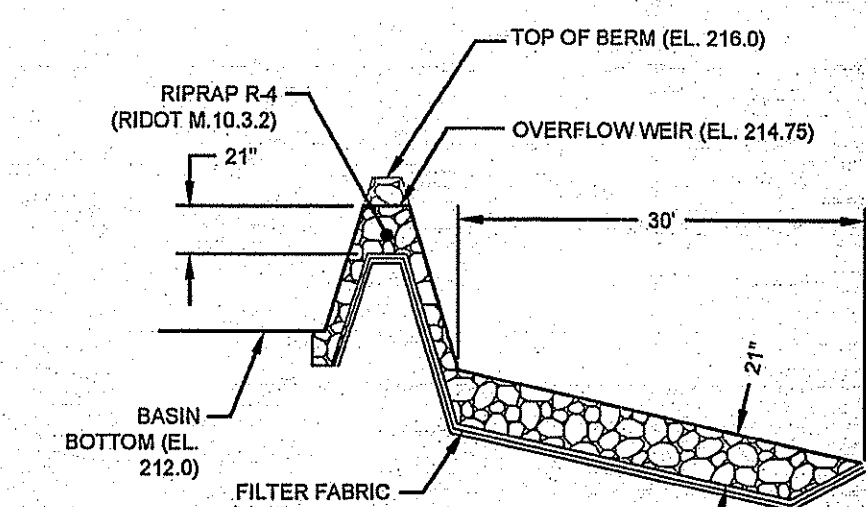
**4' X 4' X 4' LEACHING GALLEY**  
SCALE: NOT TO SCALE



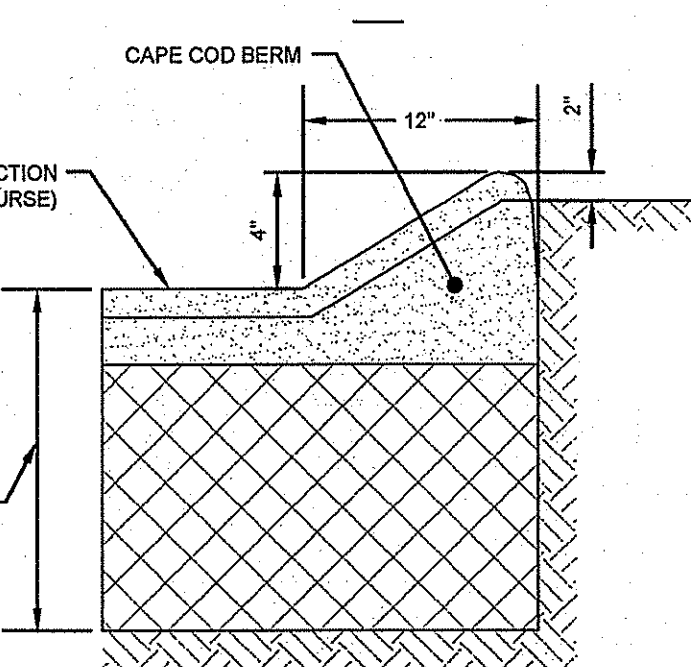
**BASIN OUTLET WEIR**  
SCALE = NTS



**BASIN SEDIMENT FOREBAY BERM**  
SCALE = NTS

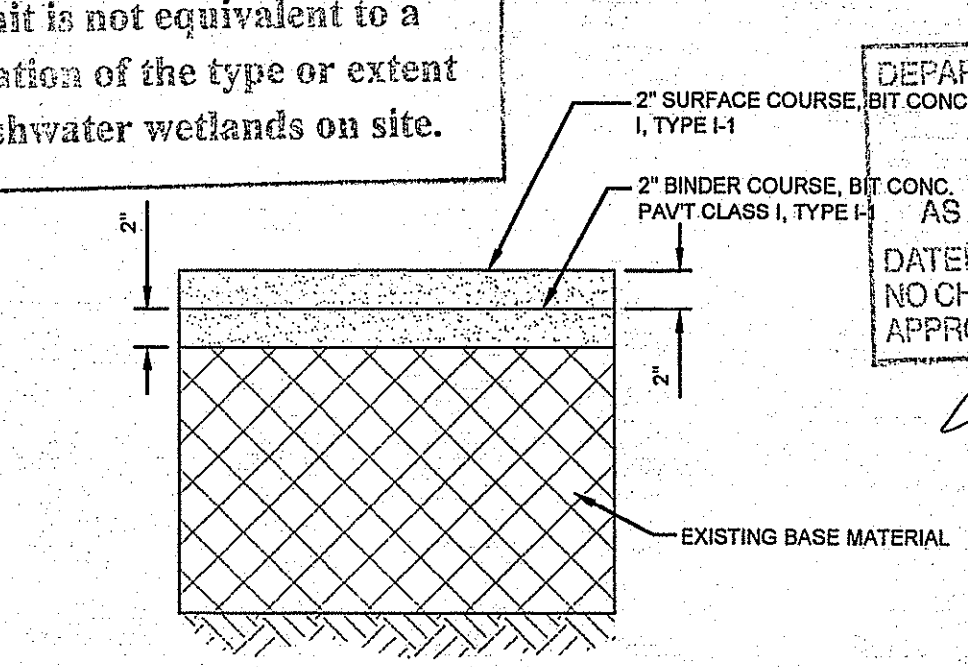


**BASIN OUTLET WEIR SECTION**  
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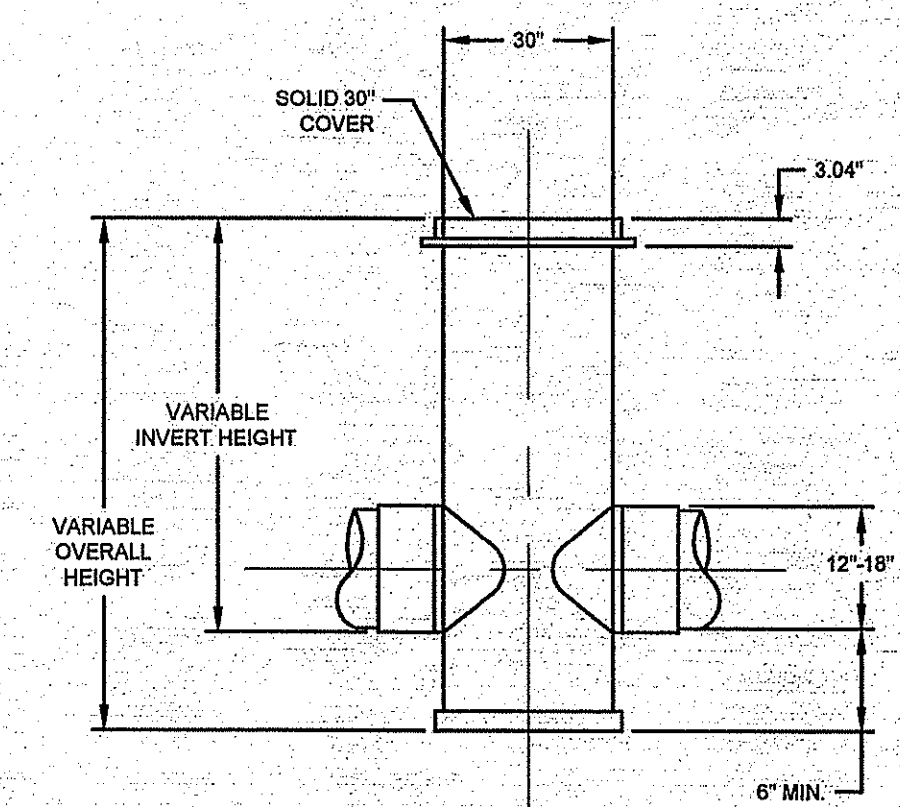


**TYPICAL CAPE COD BERM**  
SCALE: NOT TO SCALE

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



**TYPICAL BITUMINOUS RE-PAVEMENT SECTION**  
SCALE: NOT TO SCALE



**TYPICAL ADS DRAIN BASIN**  
\*CORRESPONDING TO ADS NYLOPLAST 2824AG 30\"/>

No.	Revision	Date	App.
Designed By:	Drawn by: JJR	Checked by:	
Scale: AS SHOWN	Date: 01SEP10		
Project Title: <b>MANN SCHOOL ROAD DRAINAGE IMPROVEMENTS</b> SMITHFIELD, RHODE ISLAND			
Client/Owner: TOWN OF SMITHFIELD			
Issued for:			
Drawing Title:			
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED DEC - 2 2010 FILE # 10-2212 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL BY CONSTRUCTION SITE.			
Drawing Number: <b>D-3</b>		Sheet 10 of 10	
Project Number: 10001		Survey Index:	
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