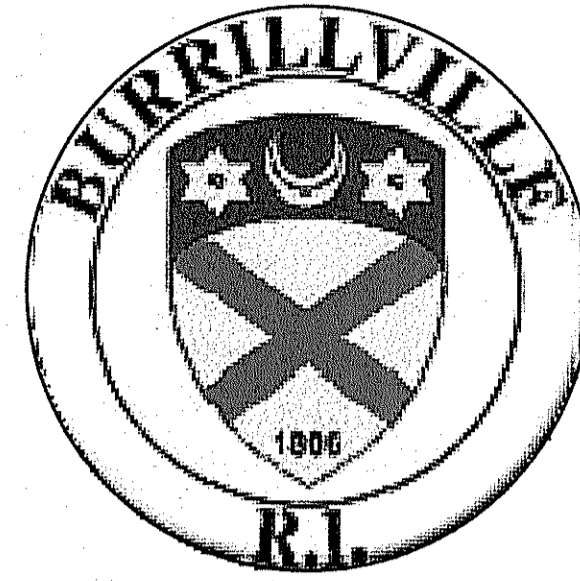


SITE PLANS  
FOR



TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
**PROPOSED PUBLIC WORKS FACILITY**

151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

**OWNER AND APPLICANT:**

TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**PREPARED FOR :**

TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**CONSULTING ENGINEERS:**

FUEL ISLAND:  
AYOUB ENGINEERING INC.  
414 BENEFIT STREET  
PAWTUCKET, RI 02861

STRUCTURAL FOR FUEL ISLAND:  
TRINITY ENGINEERING GROUP  
CHERRY LANE PROFESSIONAL CENTER  
55 CHERRY LANE  
WAKEFIELD, RI 02879

**CIVIL ENGINEERS AND LAND SURVEYORS:**

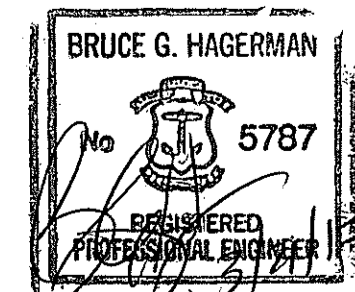


- Civil
- Transportation
- Environmental
- Site Planning
- Surveying
- Permitting
- Landscape Architecture

**CROSSMAN ENGINEERING**

Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700

Email: cei@crossmaneng.com



FEBRUARY 27, 2017  
SHEET 1 of 29

**ARCHITECT**

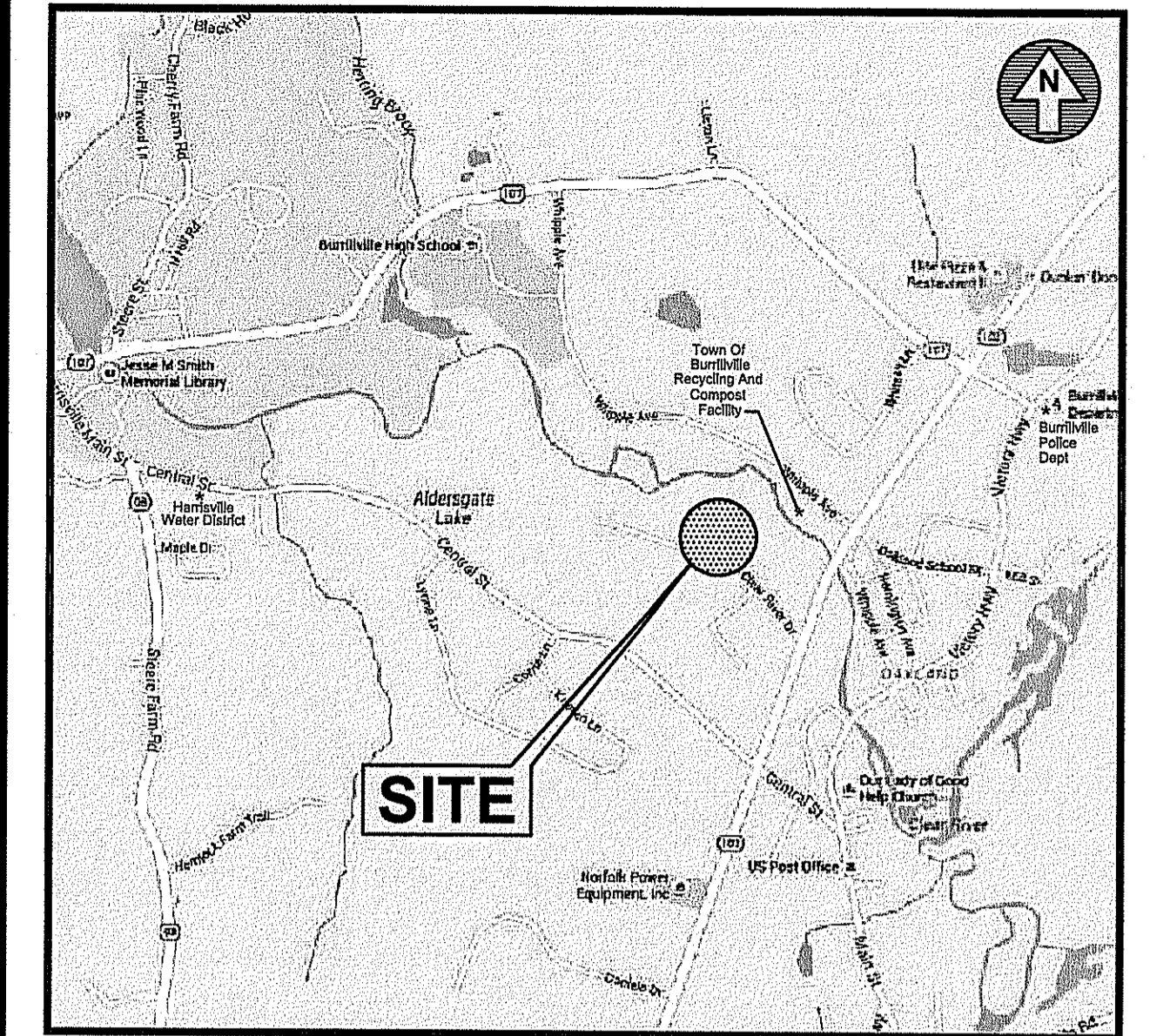
**Ed Wojcik**  
architect, ltd

One Richmond Square  
Providence, RI 02906  
401 • 861 • 7139  
Fax: 401 • 861 • 7165

**WETLAND BIOLOGIST:**



Natural Resource Services, Inc.  
PO Box 311, Harrisville, RI 02830, (401) 568-7390 phone, (401) 568-7480 fax



LOCATION MAP  
APPROXIMATE SCALE: 1"=1,250'

**INDEX OF DRAWINGS**

DRAWING No.	PLAN COVER
C1.1-C1.2	GENERAL NOTES and LEGEND Nos. 1-2
C2.1	AERIAL MAP
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C4.1	OVERALL PLAN
C5.1 - C5.3	SITE LAYOUT PLAN Nos. 1-3
C6.1-C6.3	GRADING, DRAINAGE AND UTILITY PLAN Nos. 1-3
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C8.1	SOIL EROSION and SEDIMENT CONTROL PLAN
C9.1- C9.10	MISCELLANEOUS DETAILS PLAN Nos. 1-10
AB-S3.0	FUEL DEPOT TANK AND PIPING PLAN
AB-S3.1	FUEL DEPOT TANK DETAILS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 12 2017 FILE # 16-0306  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Edward D. Wenzel*

**ISSUED FOR PERMITTING**

**REVISIONS:**

No.:	DATE:	DESCRIPTION:
1	3/17/17	RIDEM COMMENTS



**PLAN SYMBOLS**

- (1.1.0M) UNDER-DRAIN (MODIFIED)
- (1.3.0) CONCRETE CONNECTING COLLAR, R.I. STD. 1.3.0
- (2.3.0) PRECAST CONCRETE FLARED END SECTION, R.I. STD. 2.3.0
- (4.2.0) PRECAST 4'-0" ROUND MANHOLE, R.I. STD. 4.2.0
- (4.2.1) PRECAST 5'-0" ROUND MANHOLE, R.I. STD. 4.2.1
- (4.3.0) PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN, R.I. STD. 4.3.0
- (4.4.0 (DIA.)) PRECAST 4'-0", 5'-0" OR 6'-0" ROUND CATCH BASIN, R.I. STD. 4.4.0
- (4.5.0) PRECAST CONCRETE DROP INLET, R.I. STD. 4.5.0
- (6.2.1) HEAVY-DUTY ROUND FRAME AND COVER, R.I. STD. 6.2.1
- (6.3.2) SQUARE FRAME AND GRATE (BICYCLE SAFE)
- (6.3.2M) SQUARE FRAME AND GRATE (BICYCLE SAFE) MODIFIED
- (7.1.0) PRECAST CONCRETE CURB, R.I. STD. 7.1.0
- (43.1.0) CEMENT CONCRETE SIDEWALK, R.I. STD. 43.1.0
- (43.3.0) WHEELCHAIR RAMP, R.I. STD. 43.3.0
- (48.1.0) DETECTABLE WARNING SYSTEM, R.I. STD. 48.1.0
- (51.1.0) TREE PROTECTION DEVICE, R.I. STD. 51.1.0
- (AW) ADJUST WATER GATE BOX TO GRADE
- (BB) BITUMINOUS CONCRETE BERM
- (CG) CLEARING AND GRUBBING
- (DFP) REMOVE AND DISPOSE FLEXIBLE PAVEMENT
- (DP) REMOVE AND DISPOSE PIPE
- (ETR) EXISTING TO REMAIN
- (HPS) HANDICAP PARKING STALL
- (LS) 4" LOAM AND SEED
- (R&D) REMOVE AND DISPOSE
- (R&R) REMOVE AND RELOCATE
- (R&S) REMOVE AND STOCKPILE
- (RRF) REMOVE AND RESET FENCE
- (RRP) RIP-RAP PAD PROTECTION
- (RRS) RIP-RAP SLOPE PROTECTION
- (RSR) REMOVE, STOCKPILE AND REBUILD STONE WALL
- (SS) SILT SACK INLET PROTECTION
- (SW) STRAW WATTLES
- (TNP) TIE NEW PIPE INTO EXISTING STRUCTURE
- (4W) 4" EPOXY RESIN PAVEMENT MARKINGS - WHITE
- (12W) 12" EPOXY RESIN PAVEMENT MARKINGS - WHITE

**EXISTING**

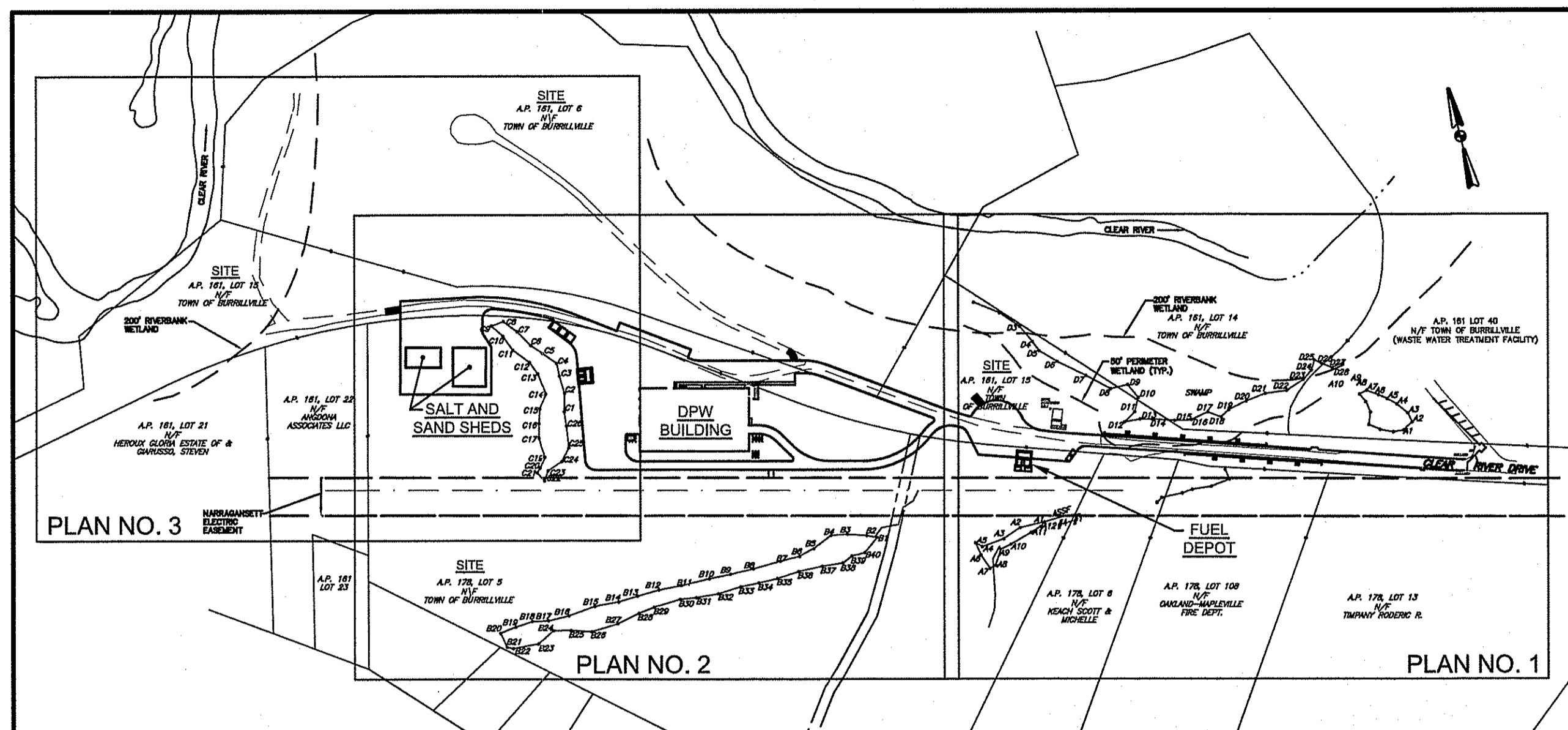
- XXX--- CONTOUR LINE
- x 455.70 SPOT GRADE
- ⊙ DMH DRAINAGE MANHOLE
- CB CATCH BASIN
- ▷ FE FLARED END
- ⊙ SMH SEWER MANHOLE
- UTILITY POLE
- GUY ANCHOR
- FIRE HYDRANT
- WATER GATE
- MAIL BOX
- BUILDING FACE
- STONE WALL
- TREE
- CHAIN LINK FENCE
- GRADE TO DRAIN
- PROPERTY LINE
- DRAIN LINE
- SANITARY SEWER
- WATER LINE
- OVERHEAD WIRES
- RETAINING WALL
- EDGE OF WOODS
- SAW CUT AND MATCH PAVEMENT (FULL DEPTH)
- LIMIT OF DISTURBANCE
- STRAW WATTLE
- WETLAND FLAGGING
- 50' PERIMETER WETLAND
- TP#2 TEST PIT
- BOLLARD
- A.P. ASSESSORS PLAT
- N/F NOW OR FORMERLY
- D.B., PG. DEED BOOK, PAGE
- UNDERGROUND ELECTRIC
- TRAFFIC DIRECTION
- UNDERGROUND COMMUNICATIONS
- ROOF DRAINAGE
- CLEANOUT
- UNDER DRAIN PIPE

**LEGEND**

- CONTOUR LINE
- SPOT GRADE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END
- SEWER MANHOLE
- UTILITY POLE
- GUY ANCHOR
- FIRE HYDRANT
- WATER GATE
- MAIL BOX
- BUILDING FACE
- STONE WALL
- TREE
- CHAIN LINK FENCE
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- TRAFFIC DIRECTION
- UNDERGROUND COMMUNICATIONS
- ROOF DRAINAGE
- CLEANOUT
- UNDER DRAIN PIPE

**PROPOSED**

- ELEV.--- PROPOSED ELEVATION
- ELEV.--- EXISTING ELEVATION
- DMH DRAINAGE MANHOLE
- CB CATCH BASIN
- ▷ FE FLARED END
- SMH SEWER MANHOLE
- UTILITY POLE
- GUY ANCHOR
- FIRE HYDRANT
- WATER GATE
- MAIL BOX
- BUILDING FACE
- STONE WALL
- TREE
- CHAIN LINK FENCE
- GRADE TO DRAIN
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- ASSESSORS PLAT
- NOW OR FORMERLY
- DEED BOOK, PAGE
- UNDERGROUND ELECTRIC
- TRAFFIC DIRECTION
- UNDERGROUND COMMUNICATIONS
- ROOF DRAINAGE
- CLEANOUT
- UNDER DRAIN PIPE



KEY PLAN 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.

**SOIL EVALUATION DATA**

TEST PITS #1-8 PERFORMED BY BRIAN KING (D4010), CROSSMAN ENGINEERING, ON JULY 13, 2016.  
 TEST PITS A-E PERFORMED BY BRUCE HAGERMAN (RI PE 5787), CROSSMAN ENGINEERING, ON SEPTEMBER 21, 2016.  
 TEST PITS F-I PERFORMED BY BRUCE HAGERMAN (RI PE 5787), CROSSMAN ENGINEERING, ON NOVEMBER 22, 2016.

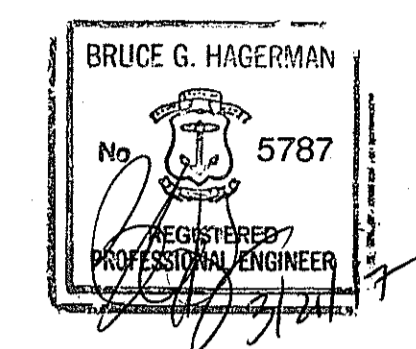
TEST HOLE #1	TEST HOLE #2	TEST HOLE #3	TEST HOLE #4	TEST HOLE #5	TEST HOLE #6	TEST HOLE #7	TEST HOLE #8	
SURFACE EL.=335.00	SURFACE EL.=349.00	SURFACE EL.=351.25	SURFACE EL.=360.50	SURFACE EL.=354.00	SURFACE EL.=354.00	SURFACE EL.=360.00	SURFACE EL.=353.00	
0" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE HTM	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	0" VERY DARK BROWN ORGANIC MATERIAL, INTERMEDIATE DECOMPOSITION Oe	
3" LIGHT OLIVE BROWN FINE SAND-LOOSE HTM	4" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE A	3" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE A	2" DARK YELLOWISH BROWN FINE SANDY LOAM-VERY FRIABLE A	4" DARK YELLOWISH BROWN FINE SANDY LOAM-VERY FRIABLE A	3" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE A	3" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE A	3" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE A	
21" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE HTM/mix	9" DARK YELLOWISH BROWN GRAVELLY SAND-LOOSE Bw1	11" DARK YELLOWISH BROWN LOAMY SAND/SANDY LOAM-VERY FRIABLE Bw1	4" DARK YELLOWISH BROWN FINE SANDY LOAM-VERY FRIABLE Bw1	7" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE Bw1	6" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE Bw1	5" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE Bw1	9" DARK YELLOWISH BROWN SANDY LOAM-VERY FRIABLE Bw1	
50" BLACK COARSE GRAVELLY SAND-LOOSE HTM/C	13" LIGHT OLIVE BROWN GRAVELLY SAND-LOOSE C1	23" LIGHT OLIVE BROWN GRAVELLY SAND & COBBLES-LOOSE C1	12" YELLOWISH BROWN SANDY LOAM-VERY FRIABLE Bw2	23" LIGHT OLIVE BROWN LOAMY FINE SAND (SOME BOULDERS)-VERY FRIABLE C1	17" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE C1	18" LIGHT OLIVE BROWN COARSE SAND & GRAVEL-LOOSE C1	21" DARK YELLOWISH BROWN LOAMY VERY FINE SAND-FRIABLE C1	
61" DARK YELLOWISH BROWN GRAVELLY LOAMY SAND-LOOSE C1	30" LIGHT YELLOWISH BROWN SAND/GRAVELLY SAND (SOME COBBLES)-LOOSE C2	31" LIGHT YELLOWISH BROWN GRAVELLY SAND-LOOSE C2	20" LIGHT OLIVE BROWN GRAVELLY SAND (SOME COBBLES & STONES)-LOOSE C1	48" LIGHT OLIVE BROWN GRAVELLY SAND (SOME BOULDERS)-VERY FRIABLE C2	50" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE C1	28" LIGHT OLIVE BROWN STRATIFIED SAND & STONES (WITH FEW BOULDERS)-LOOSE C2	60-68" LIGHT OLIVE BROWN GRAVELLY LOAMY SAND (COBBLES & STONES)-VERY FRIABLE C1	
123" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 120" SEASONAL HIGH WATER TABLE ELEVATION = 325.00	111" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 110" SEASONAL HIGH WATER TABLE ELEVATION = 339.83	124" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 120" SEASONAL HIGH WATER TABLE ELEVATION = 341.25	114" DEPTH TO IMPERVIOUS/LIMITING LAYER = 96"-114" GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 52" SEASONAL HIGH WATER TABLE ELEVATION = 358.17	120" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 80" SEASONAL HIGH WATER TABLE ELEVATION = 347.33	120" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 81" SEASONAL HIGH WATER TABLE ELEVATION = 341.25	108" DEPTH TO IMPERVIOUS/LIMITING LAYER = 108" (LARGE STONE/BOULDER) GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = 112" SEASONAL HIGH WATER TABLE ELEVATION = 350.67	60-68" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = 44"-54" DEPTH TO SEASONAL HIGH WATER TABLE = 28" SEASONAL HIGH WATER TABLE ELEVATION = 350.67	
TEST HOLE-A	TEST HOLE-B	TEST HOLE-C	TEST HOLE-D	TEST HOLE-E	TEST HOLE-F	TEST HOLE-G	TEST HOLE-H	TEST HOLE-I
SURFACE EL.=338.00	SURFACE EL.=332.40	SURFACE EL.=331.40	SURFACE EL.=338.00	SURFACE EL.=338.00	SURFACE EL.=330.00	SURFACE EL.=339.00	SURFACE EL.=342.00	SURFACE EL.=353.50
0" DARK YELLOWISH BROWN LOAMY SAND-FRIABLE A	0" DARK YELLOWISH BROWN SANDY SAND-FRIABLE A	0" DARK GRAYISH BROWN LOAMY SAND-FRIABLE A	0" DARK YELLOWISH BROWN LOAM-FRIABLE A	0" VERY DARK GRAYISH BROWN SANDY LOAM-FRIABLE A	0" LIGHT OLIVE BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-LOOSE C1	0" BROWN FINE LOAMY SAND-FRIABLE A	0" BLACK FOREST LITTER O	0" BLACK FOREST LITTER O
10" GRAY SANDY LOAM-FRIABLE HTM	9" DARK GRAY GRAVELLY SANDY LOAM-FRIABLE HTM	4" DARK GRAY GRAVELLY SANDY LOAM-FRIABLE B	6" DARK GRAY GRAVELLY SANDY LOAM-FRIABLE HTM	6" DARK GRAY GRAVELLY SANDY LOAM-FRIABLE HTM	38" LIGHT BROWNISH SAND-LOOSE C2	11" YELLOWISH BROWN FINE LOAMY SAND (FEW POCKETS OF GRAVEL)-FRIABLE B	3" VERY DARK GRAYISH BROWN FINE SANDY LOAM-FRIABLE A	3" DARK YELLOWISH BROWN FINE SANDY LOAM-FRIABLE A
14" BLACK WELL DECOMPOSED ORGANICS-FRIABLE Ob	12" BLACK WELL DECOMPOSED ORGANICS-FRIABLE Ob	12" GRAY FINE TO MEDIUM SAND, FEW COBBLES-FRIABLE/LOOSE C1	12" DARK GRAY GRAVELLY SANDY LOAM-FRIABLE HTM(WEST)	32" LIGHT OLIVE BROWN GRAVELLY FINE TO COARSE SAND, FEW BOULDERS-FRIABLE C1	132" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = >132"	17" LIGHT YELLOWISH BROWN GRAVELLY FINE SAND-LOOSE BC	9" YELLOWISH BROWN GRAVELLY FINE LOAMY SAND-FRIABLE B	6" YELLOWISH BROWN FINE SANDY LOAM-FRIABLE B
16" DARK GRAYISH BROWN GRAVELLY LOAMY SAND-FRIABLE/FIRM BC	15" GRAYISH BROWN SANDY LOAM-FRIABLE/FIRM BC	116" OLIVE GRAY COBBLY LOAMY SAND-FRIABLE/FIRM C2	26" BLACK SANDY LOAM-FRIABLE O/A,B(WEST)	63" BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-FEW COBBLES-LOOSE C2	90" GRAY COBBLY SAND-FRIABLE/FIRM C2	25" LIGHT OLIVE BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-LOOSE C1	20" LIGHT OLIVE BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-LOOSE C1	14" LIGHT OLIVE BROWN FINE SANDY LOAM-FRIABLE BC
24" DARK YELLOWISH BROWN GRAVELLY LOAMY SAND-FRIABLE/FIRM C1	20" GRAY GRAVELLY LOAMY SAND-FRIABLE/FIRM C1	120" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = 102" DEPTH TO SEASONAL HIGH WATER TABLE = 84" SEASONAL HIGH WATER TABLE ELEVATION = 324.40	32" LIGHT OLIVE BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-FEW COBBLES-LOOSE C1(WEST)	120" BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-FEW COBBLES-LOOSE C1(EAST)	78" LIGHT GRAY FINE SAND-LOOSE C2(EAST)	41" DARK GRAYISH BROWN GRAVELLY FINE TO COARSE SAND AND GRAVEL-LOOSE C2	104" DARK GRAYISH BROWN GRAVELLY LOAMY SAND WITH FEW COBBLES-FRIABLE/FIRM C2	29" LIGHT OLIVE BROWN GRAVELLY LOAMY SAND WITH FEW COBBLES & BOULDERS-FRIABLE/FIRM C
100" GRAY COBBLY LOAMY SAND-FRIABLE/FIRM C3	108" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = 102" DEPTH TO SEASONAL HIGH WATER TABLE = 84" SEASONAL HIGH WATER TABLE ELEVATION = 325.40	113" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = >120"	113" GRAY COBBLY LOAMY SAND-FRIABLE/FIRM C3(EAST)	15" BROWN STRATIFIED FINE TO COARSE SAND AND GRAVEL-FEW COBBLES-LOOSE C1(WEST)	113" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = >120"	132" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = >132"	120" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = 99" DEPTH TO SEASONAL HIGH WATER TABLE = 72" SEASONAL HIGH WATER TABLE ELEVATION = 338.00	120" DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = N/A DEPTH TO SEASONAL HIGH WATER TABLE = >120"
DEPTH TO IMPERVIOUS/LIMITING LAYER = N/A GW SEEPAGE = 103" DEPTH TO SEASONAL HIGH WATER TABLE = 160" SEASONAL HIGH WATER TABLE ELEVATION = 327.70								

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED APR 12 2017 FILE # 16-0306  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Walter D. Wemack*

**Crossman Engineering**  
 Rhode Island: 151 Centerville Road, Warwick, RI 02886  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763  
 Phone: (401) 738-6660, (508) 695-1700  
 Email: cel@crossmaneng.com

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**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

**GENERAL NOTES and LEGEND No.2**

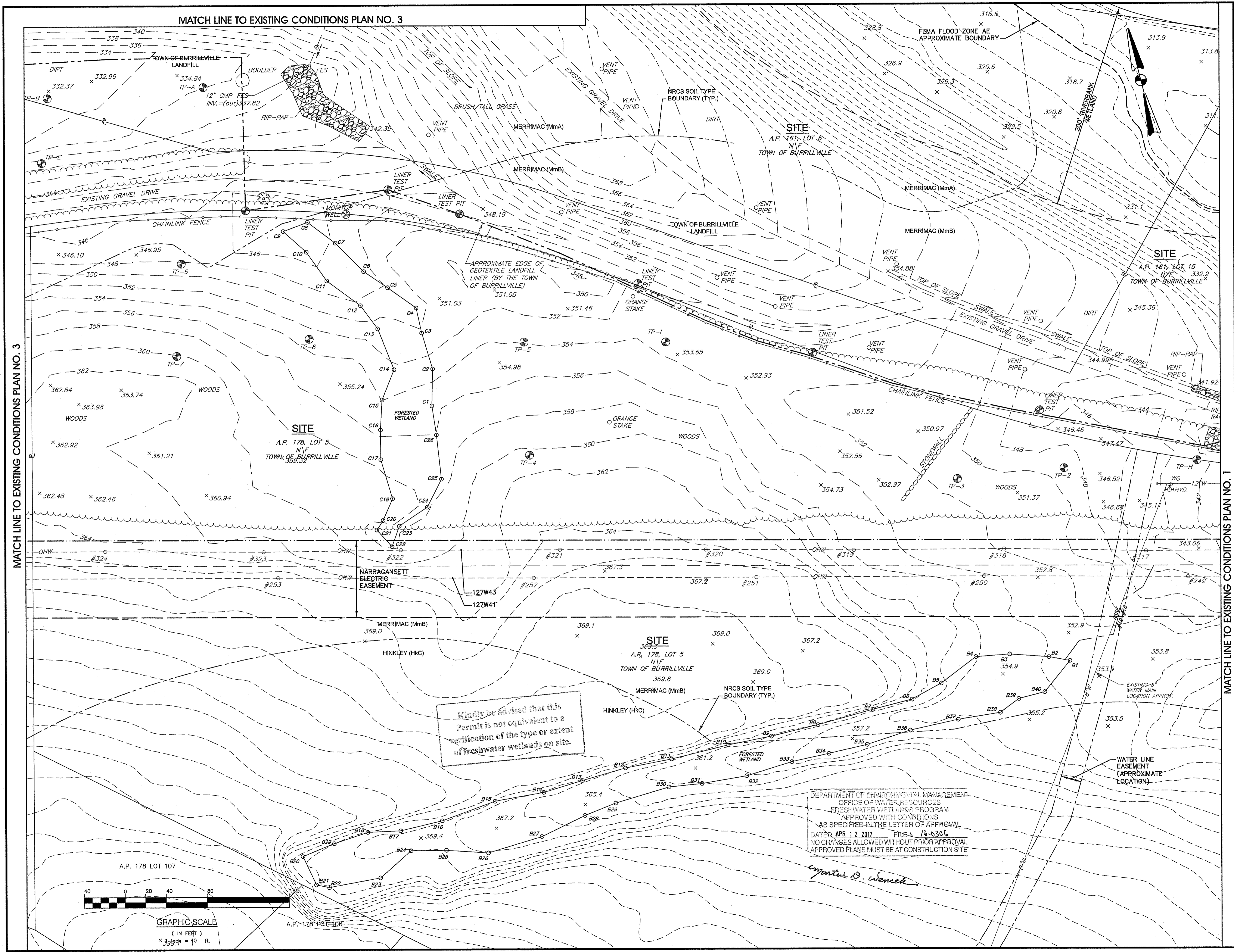
DATE: FEBRUARY 27, 2017  
 SCALE: NO SCALE  
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REVISIONS	NUMBER	REMARKS	DATE
1		RIDEM COMMENTS	3/17/17

DRAWING NUMBER: **C1.2**  
 SHEET: 3 OF 29

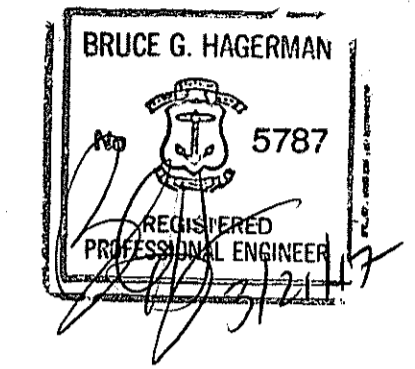






**CROSSMAN ENGINEERING**  
 Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

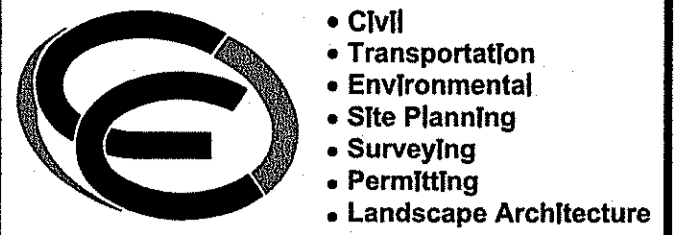
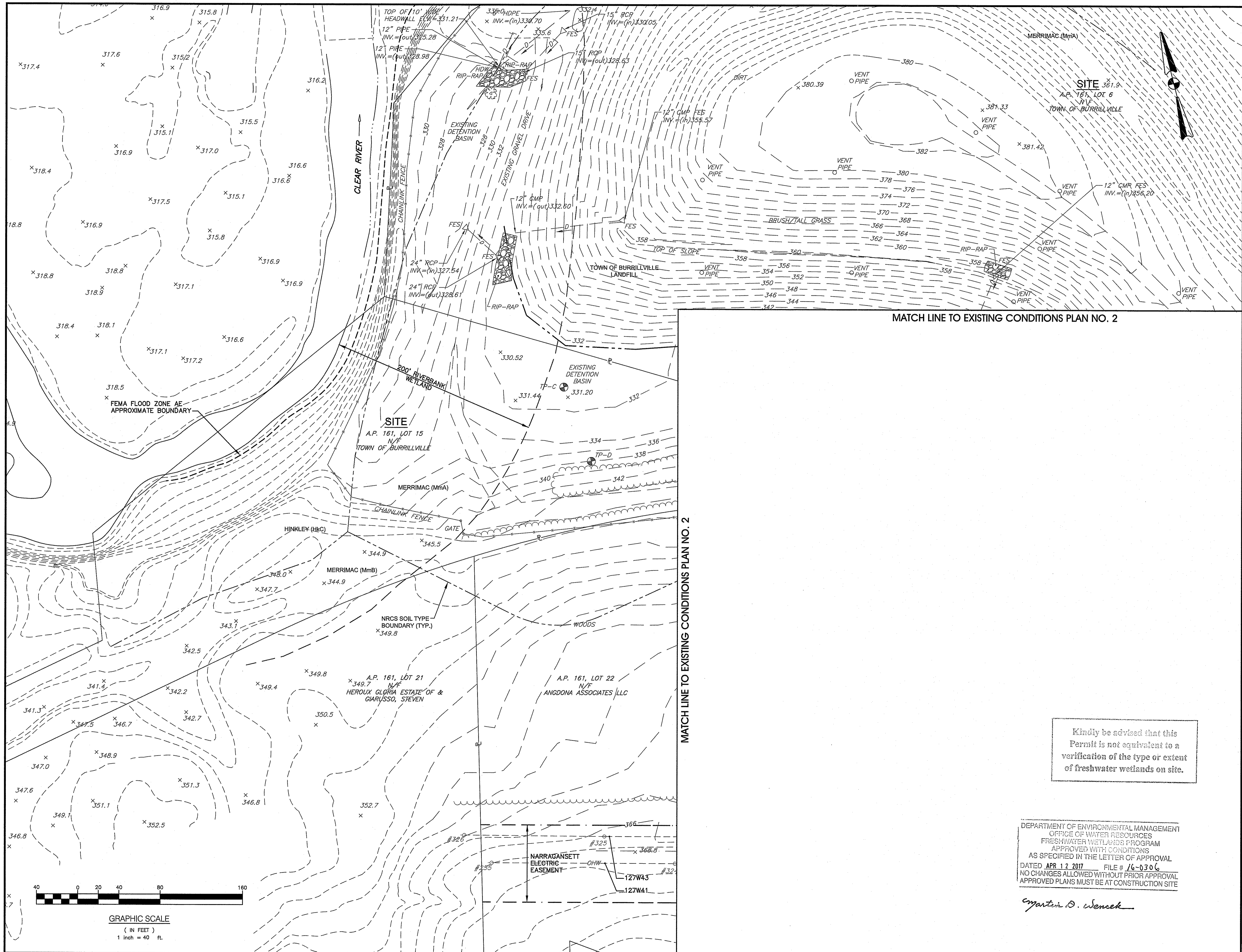
DRAWING TITLE:  
**EXISTING CONDITIONS PLAN NO. 2**

DATE: FEBRUARY 27, 2017      SCALE: 1" = 40'  
 DWG. NAME: 2118-05-06-07-EXCN CON.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

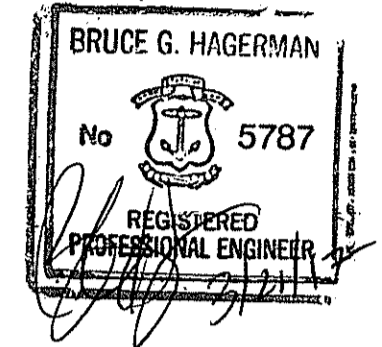
DRAWING NUMBER  
**C3.2**  
 SHEET: 6 OF 29



**CROSSMAN ENGINEERING**  
 Rhode Island  
 151 Centerville Road  
 Warwick, RI 02886  
 Phone: (401) 738-5660  
 Email: ce@crossmaneng.com

Massachusetts  
 103 Commonwealth Avenue  
 North Attleboro, MA 02763  
 Phone: (508) 695-1700

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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

DRAWING TITLE:  
**EXISTING CONDITIONS  
 PLAN NO. 3**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'  
 DWG. NAME: 2118-05-06-07-EXCN CON.dwg

REVISIONS		
NUMBER	REMARKS	DATE
1	RIDEN COMMENTS	3/7/17

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 APR 12 2017 FILE # 16-0306  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Matthew D. Wenczek*

DRAWING NUMBER  
**C3.3**  
 SHEET: 7 OF 29

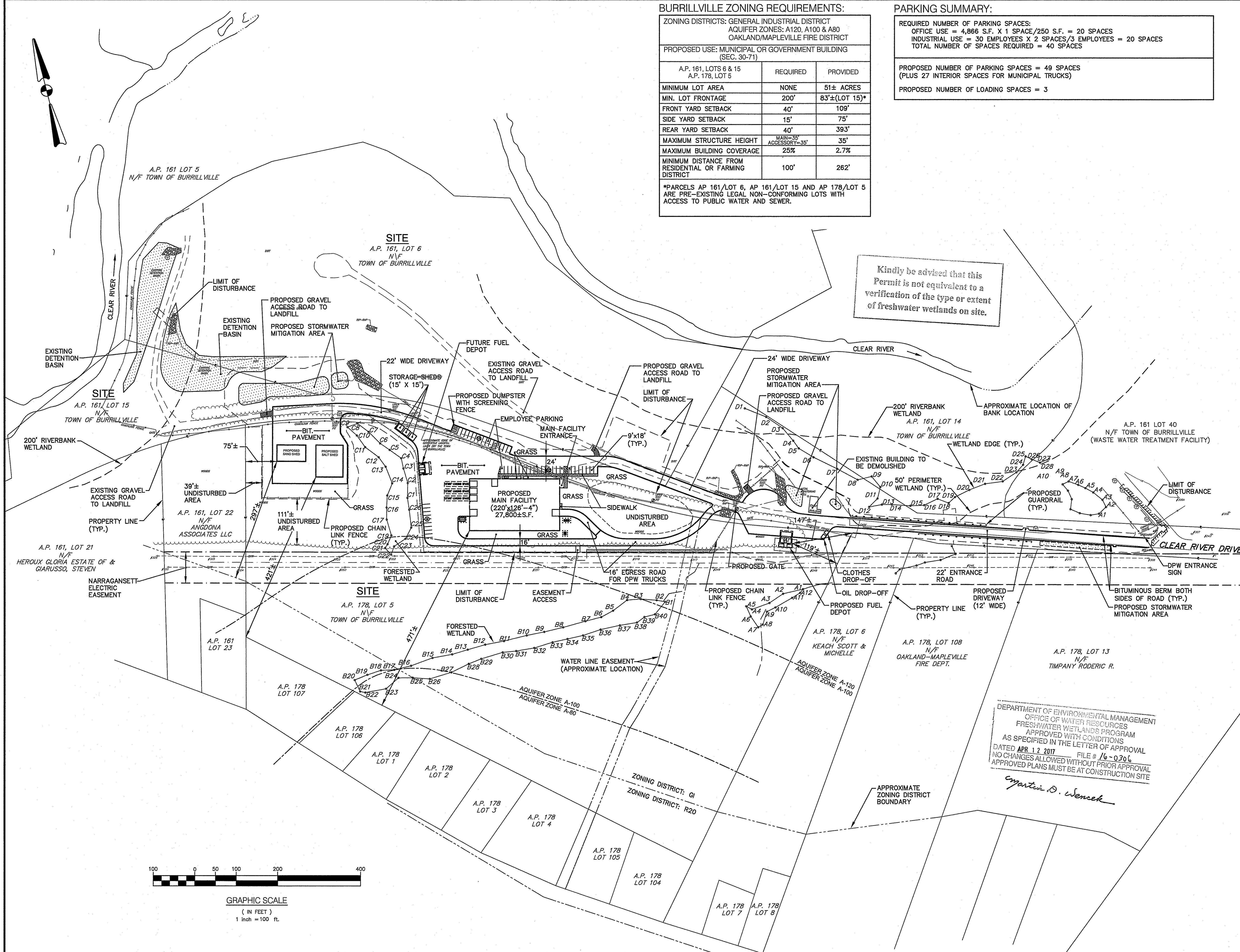
**BURRILLVILLE ZONING REQUIREMENTS:**

ZONING DISTRICTS: GENERAL INDUSTRIAL DISTRICT AQUIFER ZONES: A120, A100 & A80 OAKLAND/MAPLEVILLE FIRE DISTRICT		
PROPOSED USE: MUNICIPAL OR GOVERNMENT BUILDING (SEC. 30-71)		
A.P. 161, LOTS 6 & 15 A.P. 178, LOT 5	REQUIRED	PROVIDED
MINIMUM LOT AREA	NONE	51± ACRES
MIN. LOT FRONTAGE	200'	83'±(LOT 15)*
FRONT YARD SETBACK	40'	109'
SIDE YARD SETBACK	15'	75'
REAR YARD SETBACK	40'	393'
MAXIMUM STRUCTURE HEIGHT	MAIN=35' ACCESSORY=35'	35'
MAXIMUM BUILDING COVERAGE	25%	2.7%
MINIMUM DISTANCE FROM RESIDENTIAL OR FARMING DISTRICT	100'	262'

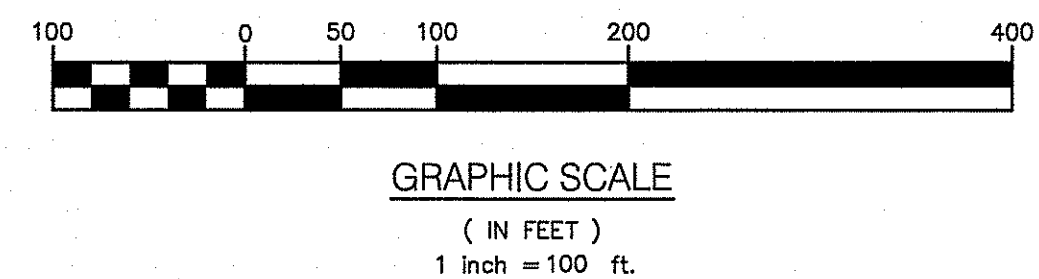
\*PARCELS AP 161/LOT 6, AP 161/LOT 15 AND AP 178/LOT 5 ARE PRE-EXISTING LEGAL NON-CONFORMING LOTS WITH ACCESS TO PUBLIC WATER AND SEWER.

**PARKING SUMMARY:**

REQUIRED NUMBER OF PARKING SPACES: OFFICE USE = 4,866 S.F. X 1 SPACE/250 S.F. = 20 SPACES INDUSTRIAL USE = 30 EMPLOYEES X 2 SPACES/3 EMPLOYEES = 20 SPACES TOTAL NUMBER OF SPACES REQUIRED = 40 SPACES
PROPOSED NUMBER OF PARKING SPACES = 49 SPACES (PLUS 27 INTERIOR SPACES FOR MUNICIPAL TRUCKS)
PROPOSED NUMBER OF LOADING SPACES = 3



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DATED APR 12 2017 FILE # 16-0206  
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*Matthew B. Seneck*

**Crossman Engineering**

Rhode Island: 151 Centerville Road, Warwick, RI 02886  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763  
Phone: (401) 738-6660, (508) 695-1700  
Email: cel@crossmaneng.com

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**BRUCE G. HAGERMAN**  
No. 5787  
REGISTERED PROFESSIONAL ENGINEER

PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

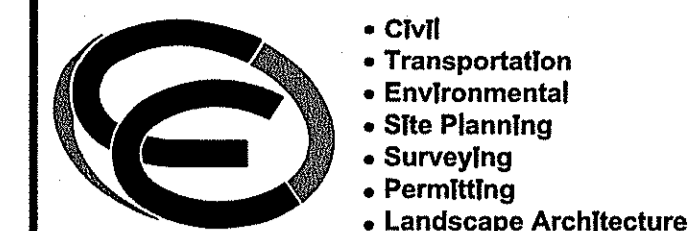
PREPARED FOR:  
**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**  
65 UNION AVENUE  
HARRISVILLE, RI 02830

DRAWING TITLE:  
**OVERALL PLAN**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 100'  
DWG. NAME: 2118-08-OVERALL CON.dwg

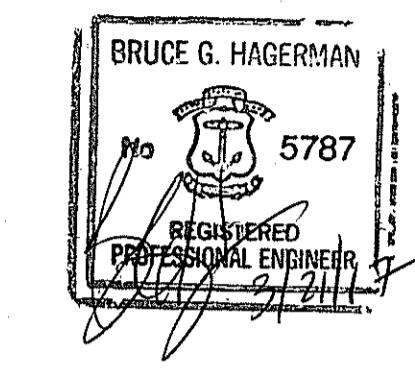
REVISIONS	NUMBER	REMARKS	DATE
Δ	1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C4.1**  
SHEET: 8 OF 29



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 Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

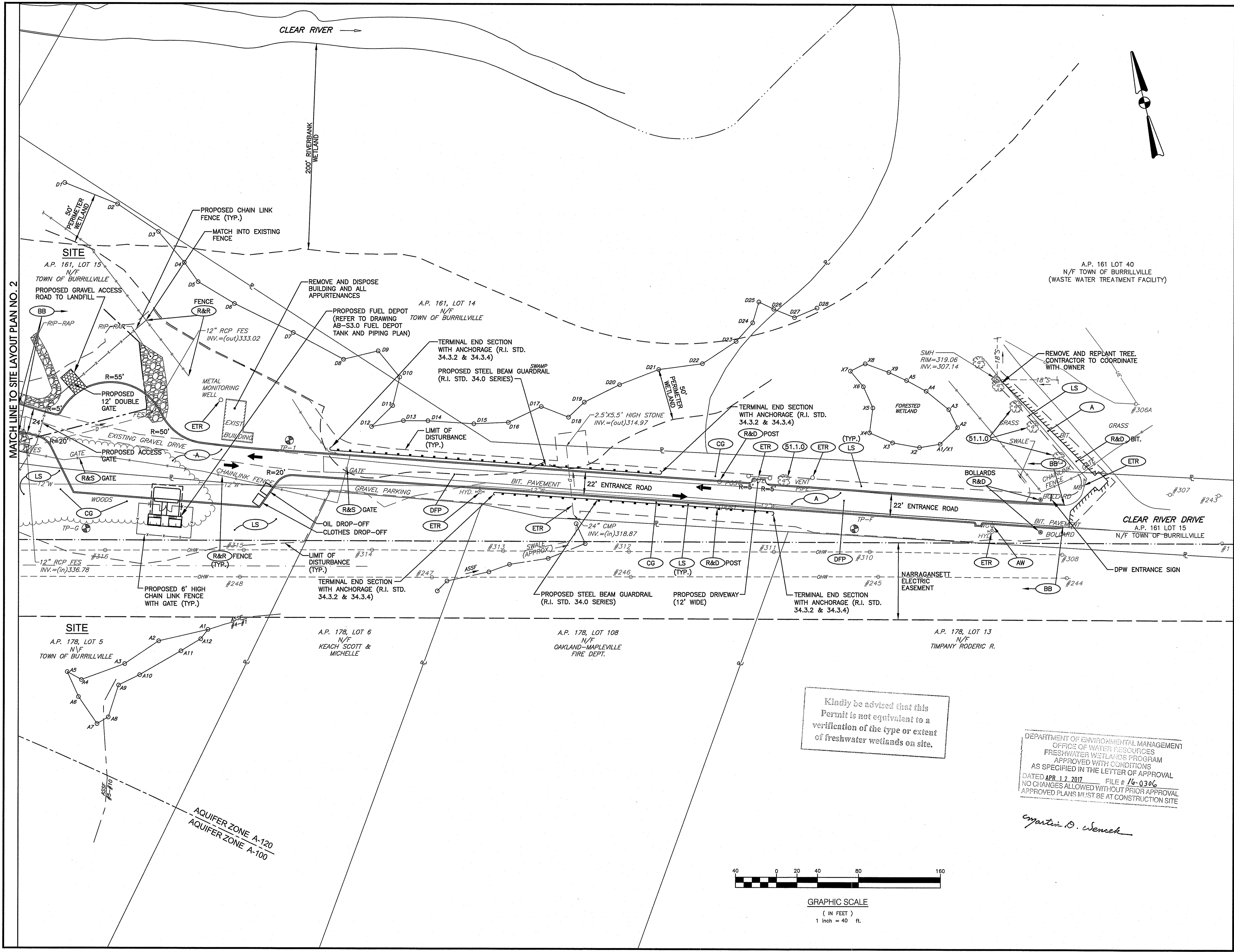
PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

DRAWING TITLE:  
**SITE LAYOUT PLAN NO. 1**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'  
 DWG. NAME: 2118-09-10-11-SITE CON.dwg

REVISIONS	NUMBER	REMARKS	DATE
△	1	RIDEN COMMENTS	3/17/17

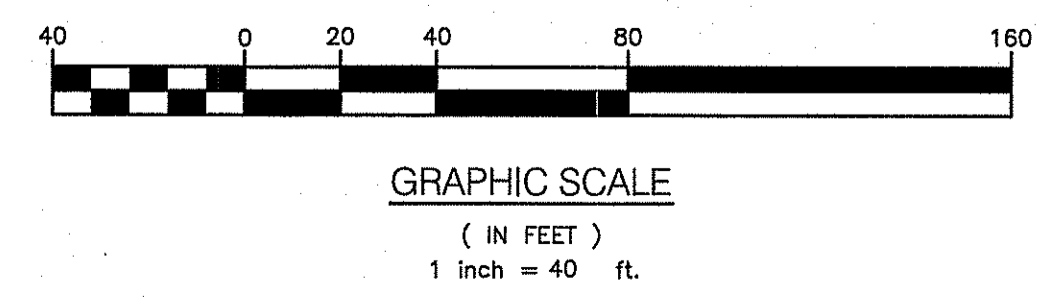
DRAWING NUMBER  
**C5.1**  
 SHEET: 9 OF 29



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  
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 DATED APR. 12, 2017 FILE # 16-0306  
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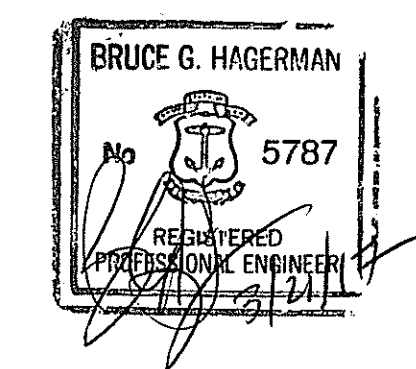
*Christopher D. Senack*





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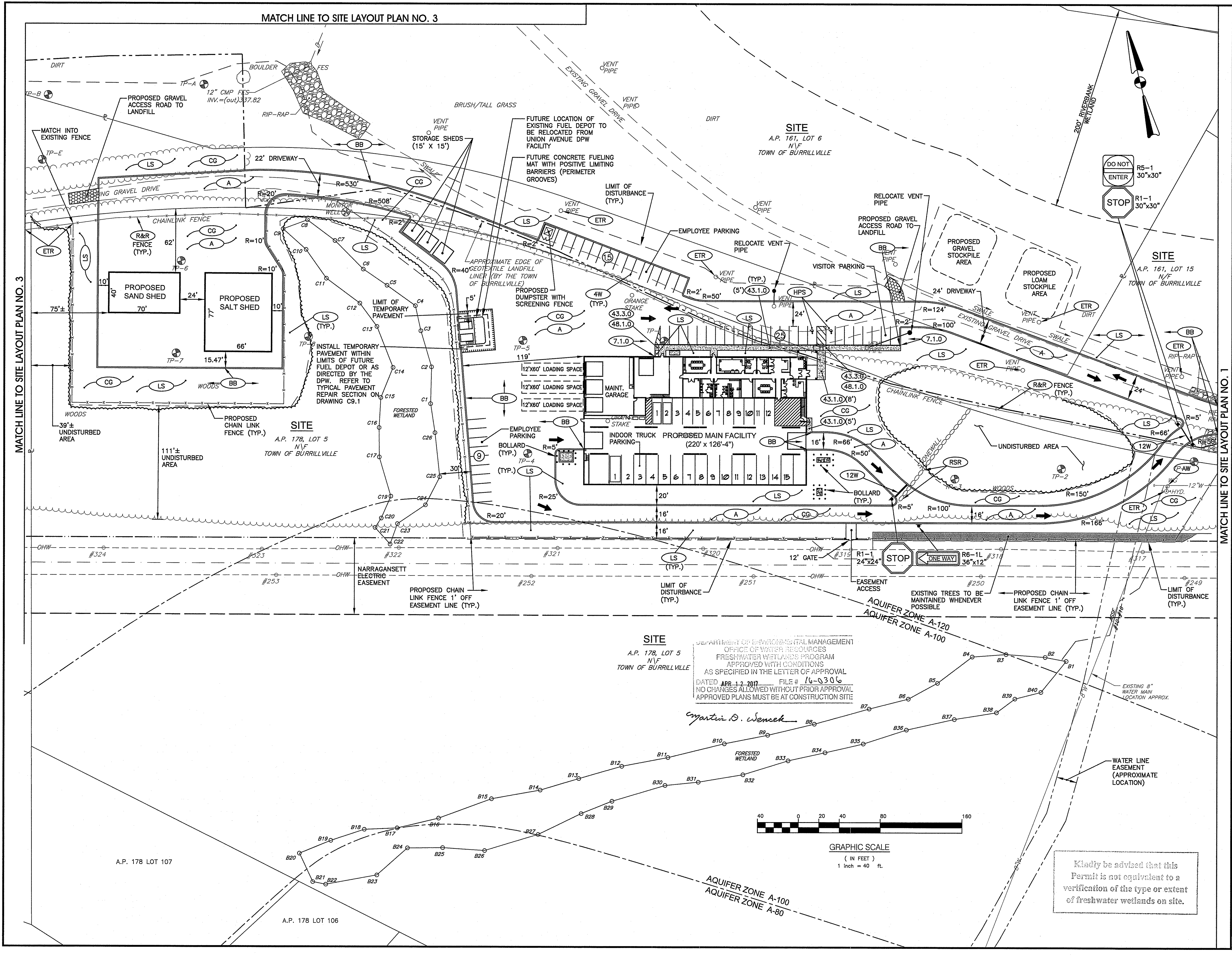
PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

DRAWING TITLE:  
**SITE LAYOUT PLAN NO. 2**  
 DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'  
 DWG. NAME: 2118-09-10-11-SITE CON.dwg

REVISIONS	NUMBER	REMARKS	DATE
△	1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C5.2**  
 SHEET: 10 OF 29



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
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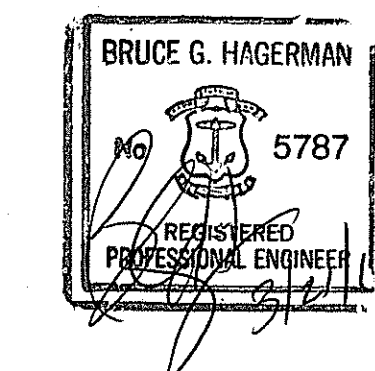
**CROSSMAN ENGINEERING**

Rhode Island  
151 Centerville Road  
Warwick, RI 02886  
Phone: (401) 738-6660

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PROJECT TITLE:

**PROPOSED PUBLIC WORKS FACILITY**

151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

PREPARED FOR:



**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**

65 UNION AVENUE  
HARRISVILLE, RI 02830

DRAWING TITLE:

**SITE LAYOUT  
PLAN NO. 3**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'

DWG. NAME: 2118-09-10-11-SITE CON.dwg

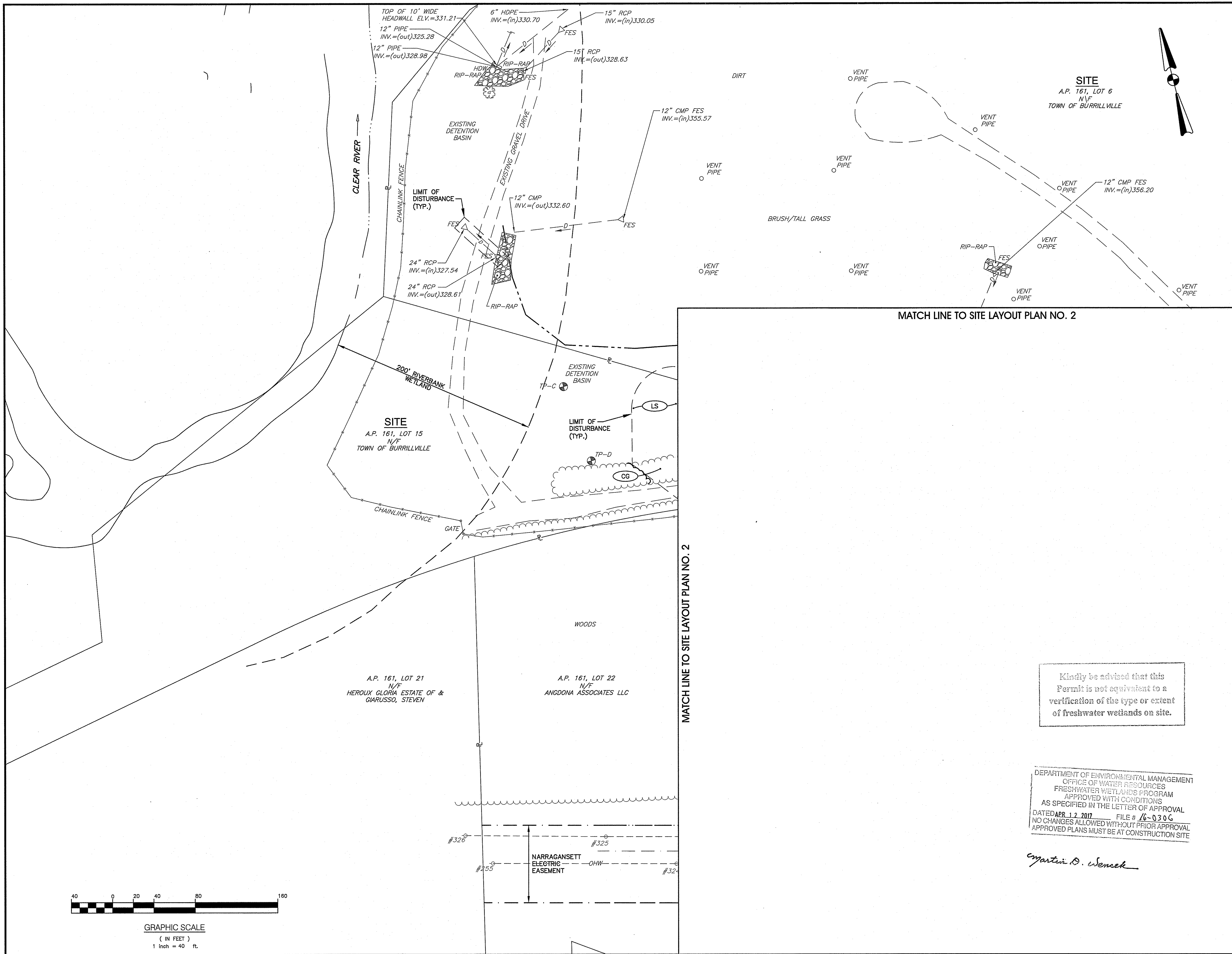
REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER

**C5.3**

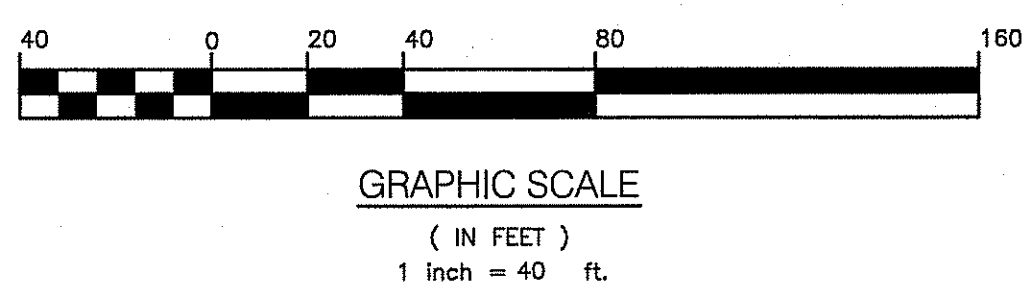
SHEET: 11 OF 29

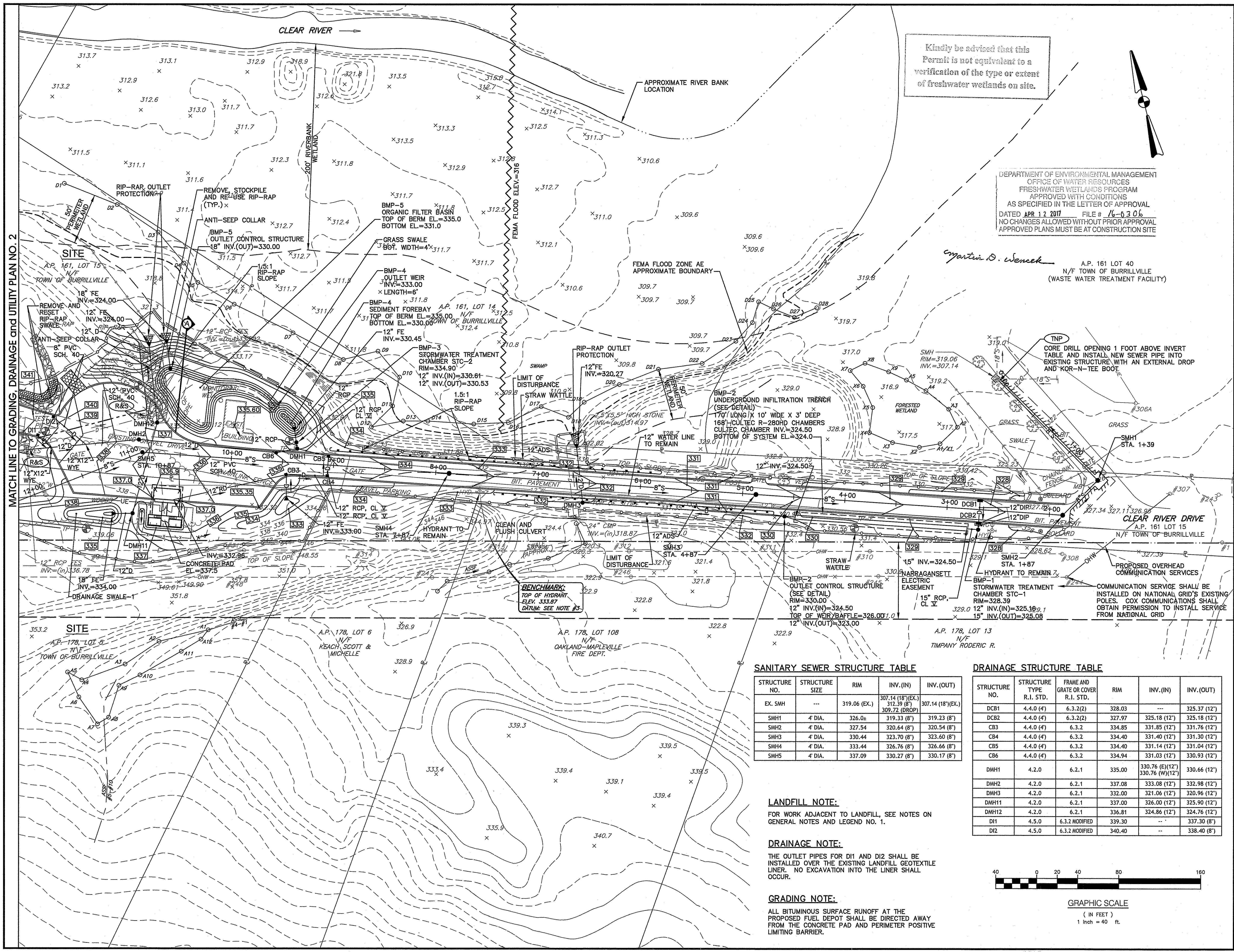


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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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*Martin D. Wencel*



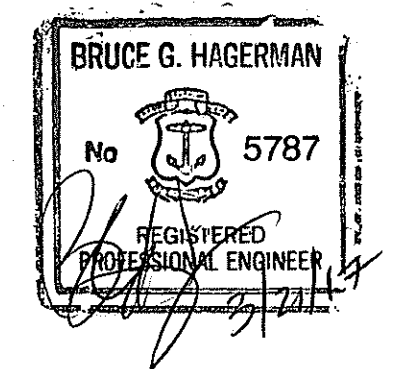


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OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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DATED APR 12 2017 FILE # 16-6306  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**CROSSMAN ENGINEERING**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 155, LOT 5  
BURRILLVILLE, RHODE ISLAND

PREPARED FOR:  
**TOWN OF BURRILLVILLE**  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES  
65 UNION AVENUE  
HARRISVILLE, RI 02830

DRAWING TITLE:  
**GRADING, DRAINAGE and UTILITY PLAN NO. 1**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'  
DWG. NAME: 2118-12-13-14-GDU CON.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C6.1**  
SHEET 12 OF 29

**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE NO.	STRUCTURE TYPE	SIZE	RIM	INV. (IN)	INV. (OUT)
EX. SMH	---	---	319.06 (EX.)	307.14 (18") (EX.) 312.39 (8") 309.72 (DROP)	307.14 (18") (EX.)
SMH1	4 DIA.	4 DIA.	326.0e	319.33 (8")	319.23 (8")
SMH2	4 DIA.	4 DIA.	327.54	320.64 (8")	320.54 (8")
SMH3	4 DIA.	4 DIA.	330.44	323.70 (8")	323.60 (8")
SMH4	4 DIA.	4 DIA.	333.44	326.76 (8")	326.66 (8")
SMH5	4 DIA.	4 DIA.	337.09	330.27 (8")	330.17 (8")

**DRAINAGE STRUCTURE TABLE**

STRUCTURE NO.	STRUCTURE TYPE	FRAME AND GRATE OR COVER R.I. STD.	RIM	INV. (IN)	INV. (OUT)
DCB1	4.4.0 (4)	6.3.2(2)	328.03	---	325.37 (12")
DCB2	4.4.0 (4)	6.3.2(2)	327.97	325.18 (12")	325.18 (12")
CB3	4.4.0 (4)	6.3.2	334.85	331.85 (12")	331.76 (12")
CB4	4.4.0 (4)	6.3.2	334.40	331.40 (12")	331.30 (12")
CB5	4.4.0 (4)	6.3.2	334.40	331.14 (12")	331.04 (12")
CB6	4.4.0 (4)	6.3.2	334.94	331.03 (12")	330.93 (12")
DMH1	4.2.0	6.2.1	335.00	330.76 (E)(12") 330.76 (W)(12")	330.66 (12")
DMH2	4.2.0	6.2.1	337.08	333.08 (12")	332.98 (12")
DMH3	4.2.0	6.2.1	332.00	321.06 (12")	320.96 (12")
DMH11	4.2.0	6.2.1	337.00	326.00 (12")	325.90 (12")
DMH12	4.2.0	6.2.1	336.81	324.86 (12")	324.76 (12")
D11	4.5.0	6.3.2 MODIFIED	339.30	---	337.30 (8")
D12	4.5.0	6.3.2 MODIFIED	340.40	---	338.40 (8")

**LANDFILL NOTE:**  
FOR WORK ADJACENT TO LANDFILL, SEE NOTES ON GENERAL NOTES AND LEGEND NO. 1.

**DRAINAGE NOTE:**  
THE OUTLET PIPES FOR D11 AND D12 SHALL BE INSTALLED OVER THE EXISTING LANDFILL GEOTEXTILE LINER. NO EXCAVATION INTO THE LINER SHALL OCCUR.

**GRADING NOTE:**  
ALL BITUMINOUS SURFACE RUNOFF AT THE PROPOSED FUEL DEPOT SHALL BE DIRECTED AWAY FROM THE CONCRETE PAD AND PERIMETER POSITIVE LIMITING BARRIER.



GRAPHIC SCALE  
( IN FEET )  
1 inch = 40 ft.



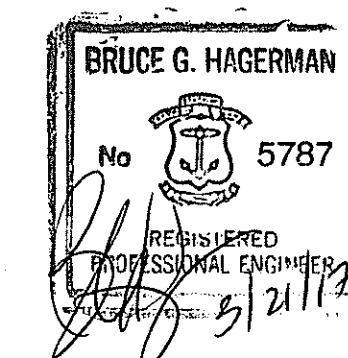
### CROSSMAN ENGINEERING

Rhode Island  
151 Centerville Road  
Warwick, RI 02886  
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PROJECT TITLE:

### PROPOSED PUBLIC WORKS FACILITY

151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

PREPARED FOR:



TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES

65 UNION AVENUE  
HARRISVILLE, RI 02830

DRAWING TITLE:

### GRADING, DRAINAGE and UTILITY PLAN NO. 2

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'

DWG. NAME: 2118-12-13-14-GDU CON.dwg

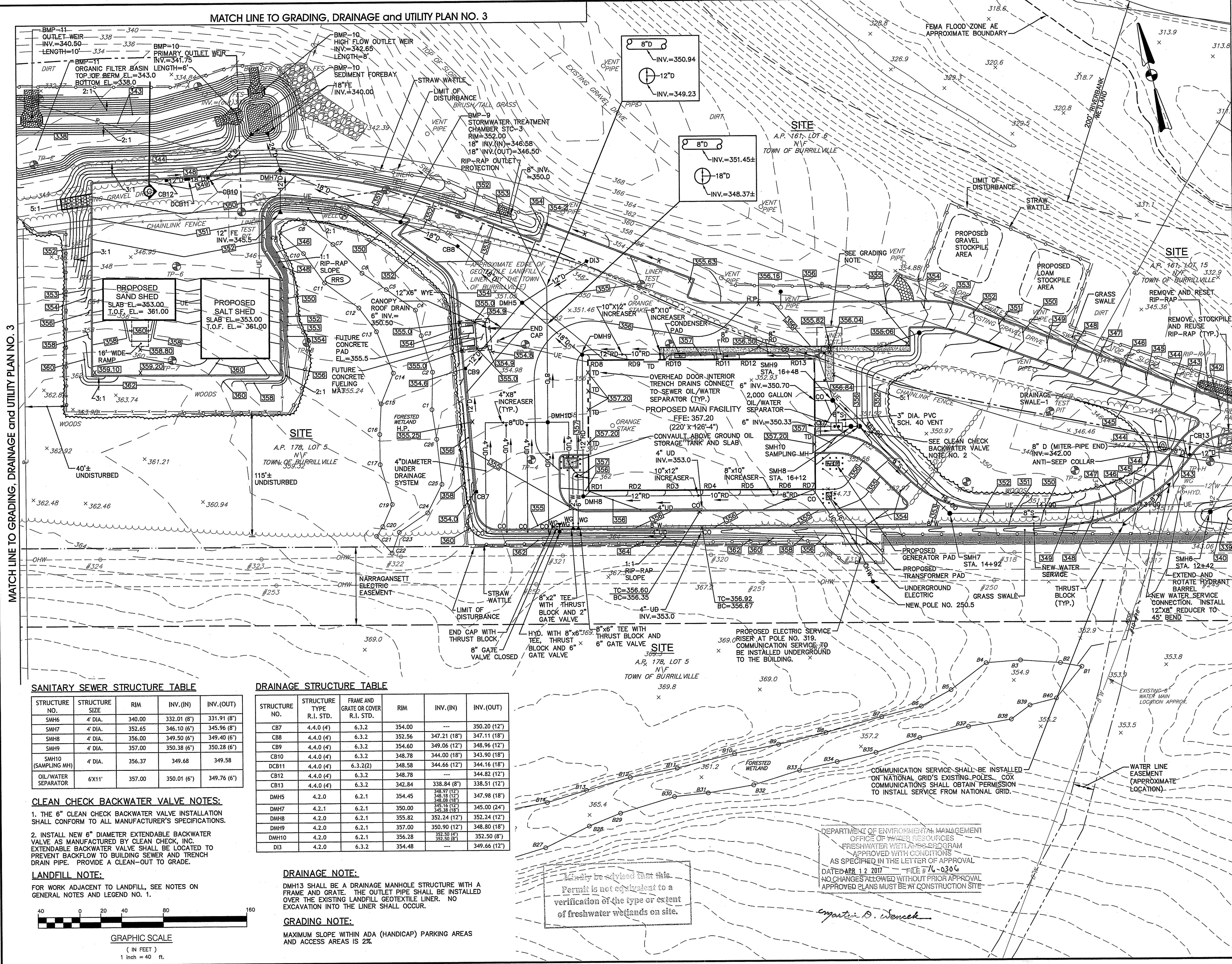
REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER

# C6.2

SHEET: 13 OF 29



SANITARY SEWER STRUCTURE TABLE

STRUCTURE NO.	STRUCTURE SIZE	RIM	INV. (IN)	INV. (OUT)
SMH6	4" DIA.	340.00	332.01 (8')	331.91 (8')
SMH7	4" DIA.	352.65	346.10 (6')	345.96 (8')
SMH8	4" DIA.	356.00	349.50 (6')	349.40 (6')
SMH9	4" DIA.	357.00	350.38 (6')	349.28 (6')
SMH10 (SAMPLING MH)	4" DIA.	356.37	349.68	349.58
OIL/WATER SEPARATOR	6'X11'	357.00	350.01 (6')	349.76 (6')

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	STRUCTURE TYPE	FRAME AND GRATE OR COVER R.I. STD.	RIM	INV. (IN)	INV. (OUT)
CB7	4.4.0 (4)	6.3.2	354.00	---	350.20 (12')
CB8	4.4.0 (4)	6.3.2	352.56	347.21 (18')	347.11 (18')
CB9	4.4.0 (4)	6.3.2	354.60	349.06 (12')	348.96 (12')
CB10	4.4.0 (4)	6.3.2	348.78	344.00 (18')	343.90 (18')
DCB11	4.4.0 (4)	6.3.2(2)	348.58	344.66 (12')	344.16 (18')
CB12	4.4.0 (4)	6.3.2	348.78	---	344.82 (12')
CB13	4.4.0 (4)	6.3.2	342.84	338.84 (8')	338.51 (12')
DMH5	4.2.0	6.2.1	354.45	348.97 (12')	347.98 (18')
DMH7	4.2.1	6.2.1	350.00	348.18 (12')	345.00 (24')
DMH8	4.2.0	6.2.1	355.82	352.24 (12')	352.24 (12')
DMH9	4.2.0	6.2.1	357.00	350.90 (12')	348.80 (18')
DMH10	4.2.0	6.2.1	356.28	352.50 (6')	352.50 (8')
DI3	4.2.0	6.3.2	354.48	---	349.66 (12')

#### CLEAN CHECK BACKWATER VALVE NOTES:

- THE 6" CLEAN CHECK BACKWATER VALVE INSTALLATION SHALL CONFORM TO ALL MANUFACTURER'S SPECIFICATIONS.
- INSTALL NEW 6" DIAMETER EXTENDABLE BACKWATER VALVE AS MANUFACTURED BY CLEAN CHECK, INC. EXTENDABLE BACKWATER VALVE SHALL BE LOCATED TO PREVENT BACKFLOW TO BUILDING SEWER AND TRENCH DRAIN PIPE. PROVIDE A CLEAN-OUT TO GRADE.

#### LANDFILL NOTE:

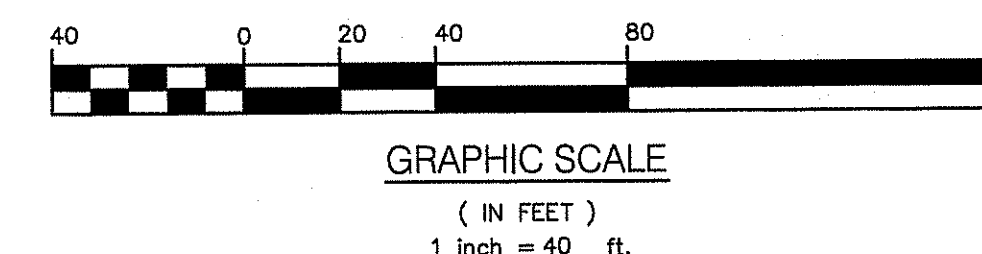
FOR WORK ADJACENT TO LANDFILL, SEE NOTES ON GENERAL NOTES AND LEGEND NO. 1.

#### DRAINAGE NOTE:

DMH13 SHALL BE A DRAINAGE MANHOLE STRUCTURE WITH A FRAME AND GRATE. THE OUTLET PIPE SHALL BE INSTALLED OVER THE EXISTING LANDFILL GEOTEXTILE LINER. NO EXCAVATION INTO THE LINER SHALL OCCUR.

#### GRADING NOTE:

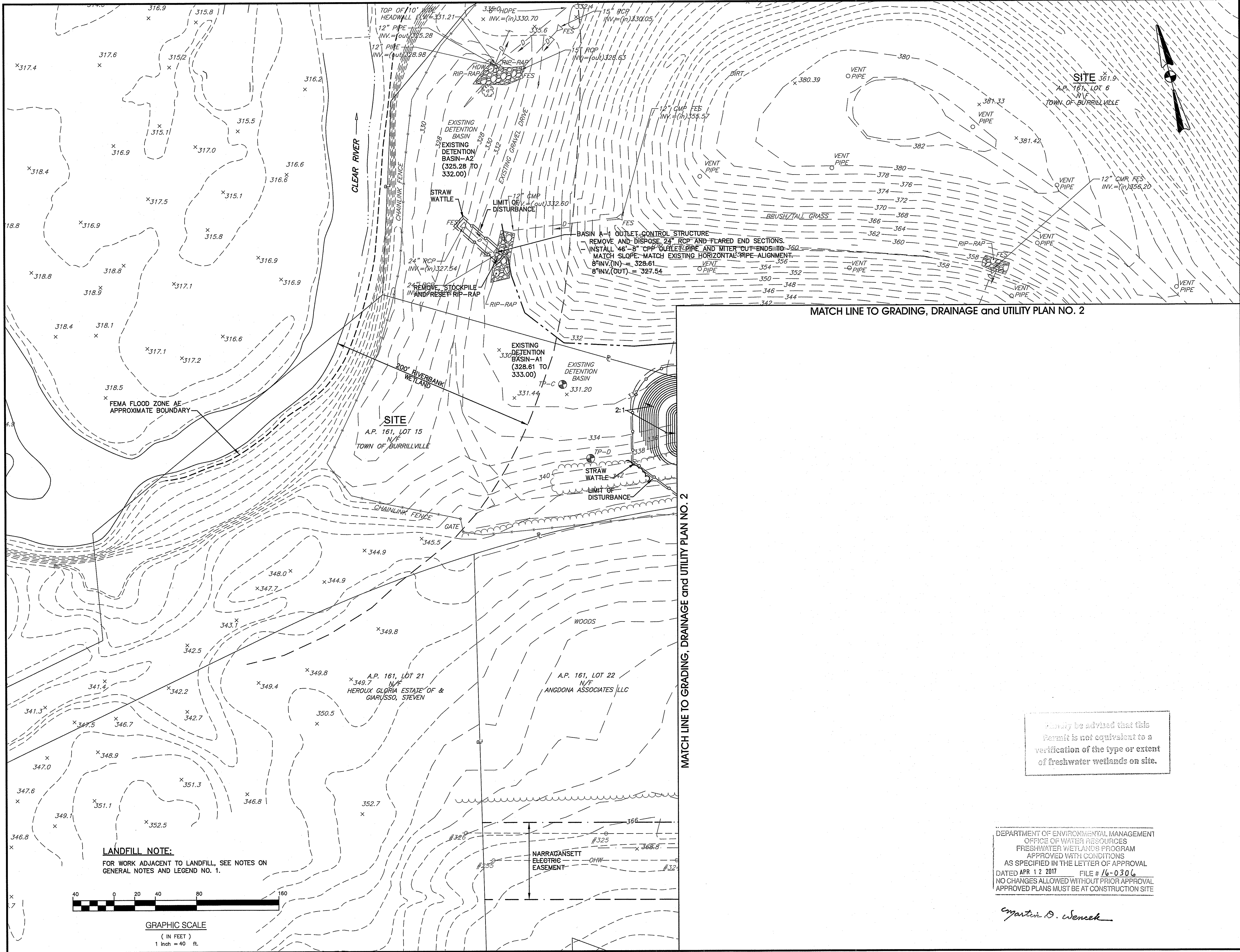
MAXIMUM SLOPE WITHIN ADA (HANDICAP) PARKING AREAS AND ACCESS AREAS IS 2%.



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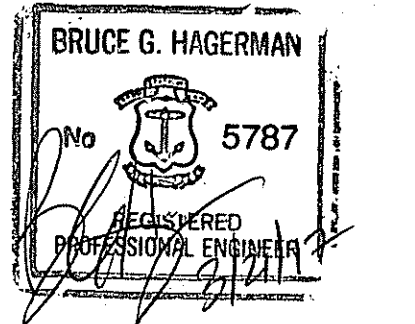
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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*Matthew D. Seneck*



**CROSSMAN ENGINEERING**  
 Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-6660  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
 Email: ce@crosmaneng.com

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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

DRAWING TITLE:  
**GRADING, DRAINAGE and UTILITY PLAN NO. 3**

DATE: FEBRUARY 27, 2017 SCALE: 1" = 40'  
 DWG. NAME: 2118-12-13-14-GDU CON.dwg

REVISIONS

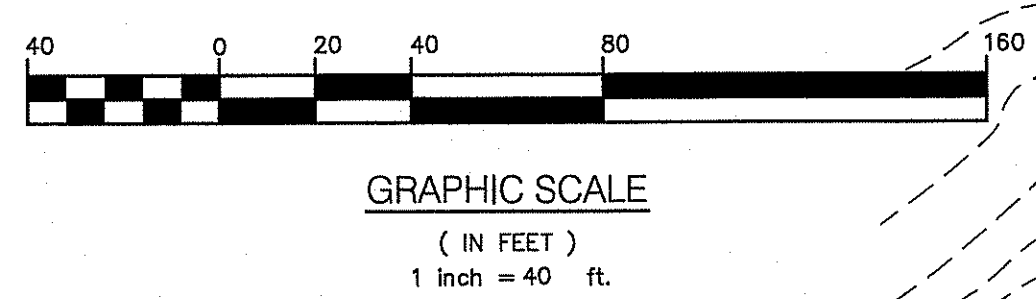
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER:  
**C6.3**  
 SHEET: 14 OF 29

Family 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 APR 12 2017 FILE # 16-0306  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Wencek*



MATCH LINE TO GRADING, DRAINAGE and UTILITY PLAN NO. 2

MATCH LINE TO GRADING, DRAINAGE and UTILITY PLAN NO. 2

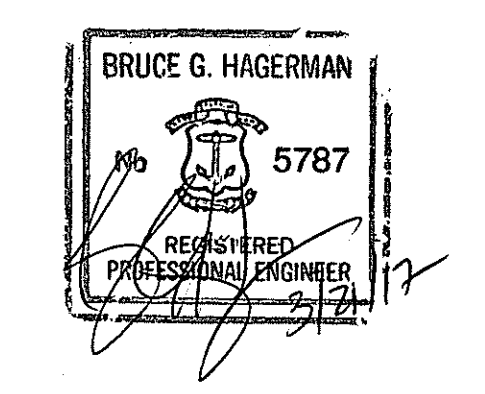
**LANDFILL NOTE:**  
 FOR WORK ADJACENT TO LANDFILL, SEE NOTES ON GENERAL NOTES AND LEGEND NO. 1.



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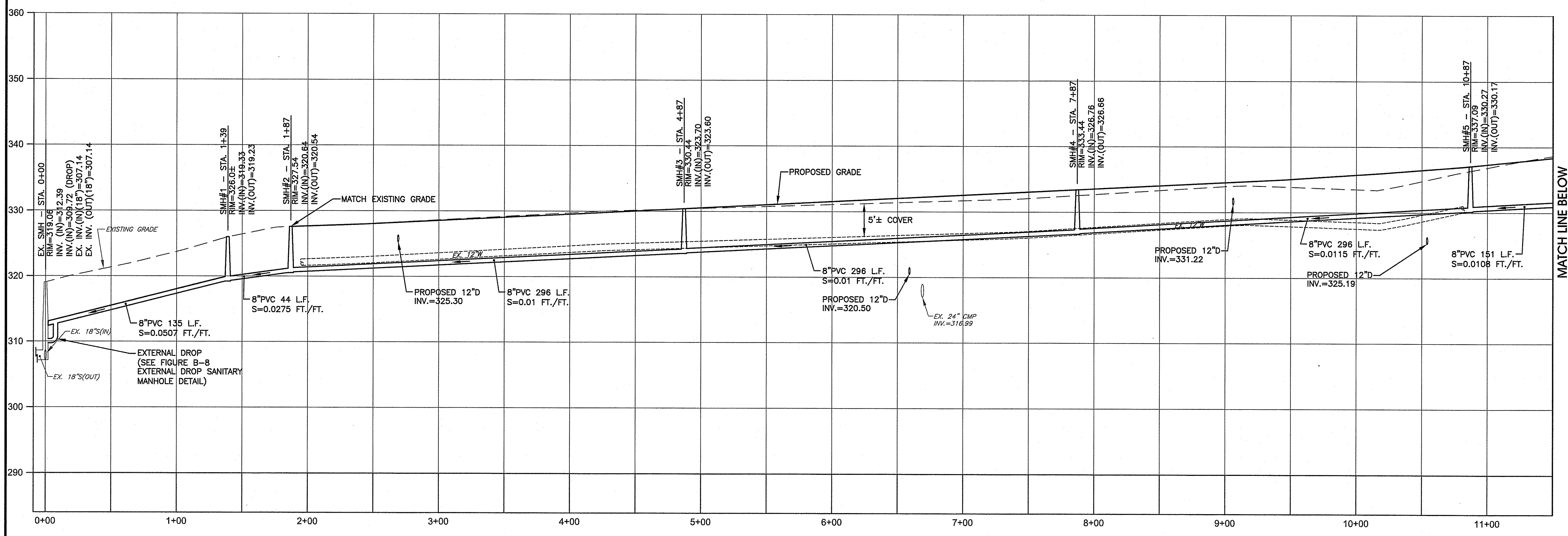
DRAWING TITLE:  
**SEWER PROFILE PLAN**

DATE: FEBRUARY 27, 2017  
 SCALE: AS NOTED  
 DWG. NAME: 2118-15-PROFILE CON.dwg

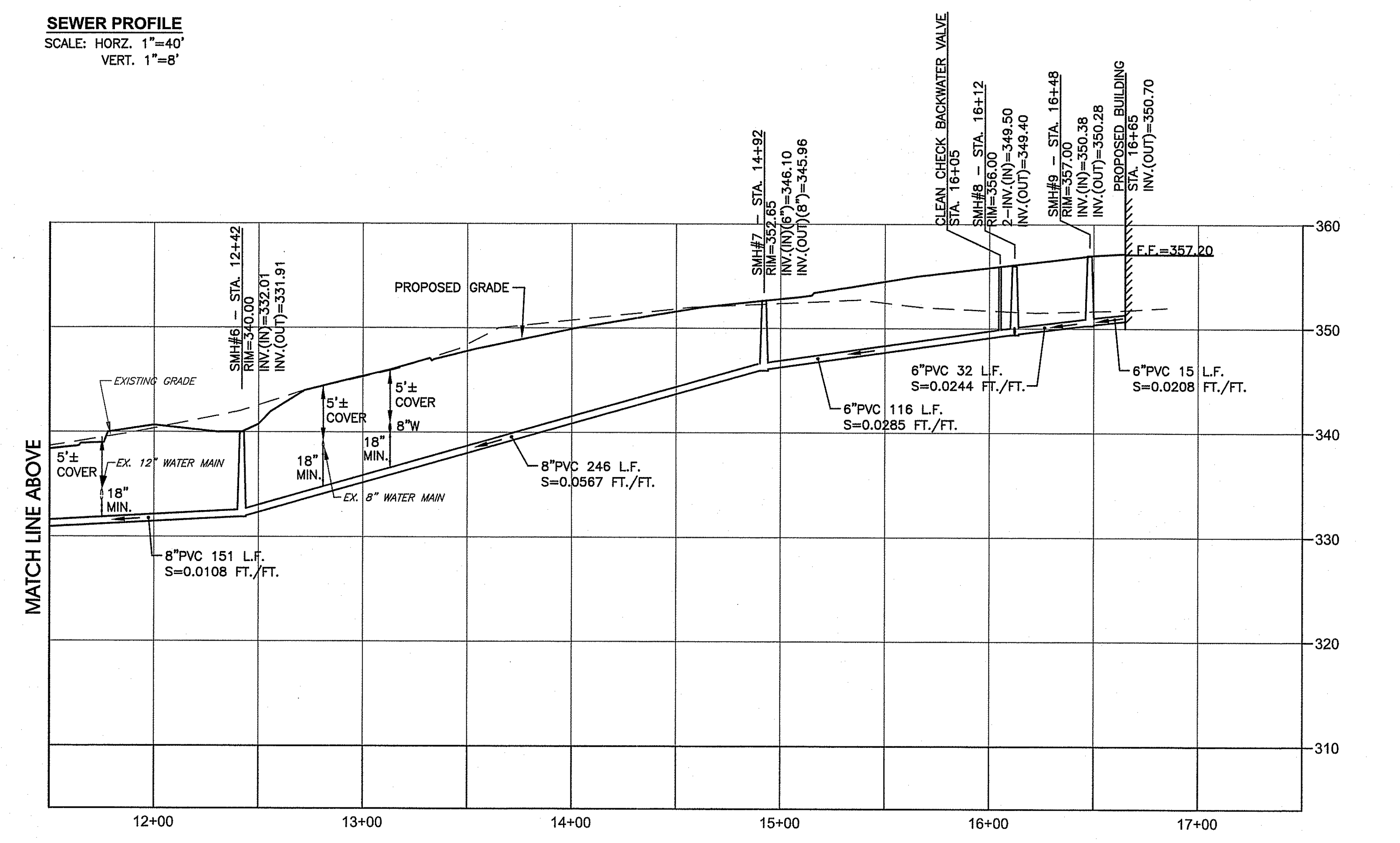
REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C7.1**  
 SHEET: 15 OF 29



- UTILITY LINE NOTES:**
1. THE DEPTH OF THE EXISTING WATER MAIN WAS ASSUMED TO BE 5.0'.
  2. THE ACTUAL DEPTH OF THE EXISTING WATER MAIN WILL VARY.
  3. NO NEW SEWER LATERALS ARE PROPOSED.



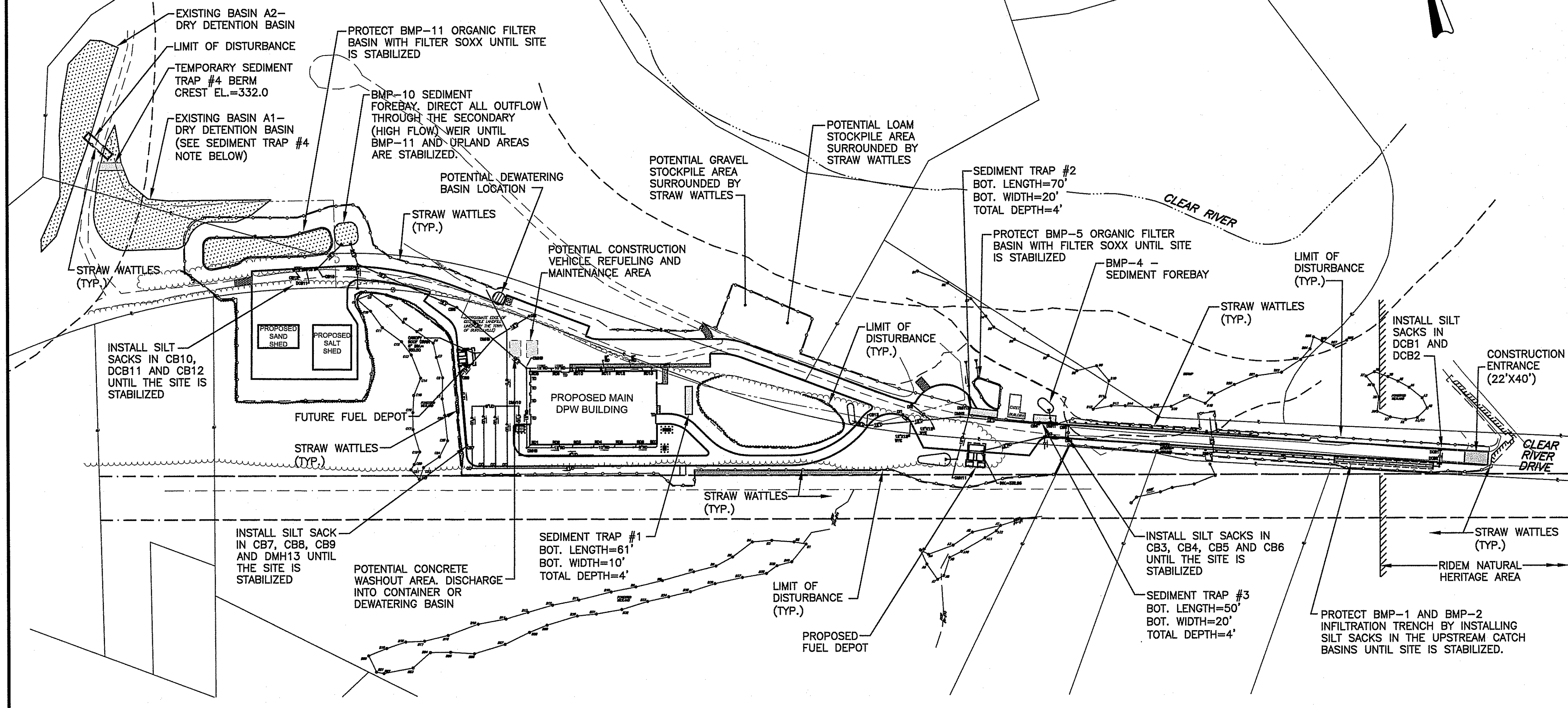
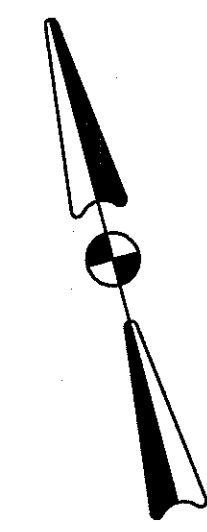
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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*Walter D. Wenzel*

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*Martin B. Wencel*



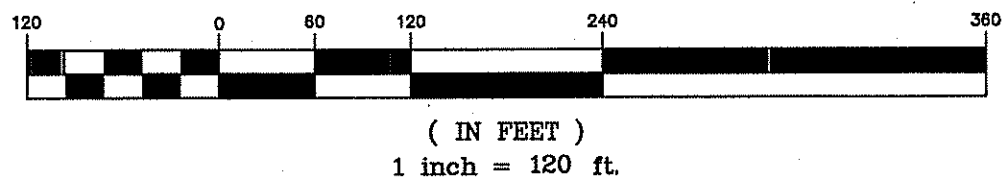
**SEDIMENT TRAP #4 NOTE:**

DURING CONSTRUCTION, EXISTING DETENTION BASIN A1 SHALL BE USED AS A SEDIMENT TRAP BY INSTALLING A FILTER STONE BERM. AFTER THE SITE IS STABILIZED, THE FILTER BERM SHALL BE REMOVED, ANY RESIDUAL SEDIMENT SHALL BE REMOVED AND ALL DISTURBED AREAS SHALL BE RESTORED.

**SOIL EROSION CONTROL PLAN**

SCALE: 1"=120'

**GRAPHIC SCALE**



**NOTES:**

- CONTRACTOR SHALL INSTALL TEMPORARY MEASURES SUCH AS; FIBER MATTING, CRUSHED STONE, RIP RAP, HAY OR STRAW IN AREAS WHERE SLOPES OR STABILIZATION HAS FAILED.
- CONTRACTOR SHALL INSTALL SILT SACK OR APPROVED EQUAL IN ALL EXISTING CATCH BASINS WITHIN THE LIMIT OF WORK AND IN ADJACENT STREETS DOWNGRADIENT OF WORK. REMOVE AFTER CONSTRUCTION. REFER TO SITE PREPARATION PLANS FOR LOCATIONS OF SILT SACKS WITHIN EXISTING CATCH BASINS.
- STRAW WATTLES SHALL BE INSTALLED AROUND THE PERIMETER OF THE AREA TO BE DISTURBED BY CONSTRUCTION AS NOTED ON THE PLANS. ADDITIONAL APPLICATIONS OF THESE CONTROLS MEASURES MAY BE REQUIRED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL INSPECT THE SITE AT A MINIMUM OF ONCE PER WEEK OR WITHIN 24 HOURS AFTER A STORM EVENT.
- IF EROSION OR EROSION TENDENCIES ARE APPARENT ON THE SITE, THE CONTRACTOR IS RESPONSIBLE TO INSTALL ADDITIONAL CONSTRUCTION BMP'S SUCH AS SAND BAGS AS DIRECTED BY THE OWNER, LOCAL MUNICIPALITY, STATE AGENCIES OR ENGINEER DURING CONSTRUCTION.
- IF SEDIMENT OR DEBRIS IS TRACKED ONTO EXISTING ROADWAYS AREAS ADJACENT TO THE CONSTRUCTION AREA, THE CONTRACTOR IS REQUIRED TO SWEEP THE PAVEMENT ON A DAILY BASIS. THE AREA SHALL BE INSPECTED DAILY.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP THE SITE CLEAN OF TRASH. RECOMMENDED DAILY PATROL OF THE CONSTRUCTION SHOULD BE CONDUCTED TO PICK-UP TRASH. THE OPERATOR SHALL REQUIRE THE CONTRACTOR TO HAVE PORTABLE SANITARY FACILITIES ON SITE. ROUTING CLEANING AND WASTE DISPOSAL OF THESE PORTABLE SANITARY FACILITIES IS REQUIRED.
- THE CONTRACTOR MUST REFERENCE AND FOLLOW THE REQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE PROJECT'S STORM WATER POLLUTION PREVENTION PLAN (SWPPP). A COPY OF THE SWPPP SHOULD BE KEPT ON-SITE AT ALL TIMES DURING CONSTRUCTION.

**RECEIVING WATER DATA:**

- WATERSHED BODY NAME - RI 0001002R-05C, CLEAR RIVER (4TH ORDER STREAM).
- IMPAIRMENTS: LEAD, NON-NATIVE AQUATIC PLANTS AND ENTEROCOCCUS.
- TMDL: ENTEROCOCCUS, 9/22/11.
- SOURCE: R.I.D.E.M.
- GROUNDWATER CLASSIFICATION - GAA AND GB

**PROJECT DATA:**

- LIMIT OF DISTURBANCE AREA = 8.45± ACRES
- THE SITE IS PARTIALLY LOCATED WITHIN A RIDEM NATURAL HERITAGE AREA. (SOURCE: RIDEM)
- THE SITE IS NOT LOCATED WITHIN A WELLHEAD PROTECTION AREA. (SOURCE: R.I.D.E.M.)

**ADDITIONAL CONTROLS:**

- ALL TYPES OF WASTE GENERATED AT THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- THE CONTRACTOR IS REQUIRED TO NOTIFY LOCAL AUTHORITIES AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OFFICE OF WASTE MANAGEMENT, OF ANY HAZARDOUS MATERIAL SPILL.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN THE SITE IN AN ORDERLY AND CLEAN STATE. ALL CONSTRUCTION WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS PRIOR TO REMOVAL AND CONTACT WITH PRECIPITATION SHALL BE KEPT TO A MINIMUM.
- GENERAL MAINTENANCE PROCEDURES ARE OUTLINED IN THE ACCOMPANYING SITE PLANS. IN ADDITION, THE OPERATOR AND CONTRACTOR ARE REQUIRED TO INSPECT ALL EROSION CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER A RAIN EVENT, WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RAINFALL.
- CONCRETE WASHOUT SHALL BE PERFORMED USING ONE OF THE METHODS LISTED IN SECTION 3 OF THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. THE WASHOUT AREAS ARE DESIGNATED ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
- VEHICLE AND EQUIPMENT WASHING ON-SITE DURING CONSTRUCTION IS NOT ALLOWED.
- A SPILL RESPONSE KIT SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.

**SITE CONSTRUCTION SEQUENCE AND SCHEDULE:**

**PHASE 1:**

- SITE PREPARATION CONSISTING OF INSTALLING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY SOIL DISTURBANCE.
- MARKING OF ALL AREAS TO BE LEFT UNDISTURBED OR TO BE PROTECTED.
- INSTALLATION OF CONSTRUCTION ENTRANCE.
- CLEARING AND GRUBBING OF ALL TREES, STUMPS AND VEGETATION.

**PHASE 2:**

- STRIPPING AND STOCKPILING OF TOPSOIL AT DESIGNATED LOCATION.
- EARTHWORK INCLUDING CUT AND FILL WORK AND STOCKPILING GRAVEL MATERIAL AT THE DESIGNATED LOCATION. INSTALLATION OF RIP RAP PROTECTION ON ALL 1.5 TO 1 AND GREATER SLOPES.
- GRADING OF SWALES AND WATER QUALITY AREAS.
- INSTALLATION OF BUILDING FOUNDATION AND CONSTRUCTION.
- DRAINAGE INSTALLATION CONSISTING OF REMOVING AND DISPOSING EXISTING PIPES AND FLARED END SECTIONS, DEWATERING (IF NECESSARY), INSTALLATION OF NEW DRAINAGE STRUCTURES, INSTALLATION OF NEW PIPE AND BEDDING, BACKFILLING, INSTALLATION OF NEW FLARED END SECTIONS, AND INSTALLATION OF RIP RAP OUTLET PROTECTION.
- INSTALLATION OF WATER, SEWER AND ELECTRIC UTILITIES.
- INSTALLATION OF CURB AND SIDEWALK AREAS AROUND THE NEW BUILDING.
- RECLAMATION OF THE EXISTING BITUMINOUS ROADWAY INCLUDING APPLYING CALCIUM CHLORIDE AND RE-MIXING OR R&D BITUMINOUS PAVEMENT RECLAIMED BASE TO ENSURE BLENDING OF RECYCLED BASE MATERIAL.
- INSTALLATION OF GRAVEL BORROW SUBBASE FOR NEW ROADS.
- TRIMMING AND FINE GRADING OF GRAVEL BORROW SUBBASE AND RECLAIMED BASE MATERIAL.
- INSTALLATION OF NEW BITUMINOUS BASE COURSE.
- LOAM AND SEED AND LANDSCAPING ALL DISTURBED (BASE SOIL) AREAS WITHIN THE LIMIT OF DISTURBANCE.
- CLEAN AND SWEEP NEW BITUMINOUS BASE COURSE IMMEDIATELY PRIOR TO FINAL PAVING.
- APPLICATION OF AN ASPHALT EMULSION TACK COAT BETWEEN BASE COURSE AND SURFACE COURSE.
- INSTALLATION OF NEW BITUMINOUS SURFACE COURSE.
- INSTALLATION OF FINAL PAVEMENT MARKINGS.
- ONCE SEEDED AREAS ARE STABILIZED, AND AFTER APPROVAL OF OWNER, REMOVAL OF ALL EROSION CONTROL MEASURES.
- ESTIMATED DURATION OF SOIL EXPOSURE MARCH 2017 TO NOVEMBER 2017.

**DUST CONTROL NOTES**

ON AN AS-NEEDED BASIS OR AS DIRECTED BY THE TOWN OR ENGINEER, THE CONTRACTOR SHALL UTILIZE ONE OF THE FOLLOWING METHODS (AS RECOMMENDED BY THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK", ISSUED 1989, REVISED 2014) TO CONTROL DUST:

- THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
- CALCIUM CHLORIDE SHOULD BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.

THE METHODS SHOULD BE REPEATED AS NEEDED, AND SPECIAL ATTENTION MUST BE GIVEN TO THE ACCESS DRIVES.

**INSPECTION/MAINTENANCE NOTES**

- PRIOR TO COMMENCING GRUBBING OPERATIONS, EARTHWORK OR RECLAMATION, EROSION CONTROLS SHALL BE PLACED TO PREVENT SEDIMENT FROM ENTERING THE PASCOAG RESERVOIR, WETLAND AREAS AND ADJUTING PROPERTIES.
- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING PASCOAG RESERVOIR, WETLAND AREAS, ADJUTING PROPERTIES AND THE NEW CULVERTS.
- ALL DISTURBED AREAS WHICH BECOME SUBJECT TO EROSION TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SLOPE PROTECTION - SUCH AS RIP-RAP.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT / REPLACE DAILY DURING CONSTRUCTION, FOLLOWING RAINFALL AND WEEKLY DURING NON CONSTRUCTION PERIODS.
- ADDITIONAL EROSION CONTROLS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE TOWN OR ENGINEER.
- THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE R.I. STATE CONSERVATION COMMITTEE, REVISED 2014, 2016, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND FOR THE ENTIRE PROJECT DURATION, INCLUDING TEMPORARY SHUT-DOWN PERIODS, MUST MONITOR AND REPAIR, AS NEEDED, ALL SLOPES TO ENSURE A STABLE PRODUCT.
- AFTER CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH THE INSPECTION REPORTS THAT WERE TAKEN DURING THE CONSTRUCTION ACTIVITIES. THE OWNER IS TO RETAIN THE INSPECTION REPORTS FOR 5 YEARS FROM THE DATE ON THE REPORT OR APPLICATION.

**GENERAL PROJECT WIDE NOTES**

- EROSION CONTROLS SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, MAINTAINED ON A REGULAR BASIS, AND SHALL BE PLACED TO PREVENT SEDIMENTATION ONTO ADJACENT PROPERTY AND WETLANDS OR INTO THE PASCOAG RESERVOIR.
- THE CONTRACTOR MUST REPLACE AND/OR RESEED ANY VEGETATION THAT DOES NOT DEVELOP/SURVIVE WITHIN THE PERIOD OF ONE YEAR AND HE/SHE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL EROSION CONTROLS OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED.
- TREES AND OTHER EXISTING VEGETATION SHALL BE PROTECTED WHENEVER FEASIBLE; THE AREA BEYOND THE DRIPLINE SHALL BE FENCED OR ROPED OFF TO PROTECT TREES FROM CONSTRUCTION EQUIPMENT.
- AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESODDED, RESEEDDED, OR OTHERWISE RESTORED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP THE SITE CLEAN OF TRASH. RECOMMENDED DAILY PATROL OF THE CONSTRUCTION SHOULD BE CONDUCTED TO PICK-UP TRASH. THE OPERATOR SHALL REQUIRE THE CONTRACTOR TO HAVE PORTABLE SANITARY FACILITIES ON SITE. ROUTING CLEANING AND WASTE DISPOSAL OF THESE PORTABLE SANITARY FACILITIES IS REQUIRED.

**EROSION CONTROL AND SOIL STABILIZATION PROGRAM**

- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE ROADWAY DRAINAGE SYSTEM, WETLAND AREAS, ADJACENT PROPERTY AND OUTSIDE THE LIMIT OF WORK.
- ALL PERIMETER EROSION CONTROLS SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. PERIMETER EROSION CONTROLS CAN BE STRAW WATTLES. SILT FENCE CONFORMING TO R.I. STD. 9.2.0, CAN BE SUBSTITUTED FOR THE STRAW WATTLES.
- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME.
- ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDDED OR PROTECTED BY THAT DATE.
- 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 OWNER.
- NO STOCKPILES ARE ALLOWED ON SITE.
- HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
- ALL STRAW WATTLES SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED. ONCE THE AREAS HAVE AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER, AND AFTER APPROVAL OF THE OWNER, THE CONTRACTOR SHALL REMOVE ALL STRAW WATTLES.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE AS NEEDED.
- ADDITIONAL STRAW WATTLES SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER, OWNER OR TOWN REPRESENTATIVES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST CONTROL AT NO ADDITIONAL COST.
- CATCH BASINS SHALL BE PROTECTED USING SILT SACKS WHERE NOTED ON THE PLANS.
- TEMPORARY DEWATERING BASINS SHALL BE UTILIZED AS REQUIRED. THE NUMBER AND SIZE OF DEWATERING BASINS REQUIRED WILL VARY DEPENDING ON SITE CONDITIONS.
- THE CONTRACTOR SHALL REFERENCE THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE R.I. STATE CONSERVATION COMMITTEE, REVISED 2014, UPDATED 2016, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.

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BRUCE G. HAGERMAN  
No. 5787  
REGISTERED PROFESSIONAL ENGINEER

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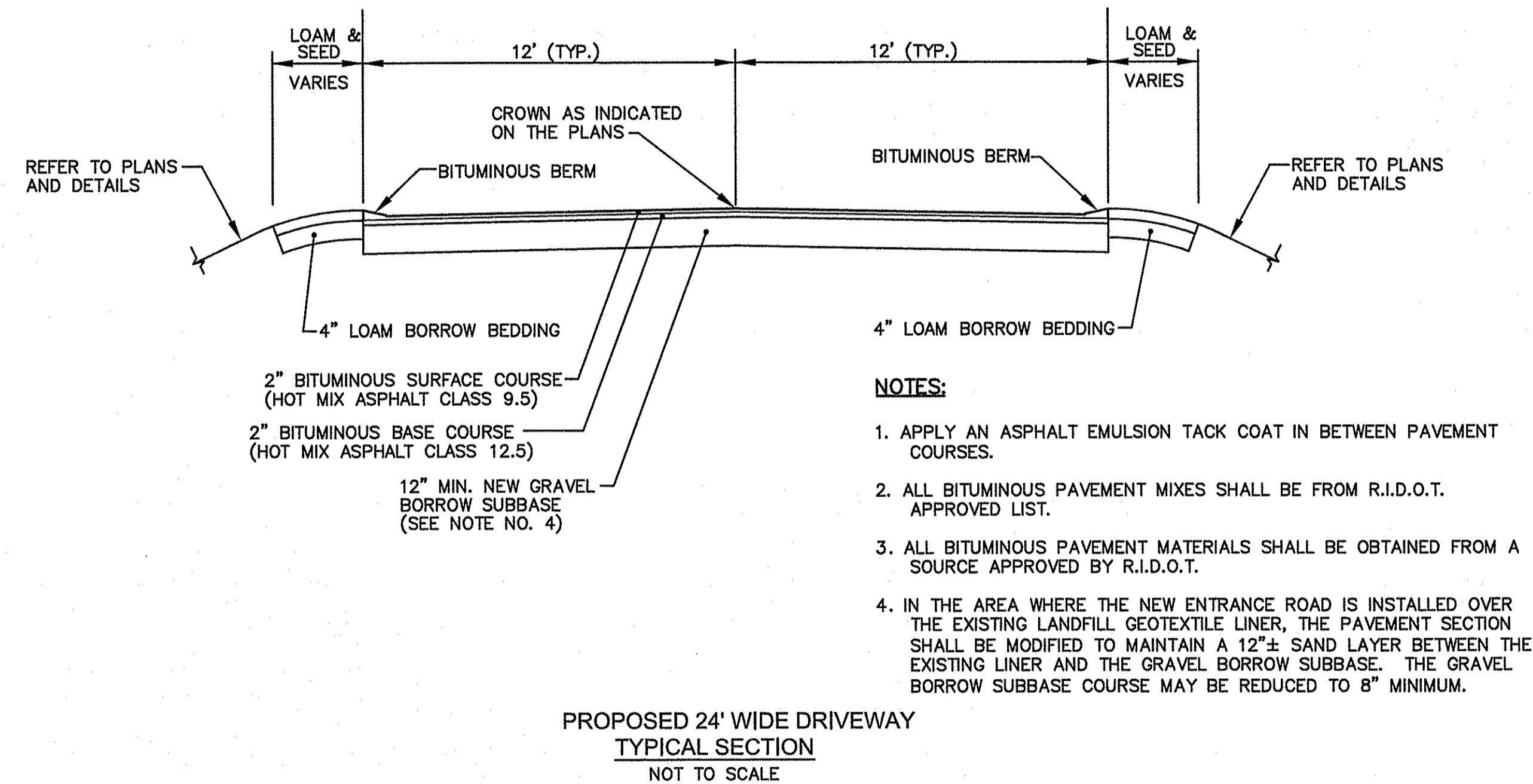
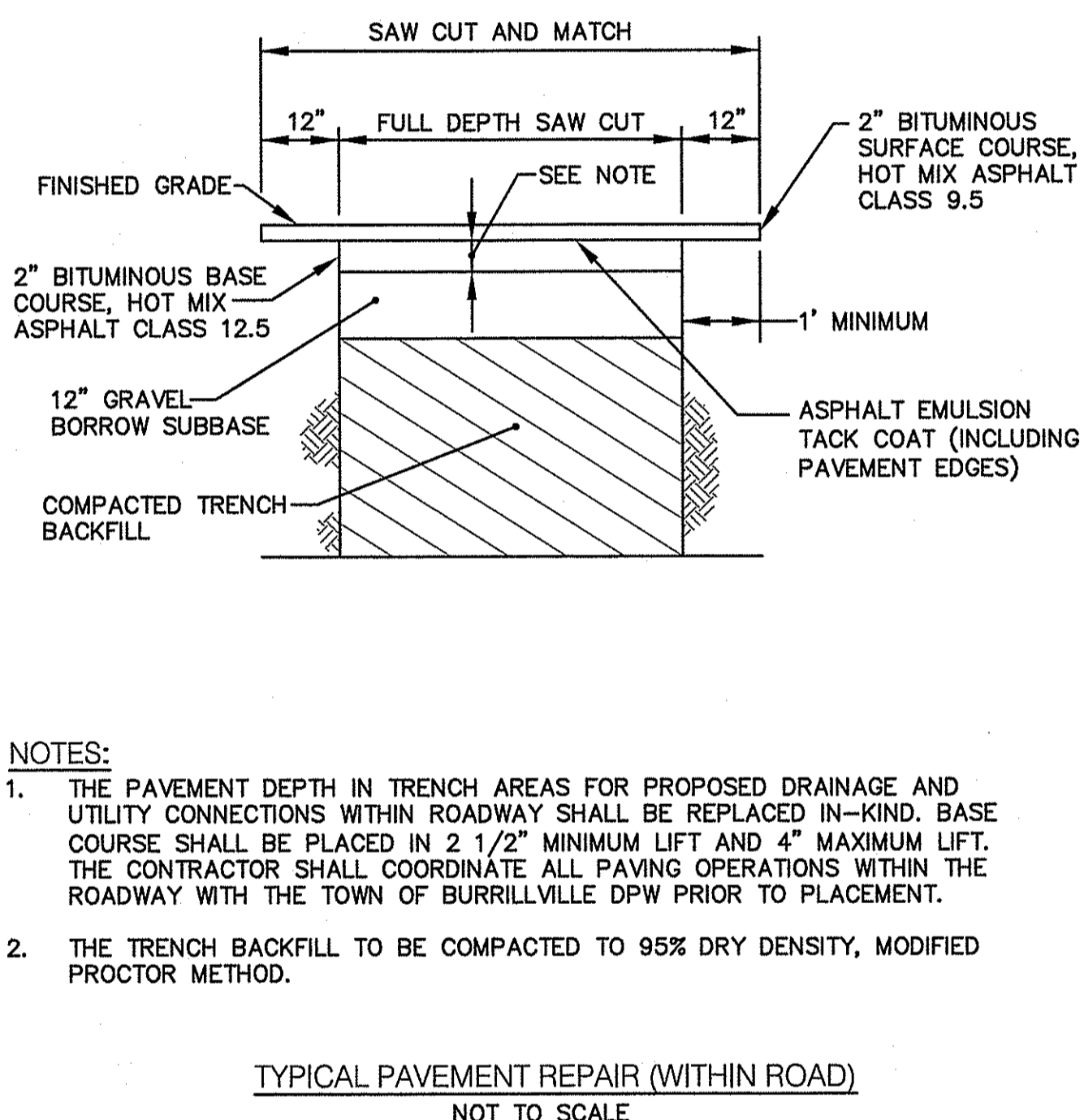
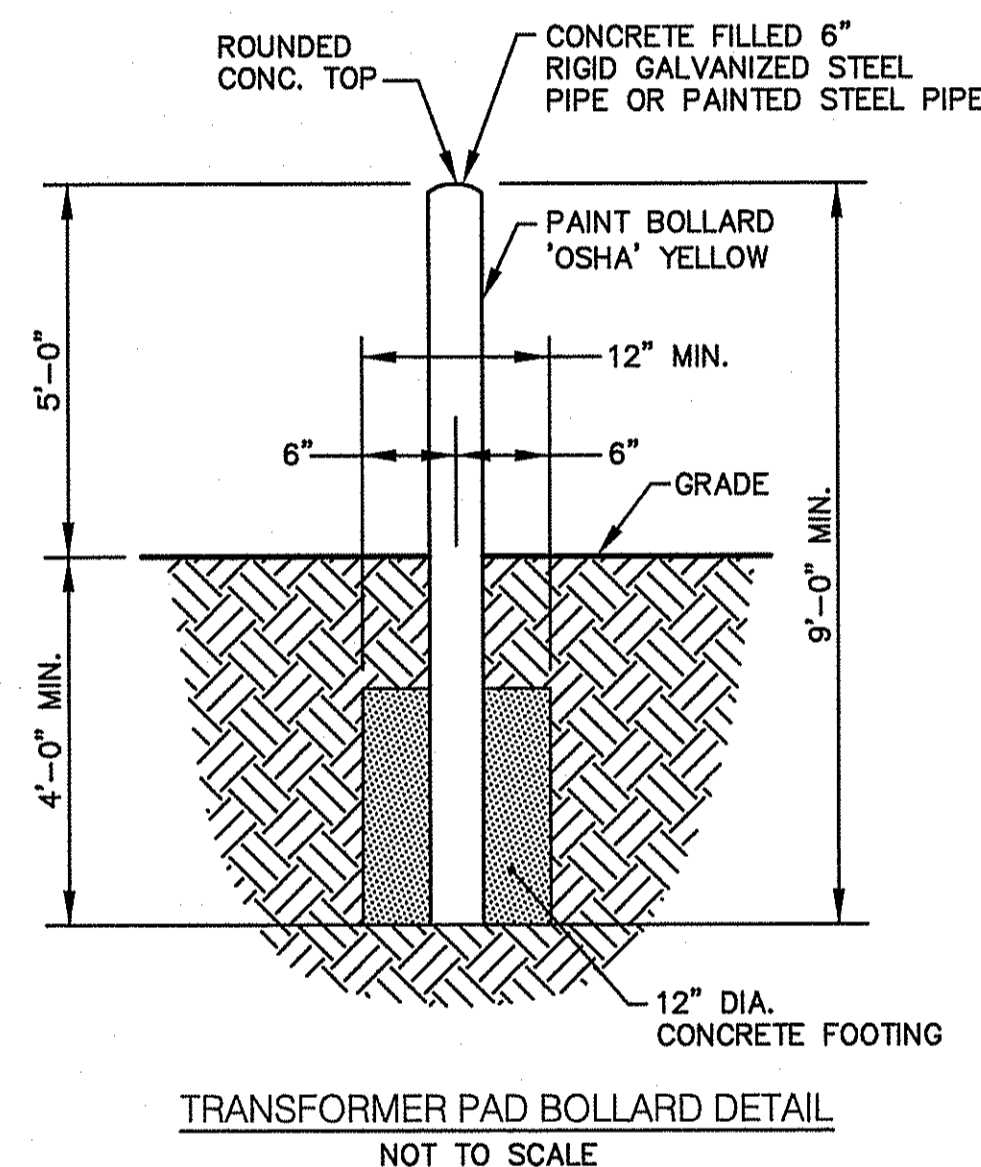
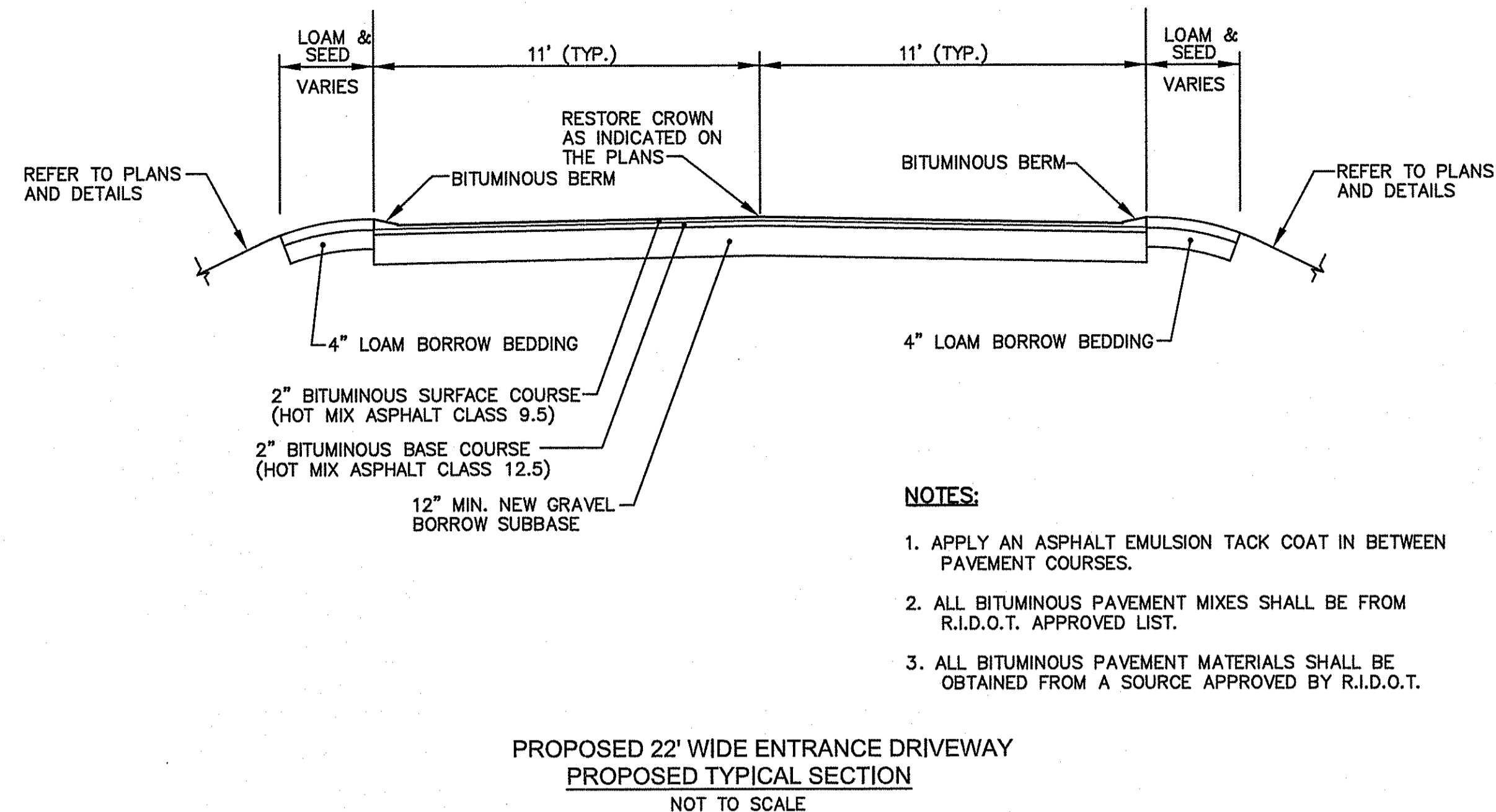
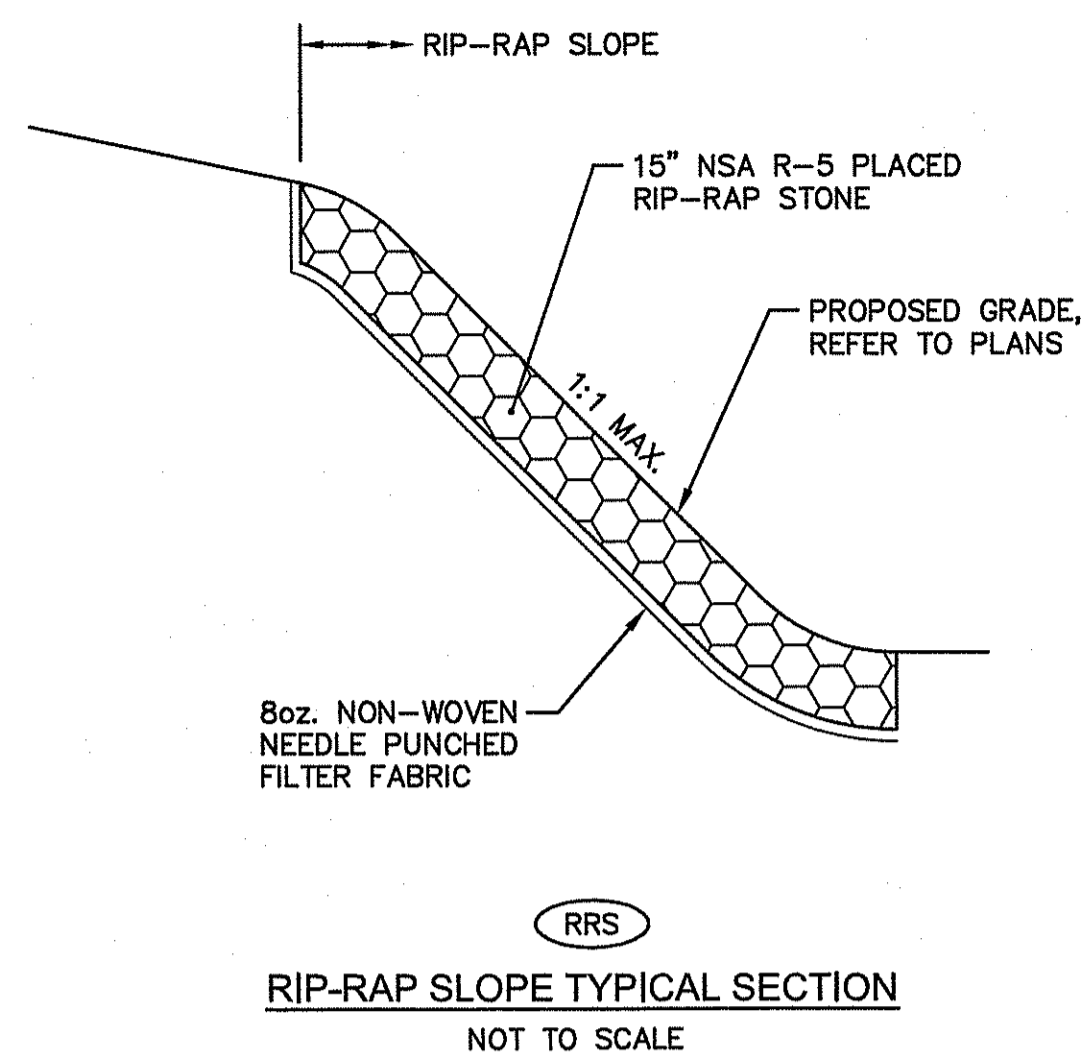
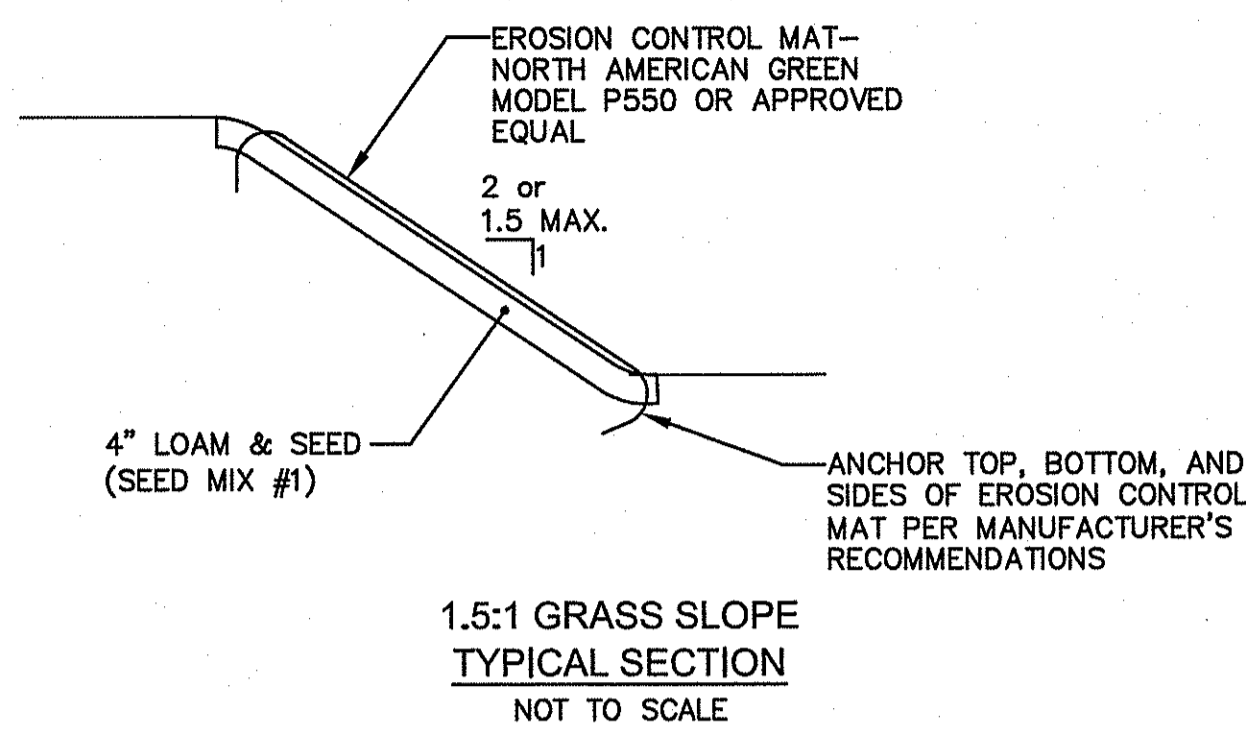
**SOIL EROSION AND SEDIMENT CONTROL PLAN**

DATE: FEBRUARY 27, 2017 SCALE: AS NOTED

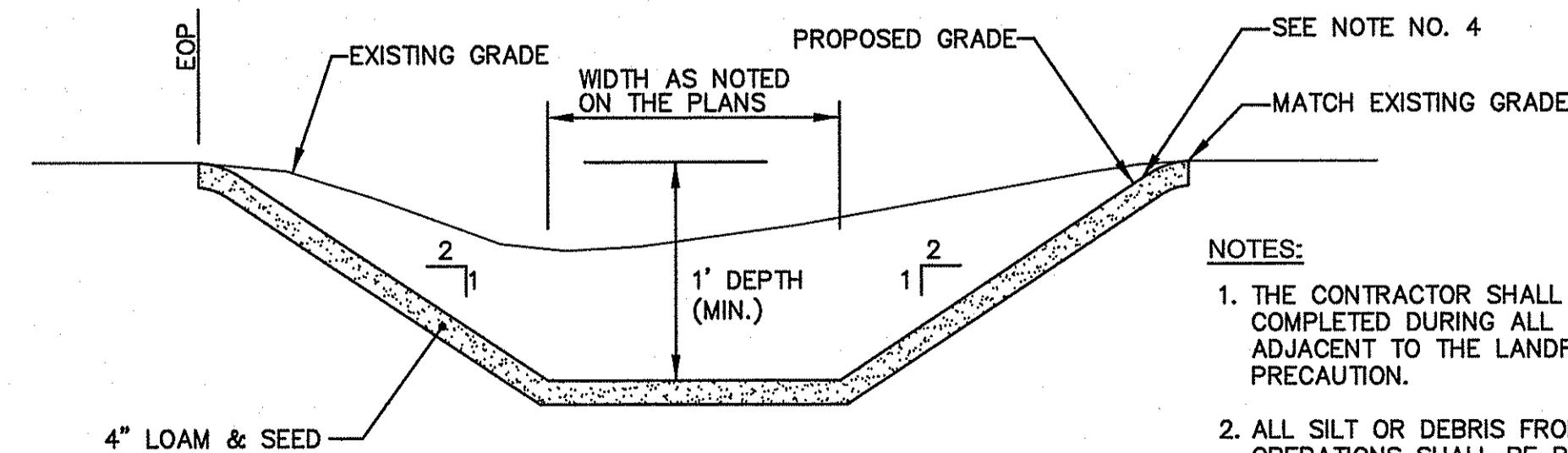
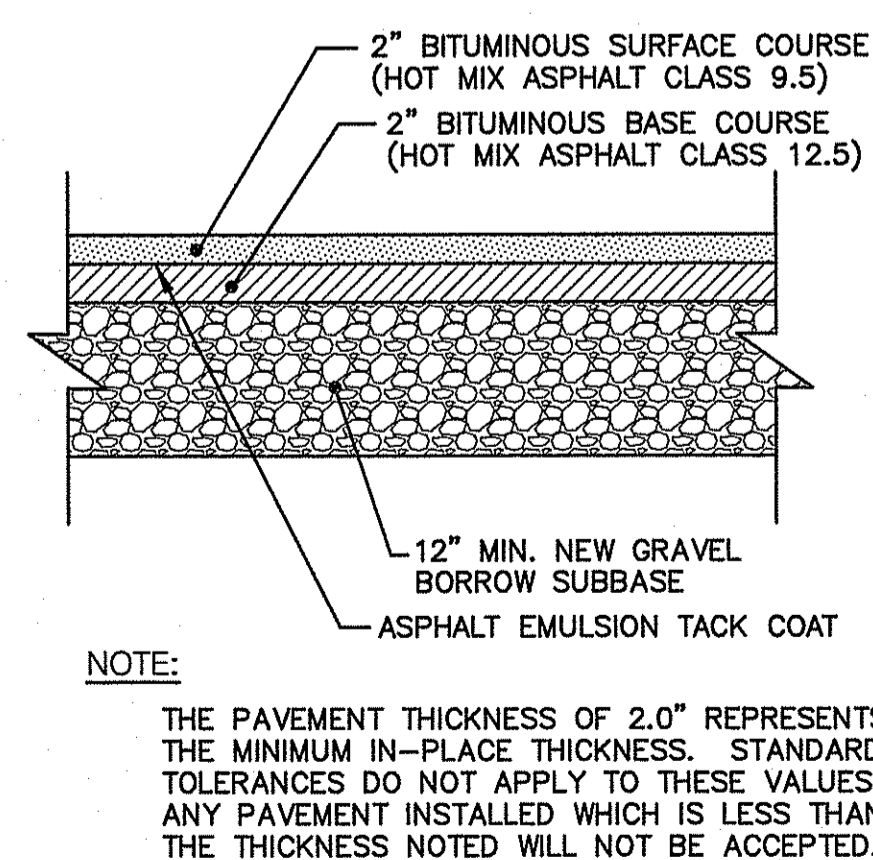
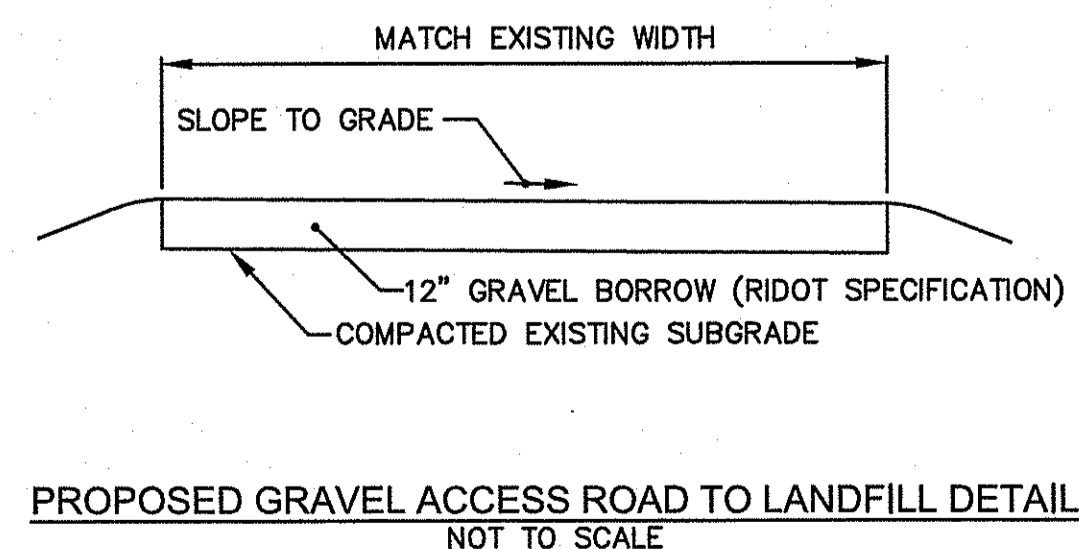
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NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

**C8.1**  
SHEET: 16 OF 29



- NOTES:
1. FINAL NUMBER AND LOCATION OF BOLLARDS AROUND THE TRANSFORMER PAD SHALL BE DETERMINED BY NATIONAL GRID PRIOR TO CONSTRUCTION.
  2. BOLLARDS ARE TYPICALLY 3 FEET OFF THE EDGE OF THE PAD ON SIDES WITHOUT ACCESS AND 6' OFF THE EDGE OF THE PAD ON THE SIDE OF THE DOOR.

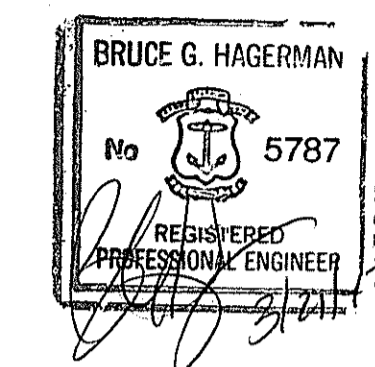


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*Christopher P. Sanchez*

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HARRISVILLE, RI 02830

DRAWING TITLE:  
**MISCELLANEOUS  
DETAILS PLAN NO. 1**

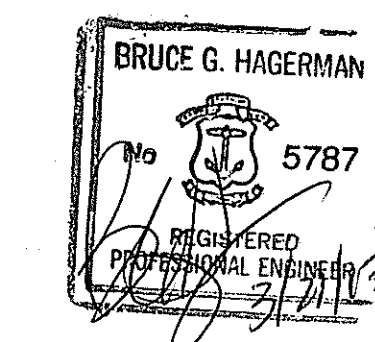
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DWG. NAME: 2118-17-DET01 CON.dwg

REVISIONS	NUMBER	REMARKS	DATE
1		RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C9.1**  
SHEET: 17 OF 29



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**PROJECT TITLE:**  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

**PREPARED FOR:**  
  
**TOWN OF BURRILLVILLE**  
**DEPARTMENT OF PUBLIC WORKS AND ENGINEERING SERVICES**

65 UNION AVENUE  
 HARRISVILLE, RI 02830

**DRAWING TITLE:**  
**MISCELLANEOUS DETAILS PLAN NO. 3**

**DATE:** FEBRUARY 27, 2017 **SCALE:** AS NOTED

**DWG. NAME:** 2118-19-DET03 CON.dwg

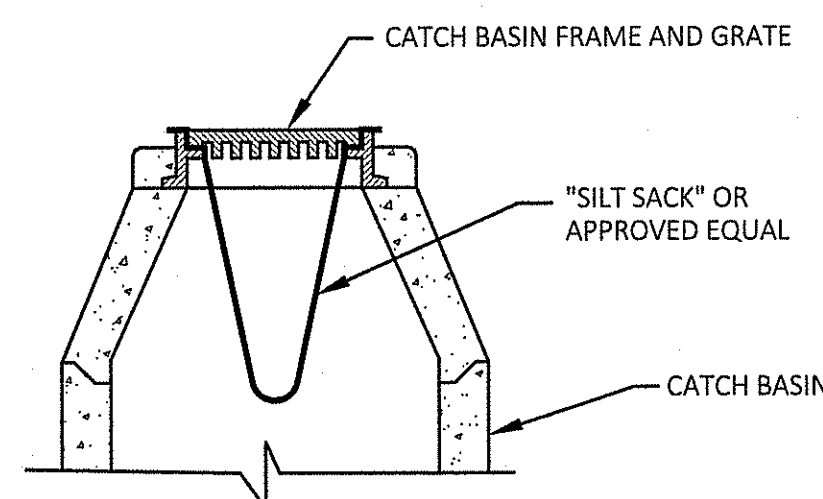
**REVISIONS**

NUMBER	REMARKS	DATE
1	RIDEEM COMMENTS	3/17/17

**DRAWING NUMBER**

**C9.3**

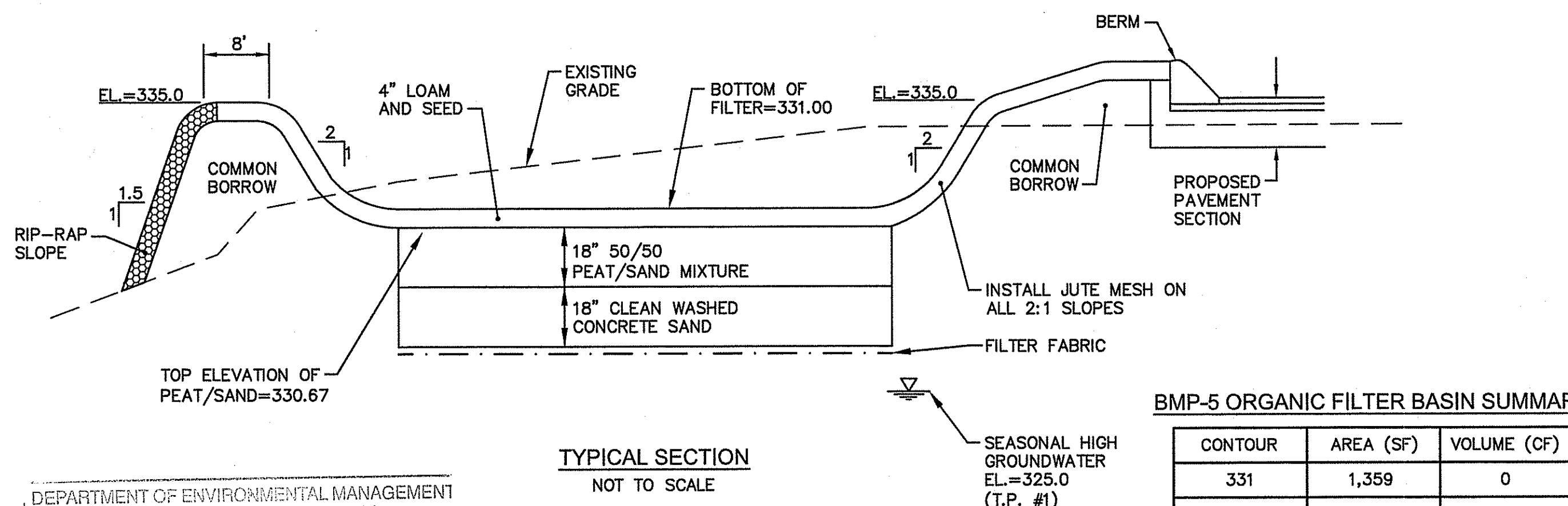
SHEET: 19 OF 29



**NOTES:**

1. TO BE INSTALLED IN ALL THE EXISTING AND NEW CATCH BASINS UNTIL COMPLETION OF CONSTRUCTION.
2. BOOT ADAPTER MAY BE TRIMMED TO SIZE.
3. SHALL BE CHECKED AND CLEANED AFTER EVERY STORM EVENT.

SS  
**FILTER BAG INLET SEDIMENT CONTROL DEVICE DETAIL**  
 NOT TO SCALE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED APR 12 2017 FILE # 16-0306  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

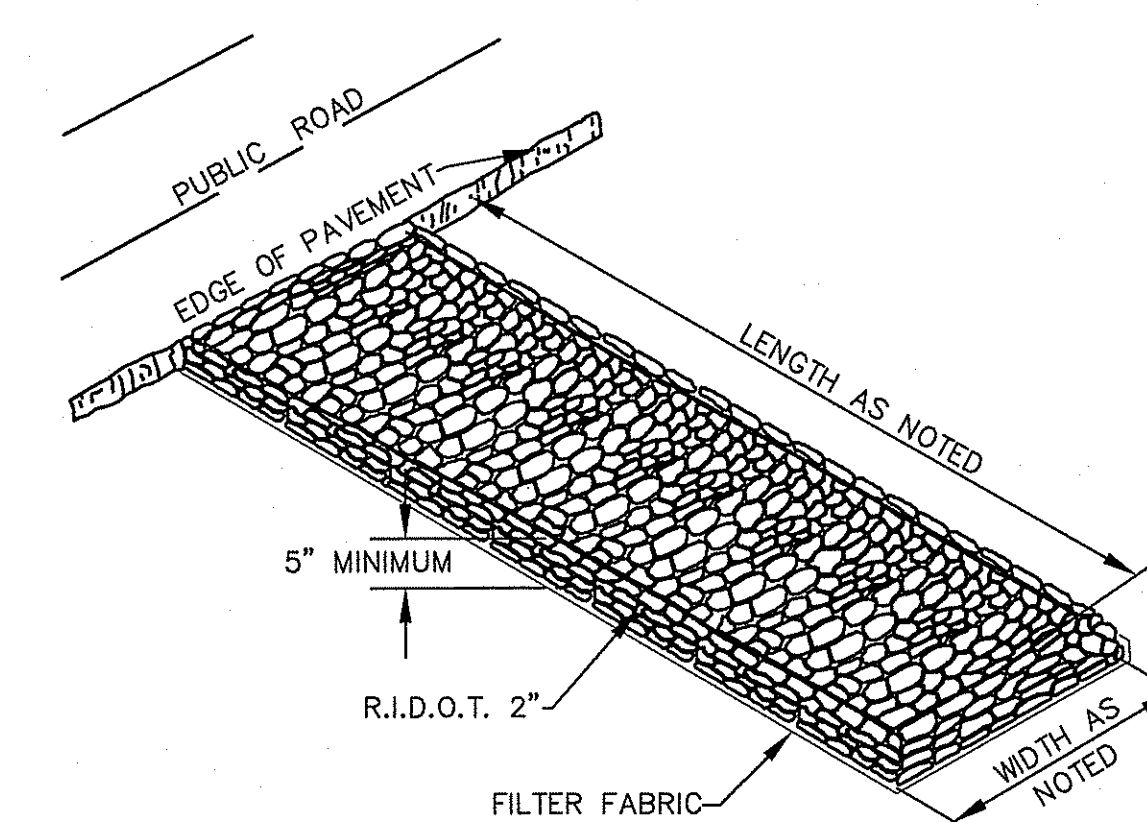
**TYPICAL SECTION**  
NOT TO SCALE

**BMP-5 ORGANIC FILTER BASIN SECTION A-A**  
 NOT TO SCALE

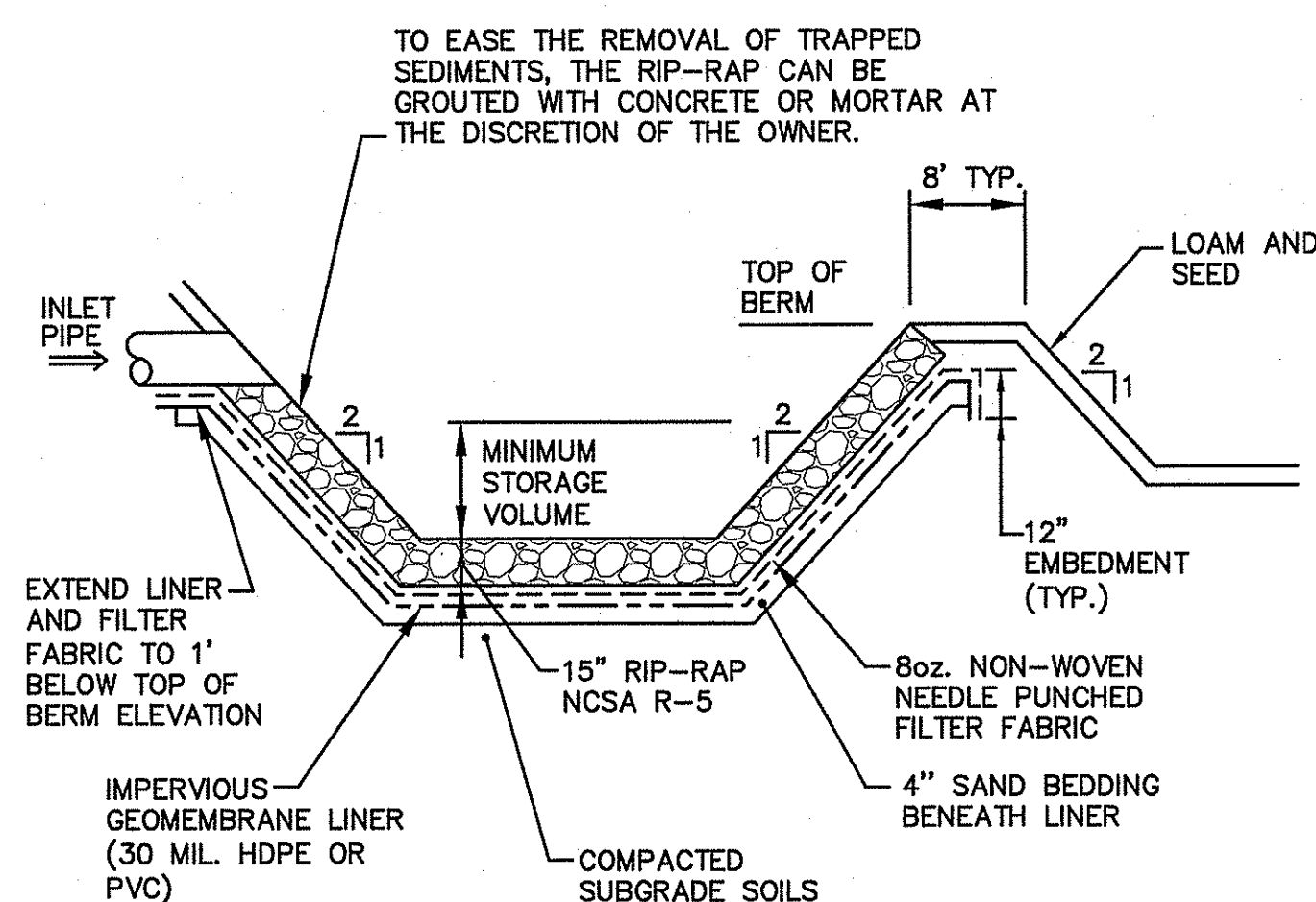
**BMP-5 ORGANIC FILTER BASIN SUMMARY**

CONTOUR	AREA (SF)	VOLUME (CF)
331	1,359	0
332	1,673	1,516
333	2,012	3,359
334	2,377	5,553
335	2,767	8,125

MINIMUM STORAGE VOLUME BELOW OUTLET ELEV.=332.5 IS 2,395 C.F. (VOLUME DOES INCLUDE STORAGE VOLUME IS FILTER SAND BELOW)



**CONSTRUCTION ENTRANCE DETAIL**  
NOT TO SCALE



**BMP-4 SEDIMENT FOREBAY**

CONTOUR	AREA (SF)	VOLUME (CF)
330	70	0
331	165	118
332	286	343
333	432	702
334	602	1,219
335	798	1,919

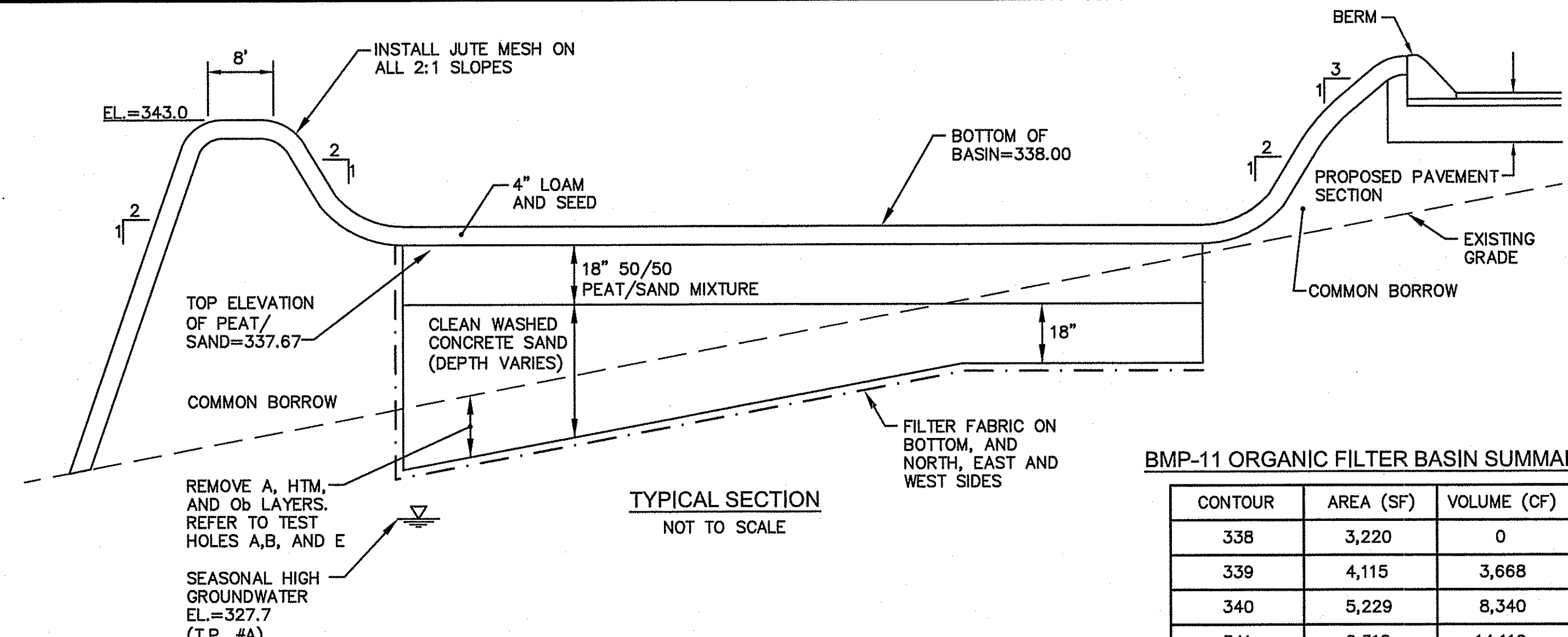
PONDING STORAGE VOLUME BELOW OUTLET INV.=333.0 IS 702 C.F.

**BMP-10 SEDIMENT FOREBAY**

CONTOUR	AREA (SF)	VOLUME (CF)
340	636	0
341	837	737
342	1,063	1,687
343	1,315	2,867
344	1,592	4,329

PONDING STORAGE VOLUME BELOW OUTLET INV.=341.75 IS 1,428 C.F.

**SEDIMENT FOREBAY DETAILS**  
NOT TO SCALE



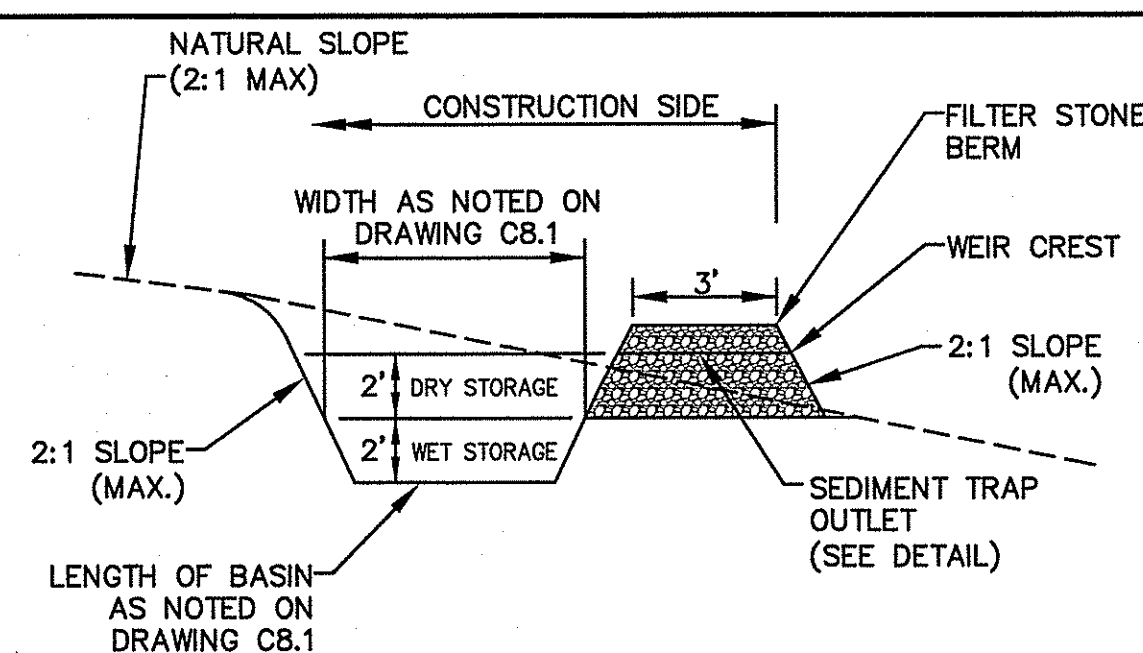
**TYPICAL SECTION**  
NOT TO SCALE

**BMP-11 ORGANIC FILTER BASIN SECTION C-C**  
 NOT TO SCALE

**BMP-11 ORGANIC FILTER BASIN SUMMARY**

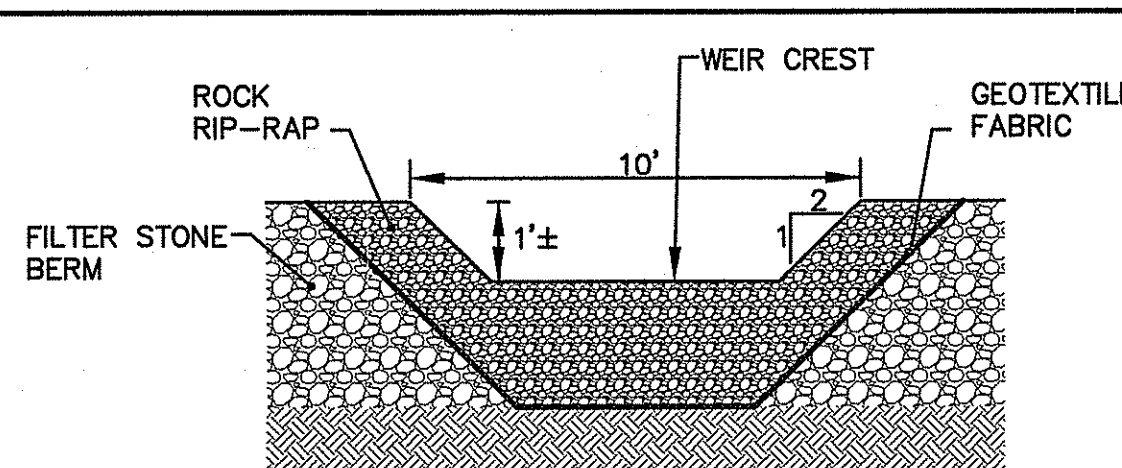
CONTOUR	AREA (SF)	VOLUME (CF)
338	3,220	0
339	4,115	3,668
340	5,229	8,340
341	6,312	14,110
342	7,424	20,978
343	8,436	28,908

MINIMUM STORAGE VOLUME BELOW OUTLET ELEV.=340.5 IS 11,089 C.F. (VOLUME DOES INCLUDE STORAGE VOLUME IS FILTER SAND BELOW)

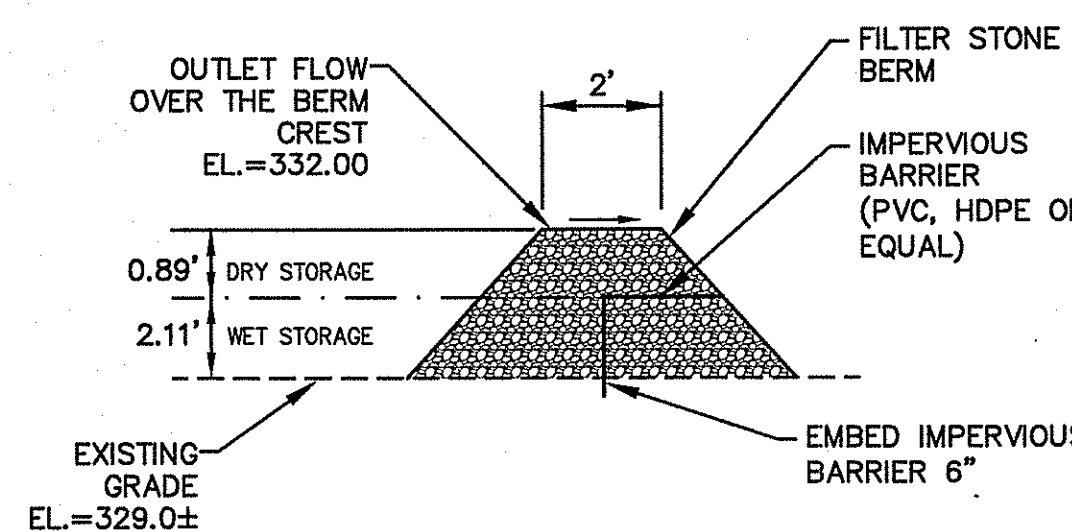


**TEMPORARY SEDIMENT TRAP #1, #2 AND #3 DETAIL**  
NOT TO SCALE

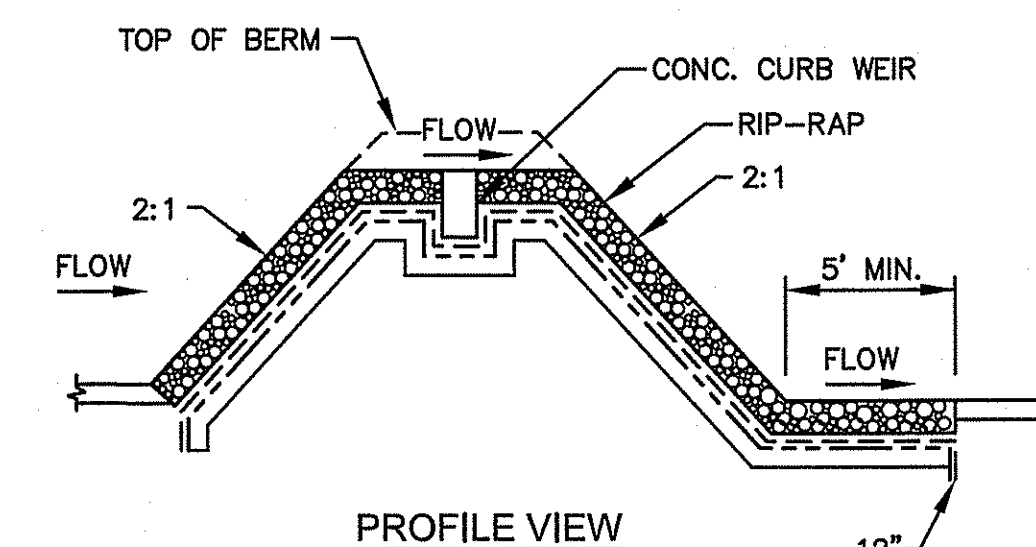
- NOTES:**
1. FILTER STONE SHALL MEET THE REQUIREMENTS OF R.I.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.09 TABLE 1, COLUMN V FILTER STONE.
  2. THE TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO UNDISTURBED, STABILIZED GROUND.
  3. CONTRACTOR SHALL INSTALL 1 OUTLET PER 100' LENGTH OF TEMPORARY SEDIMENT TRAP (1 OUTLET MIN. PER TEMPORARY SEDIMENT TRAP).
  4. THE MODIFIED ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF THE R.I.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.0.3.2.
  5. CONTRACTOR MUST REFER TO THE INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS PROVIDED IN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, AS AMENDED.



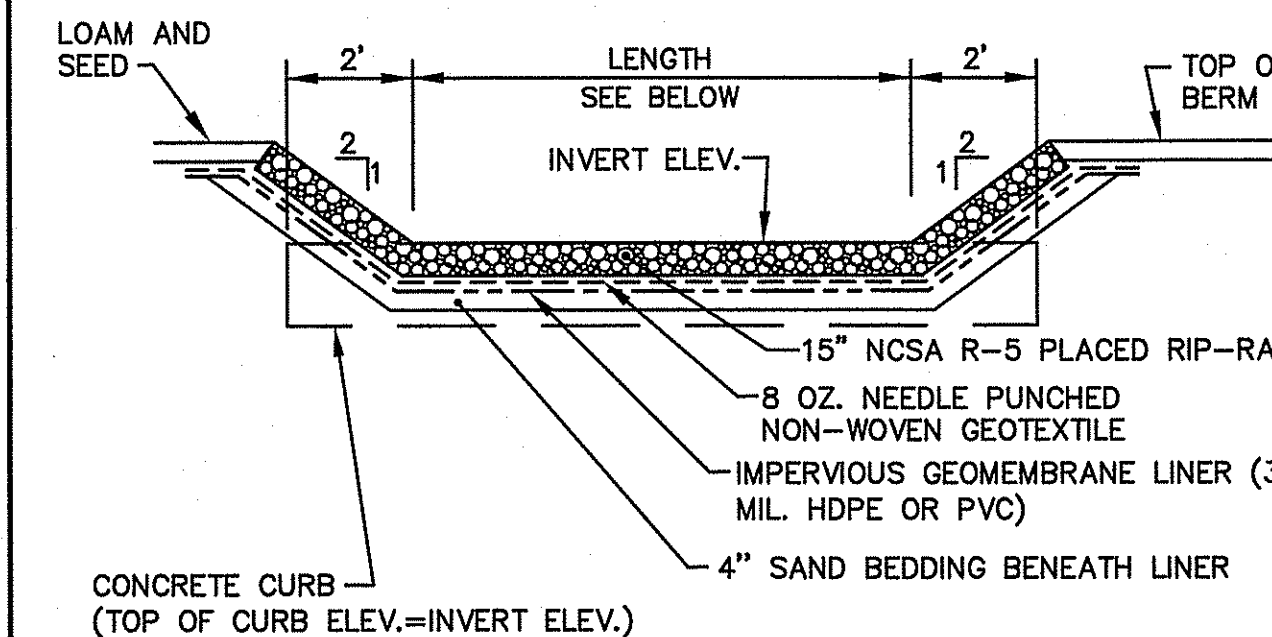
**TEMPORARY SEDIMENT TRAP #1, #2 AND #3 OUTLET DETAIL**  
NOT TO SCALE



**TEMPORARY SEDIMENT TRAP #4 BERM DETAIL**  
NOT TO SCALE



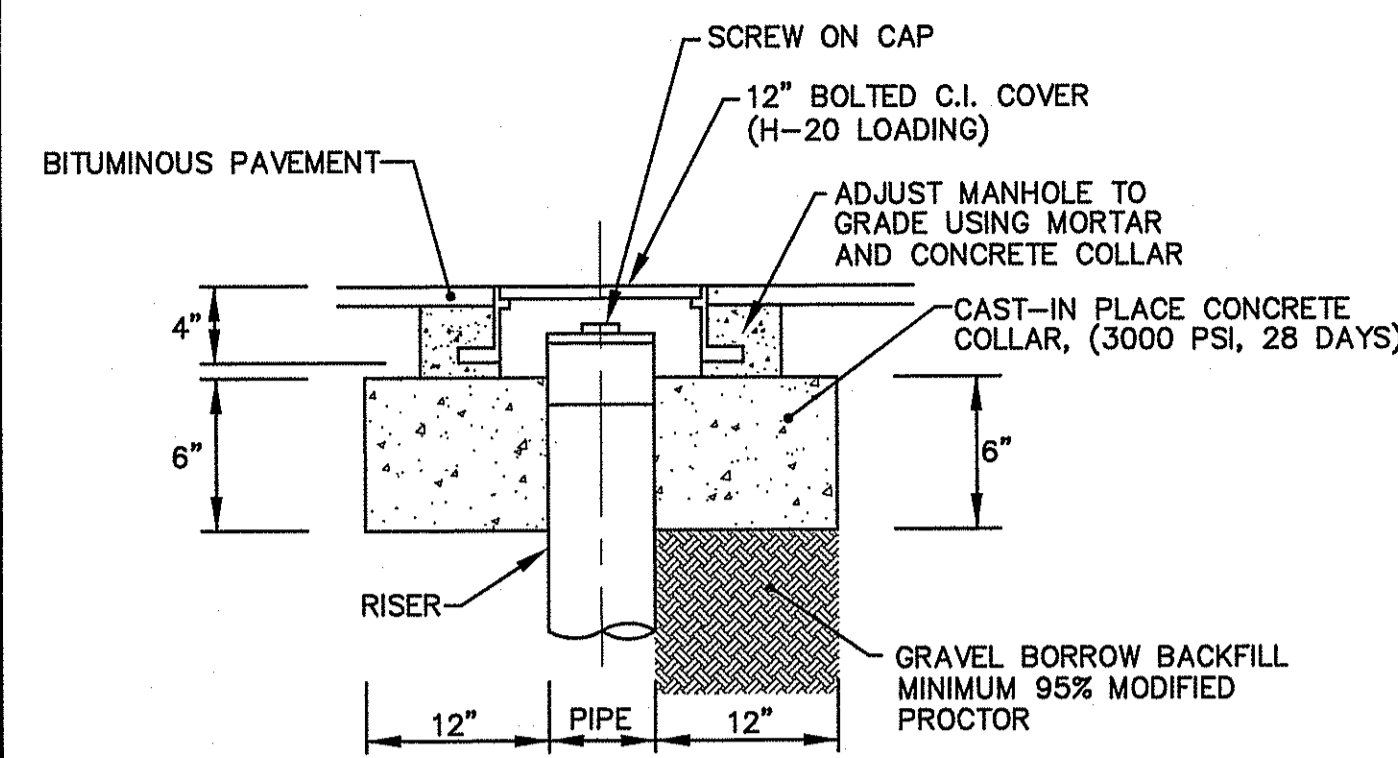
**PROFILE VIEW**



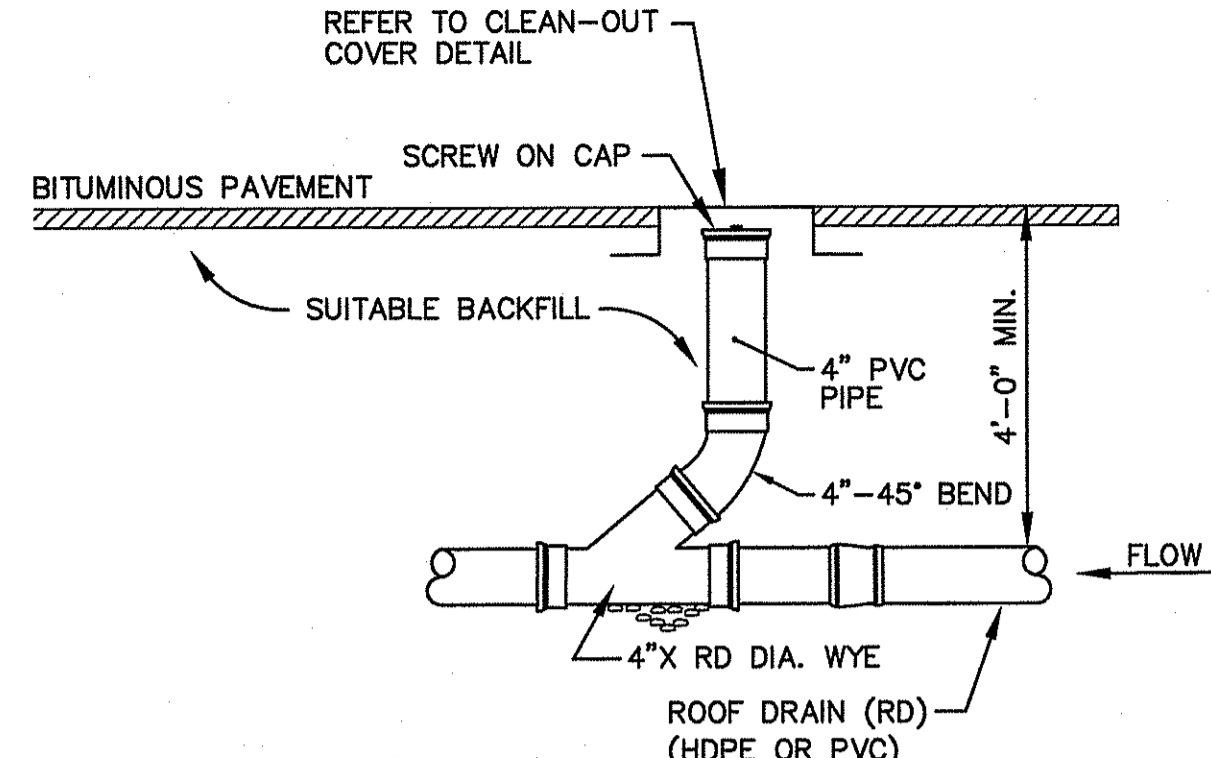
**SECTION VIEW**

BMP-#	WEIR LENGTH	ELEVATION
BMP-4	6'	333.0
BMP-10 (PRIMARY)	6'	341.75
BMP-10 (HIGH FLOW)	8'	342.65
BMP-11	5'	340.5

**TYPICAL OUTLET WEIR DETAIL**  
NOT TO SCALE



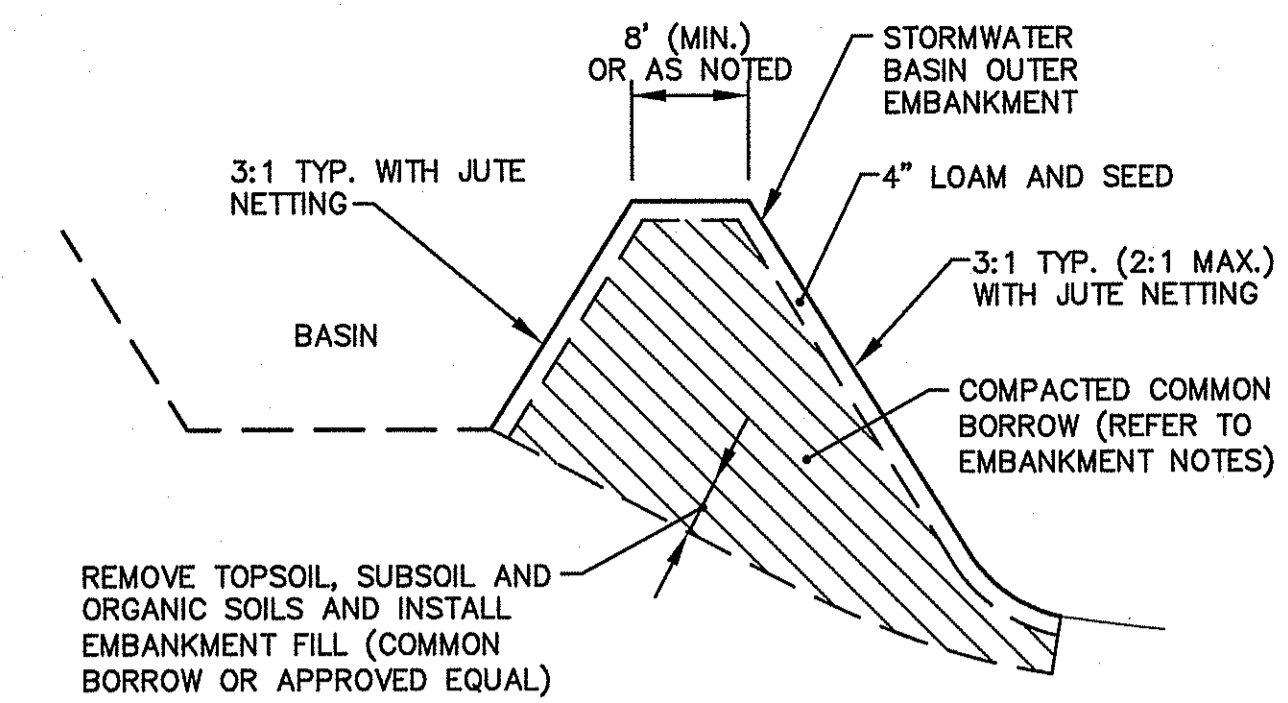
CLEAN-OUT COVER DETAIL  
NOT TO SCALE



ROOF DRAIN CLEAN-OUT DETAIL  
NOT TO SCALE

**STORMWATER BASIN EMBANKMENT NOTES:**

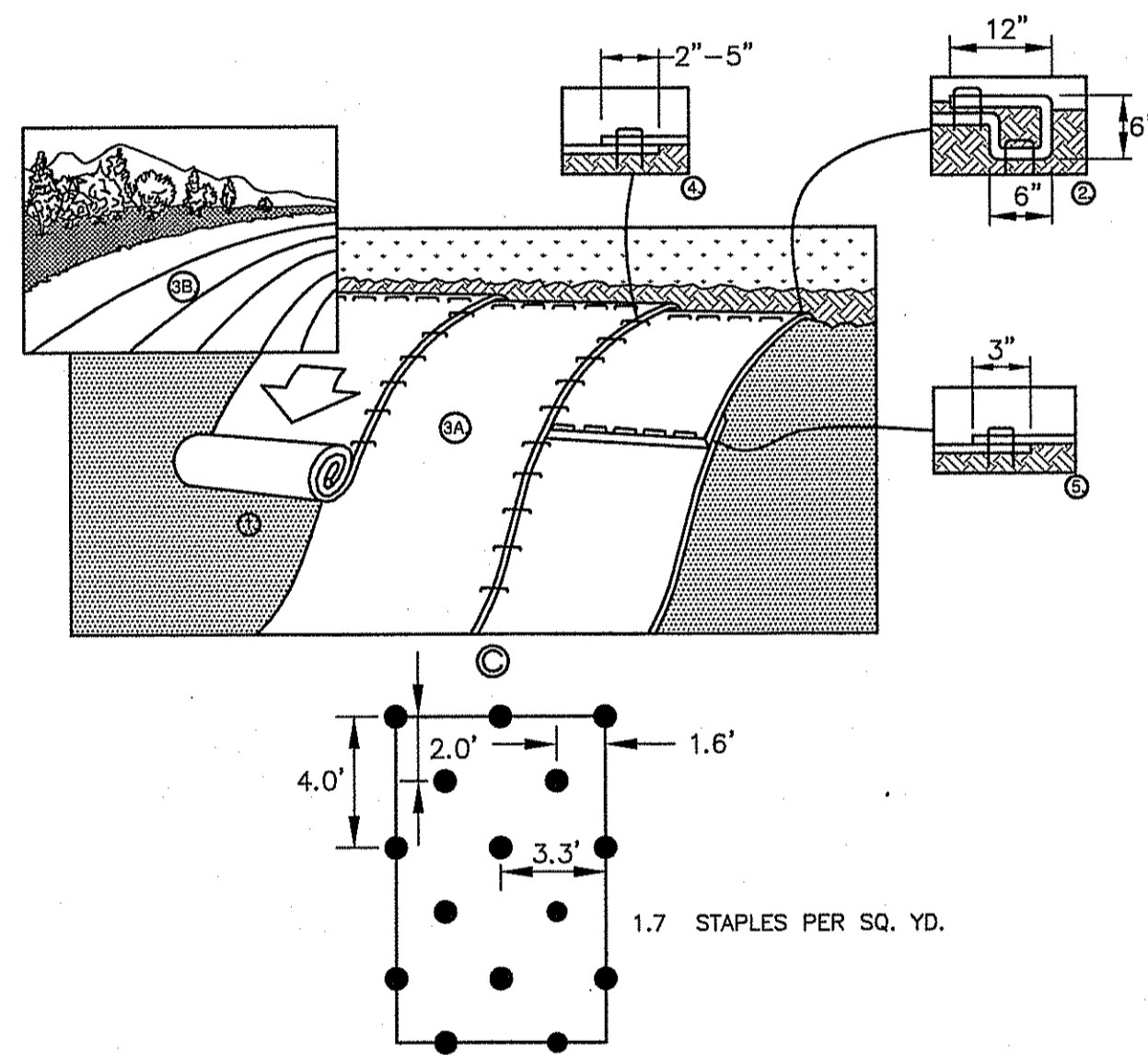
1. THE ORGANIC FILTER BASIN EMBANKMENTS ARE TO BE CONSTRUCTED WITH APPROVED COMMON BORROW. NO SOIL/ROCK GRATER THAN 3" SHALL BE UTILIZED. COMMON BORROW SHALL MEET OR EXCEED AN IN-PLACE DENSITY OF 100 LB./CF. ALL MATERIAL SHALL BE PLACED IN 8 TO 12 INCH LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY. FILL MATERIAL WILL NOT CONTAIN FROZEN MATERIALS OR BE PLACED ON FROZEN SURFACES. COMMON BORROW SHALL MEET MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS.
2. UPON COMPLETION OF CLEARING AND GRUBBING OPERATIONS, THE EMBANKMENT AREAS ARE TO BE EXCAVATED. IF ANY ORGANIC OR UNSUITABLE MATERIAL IS ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR REVIEW OF EXCAVATION AREA. THE DEPTH OF EXCAVATION WILL BE DETERMINED BY THE ENGINEER BASED UPON THE LOCAL CONDITIONS. NO FILL MATERIAL SHALL BE PLACED UNTIL THE FOUNDATION PREPARATION HAS BEEN COMPLETED. ALL WATER SHALL BE REMOVED FROM THE FOUNDATION PRIOR TO PLACING THE EMBANKMENT.
3. THE FILL MATERIAL MUST BE SPREAD IN UNIFORM LAYERS AND FALL WITHIN THE SPECIFIED OPTIMUM WATER CONTENT RANGE IN ORDER TO ACHIEVE THE REQUIRED COMPACTION. EACH LAYER IS TO BE COMPACTED PRIOR TO LAYING AN ADDITIONAL LAYER. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER HIS SELECTED METHOD OF COMPACTION, COMPACTION EQUIPMENT AND THE SEQUENCE OF OPERATIONS NECESSARY TO OBTAIN THE REQUIRED DENSITY. THE WATER CONTENT AT COMPACTION SHALL BE IN THE RANGE BETWEEN ONE PERCENTAGE POINT BELOW AND TWO PERCENTAGE POINTS ABOVE STANDARD AASHTO OPTIMUM WATER CONTENT. THE MATERIAL SHALL BE PROCESSED TO A UNIFORM WATER CONTENT BY ADDING WATER TO THE MATERIAL IN ADVANCE OF THE FILL PLACEMENT.
4. BACKFILL MATERIAL AROUND STRUCTURES AND PIPE IS TO BE PLACED TO PREVENT THE MOVEMENT OF WATER. THE OPTIMUM WATER CONTENT MUST BE MAINTAINED IN THE SAME RANGE AS IN THE EMBANKMENT. THE BACKFILL MUST BE PLACED IN LAYERS LESS THAN 4 INCHES IN THICKNESS AND DISTRIBUTED UNIFORMLY AROUND THE STRUCTURE/PIPE. ALL COMPACTION WILL BE TO 95% MAXIMUM DENSITY AND MAY REQUIRE HAND TAMPERS OR SMALL POWER EQUIPMENT.
5. EMBANKMENT DAMAGE COMMONLY RESULTS FROM IMPROPER CONSTRUCTION OF CONDUIT AND STRUCTURAL BACKFILL WITHIN THE EMBANKMENT BECAUSE SEEPAGE WILL OCCUR WITH IMPROPER BACKFILL AND COMPACTION. THEREFORE, STRUCTURES AND PIPES ARE TO BE CONSTRUCTED AS THE EMBANKMENT CONSTRUCTION RISES TO THE RESPECTIVE PIPE OR STRUCTURE. THIS WILL PREVENT THE DISTURBANCE OF CONSTRUCTED EMBANKMENT MATERIAL. PIPES FROM THE OUTLET STRUCTURE TO THE OUTFALL SHALL HAVE AN ANTI-SEEP COLLAR.



**NOTES:**

1. USE ANTI-SEEP COLLAR AROUND ALL OUTLET PIPES.

EMBANKMENT CONSTRUCTION DETAIL - SCHEMATIC  
NOT TO SCALE

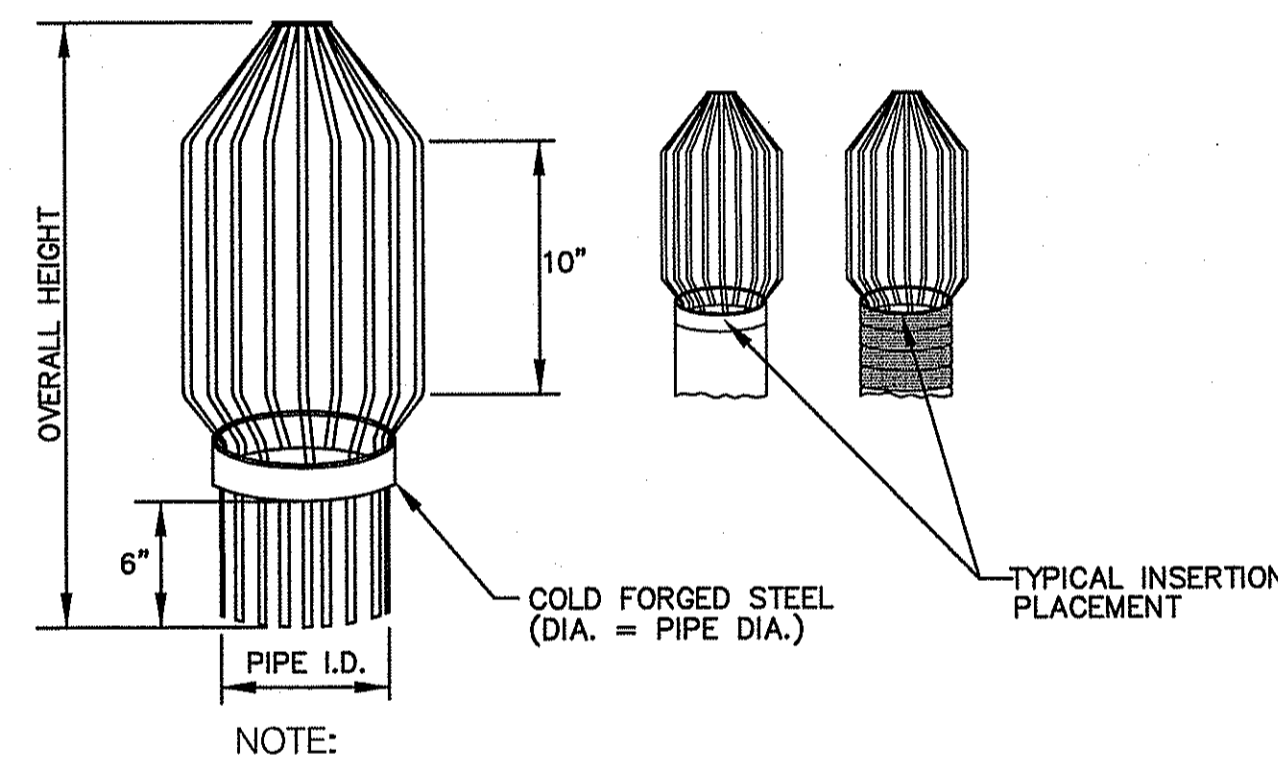


**NOTES:**

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
  2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
  3. ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
  4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
  5. CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
  6. ALL REQUIRED EROSION CONTROL BLANKET (MAT) OVERLAPS AND ANCHORS SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.
- NOTE: \*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

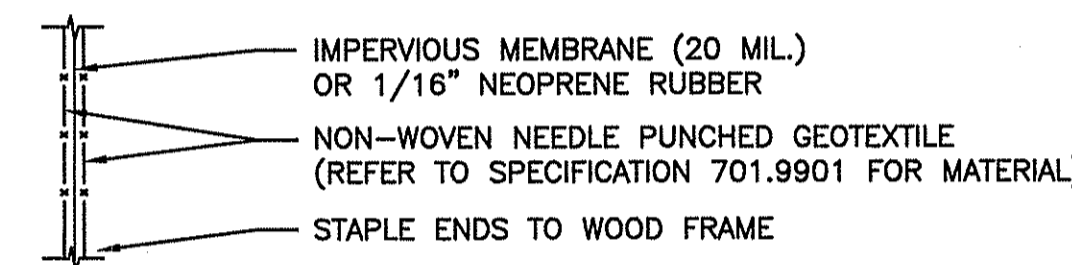
EROSION CONTROL BLANKET (MAT)  
PERMANENT AND TEMPORARY INSTALLATION  
DETAIL  
NOT TO SCALE

PIPE DIA.	BAR DIA.	BAR SPACING	OVERALL O.D.	OVERALL HEIGHT
4"	1/4"	1 1/8"	5 1/2"	17 3/8"
6"	1/4"	1 1/8"	7 1/2"	18"
8"	1/4"	1 1/8"	9 1/2"	19 1/8"
12"	1/4"	1 1/8"	13 1/2"	21 1/8"
15"	5/16"	1 1/2"	16 1/2"	22 1/8"
18"	5/16"	1 1/2"	19 1/2"	23 1/2"
24"	5/16"	2"	25 1/2"	26 1/2"
36"	5/16"	2"	37 1/2"	33 1/8"

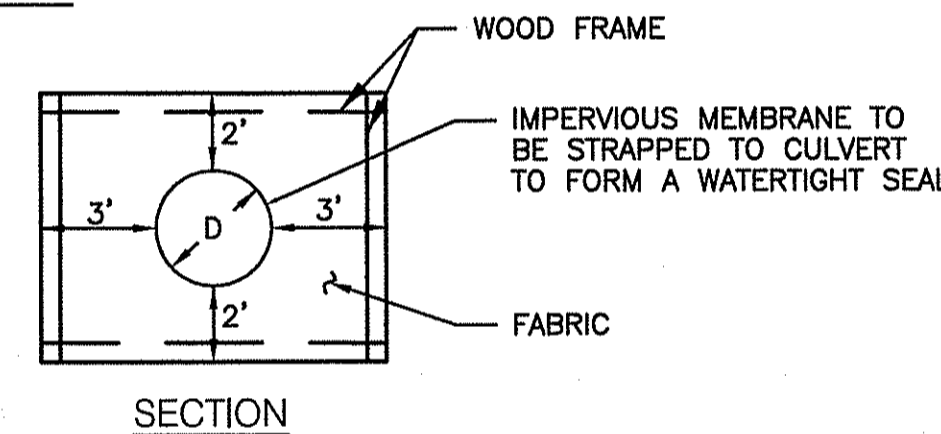


- NOTE:  
1. THE TRASH RACK IS TO BE CONSTRUCTED OF 1/4" DIAMETER STEEL BASE, ACRYLIC COATED AGRI-DRAIN OR EQUAL.

TYPICAL TRASH RACK DETAIL  
FOR ORIFICES ≥4"  
NOT TO SCALE



**FABRIC DETAIL**

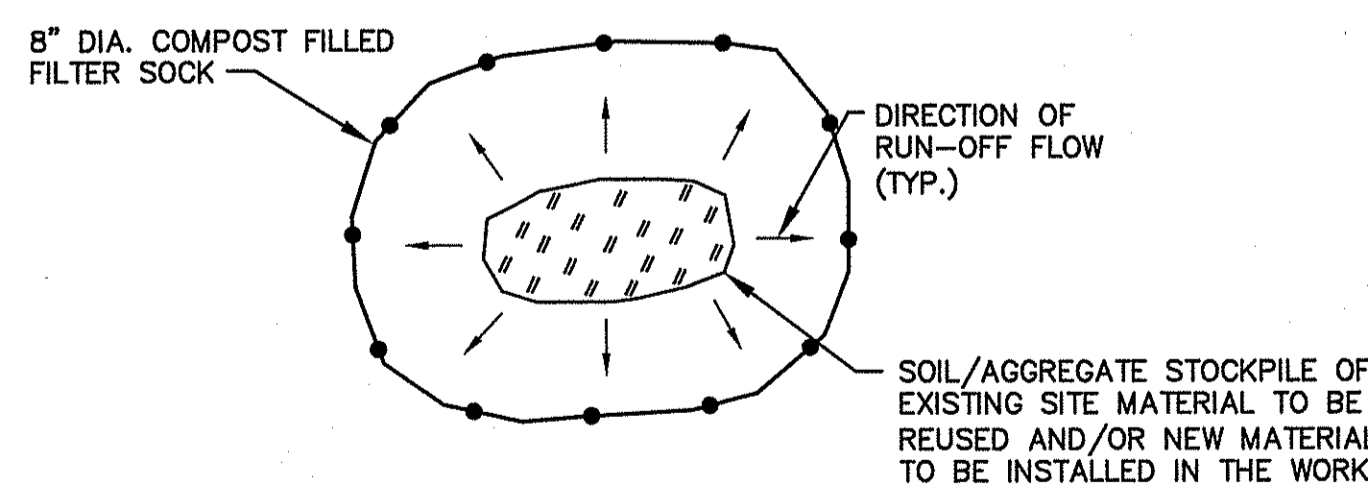


**SECTION**

**NOTES:**

1. ALL CULVERTS EXITING THE STORMWATER TREATMENT BASIN SHALL HAVE AN "ANTI-SEEP COLLAR" INSTALLED AT THEIR MID LENGTH.
2. THE STRAP SHALL BE SUBJECT TO ENGINEER'S APPROVAL. THE STRAP MAY BE A POLYPROPYLENE CORD WITH A TENSILE STRENGTH OF 200 POUNDS AND SHALL PROVIDE A PERMANENT, NON-SLIP, TIE.

ANTI-SEEP COLLAR DETAILS  
NOT TO SCALE



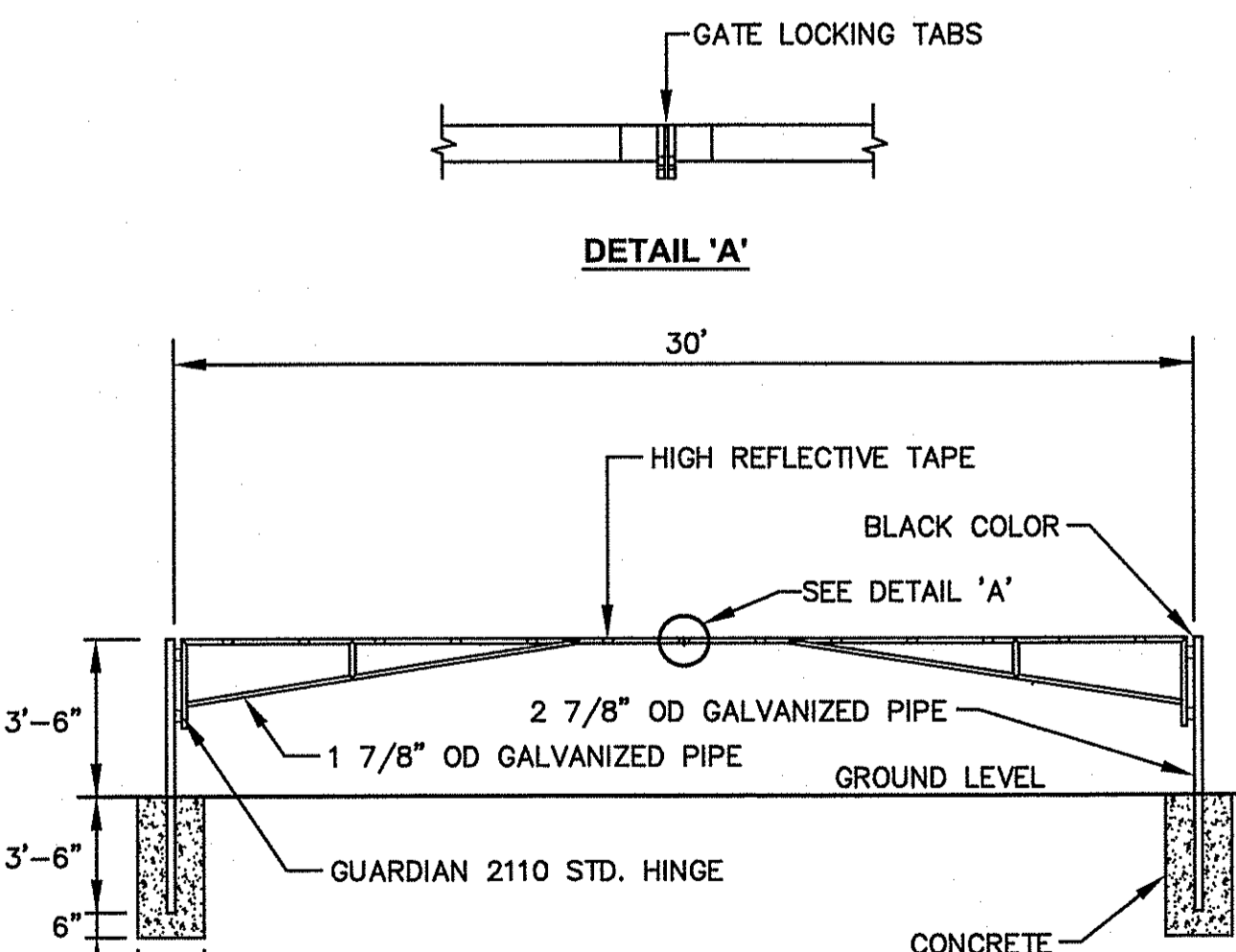
**NOTES:**

1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.
3. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

MATERIAL STOCKPILE DETAIL  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 12 2017 FILE # 16-0306  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Wencsek*

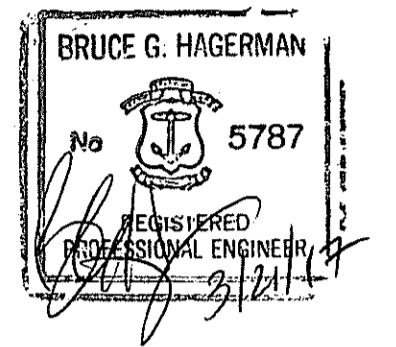


- NOTE:  
GATE SHALL BE GUARDIAN TRAFFIC SYSTEMS MODEL 14020 DUAL SWING BARRIER GATE, OR APPROVED EQUAL.

ACCESS GATE DETAIL  
NOT TO SCALE

**Crossman Engineering**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
Email: col@crossmaneng.com

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**PROJECT TITLE:**

**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

**PREPARED FOR:**

**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**DRAWING TITLE:**

**MISCELLANEOUS  
DETAILS PLAN NO. 4**

DATE: FEBRUARY 27, 2017 SCALE: AS NOTED

DWG. NAME: 2118-20-DET04 CON.dwg

**REVISIONS**

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

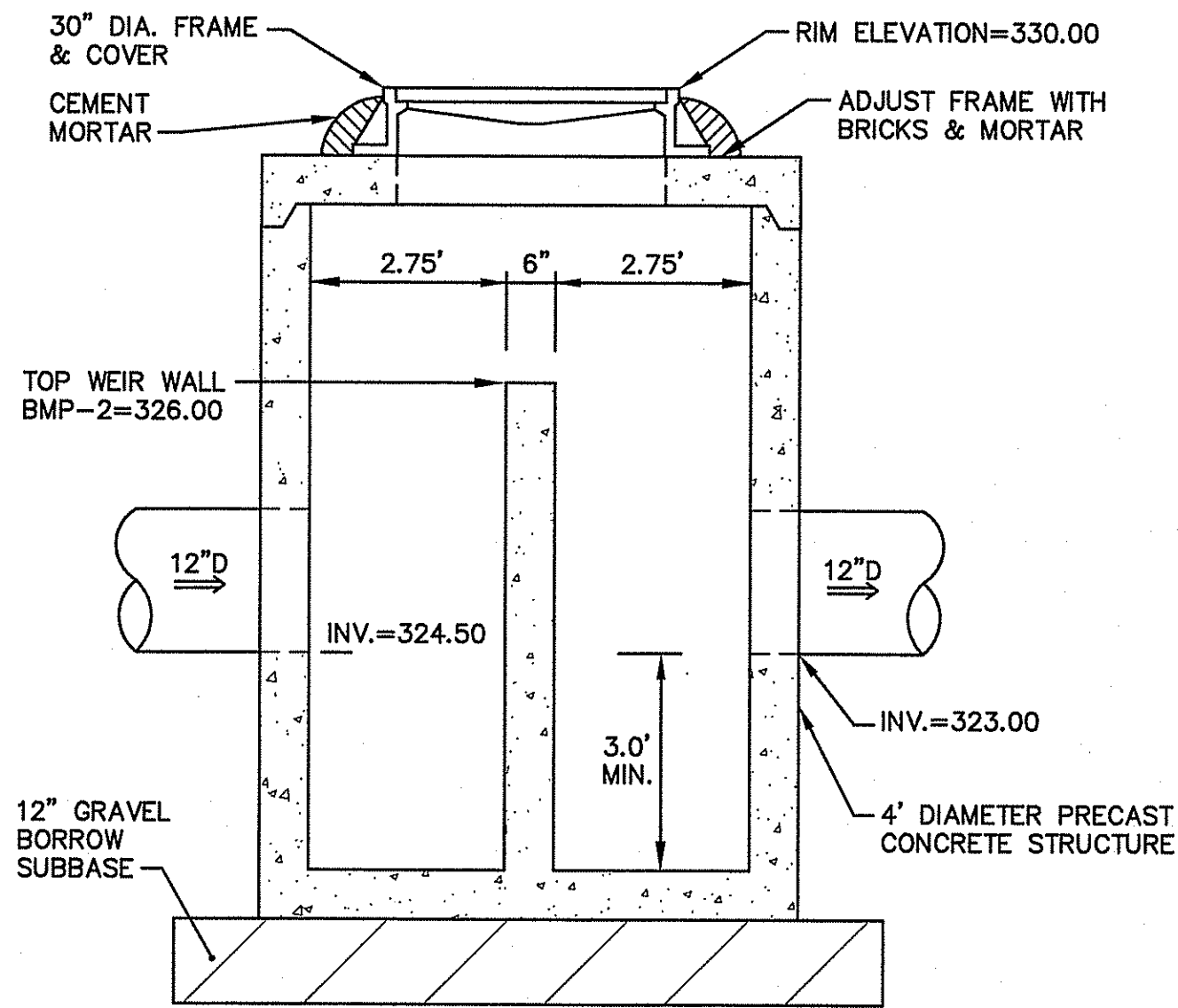
**DRAWING NUMBER**

**C9.4**

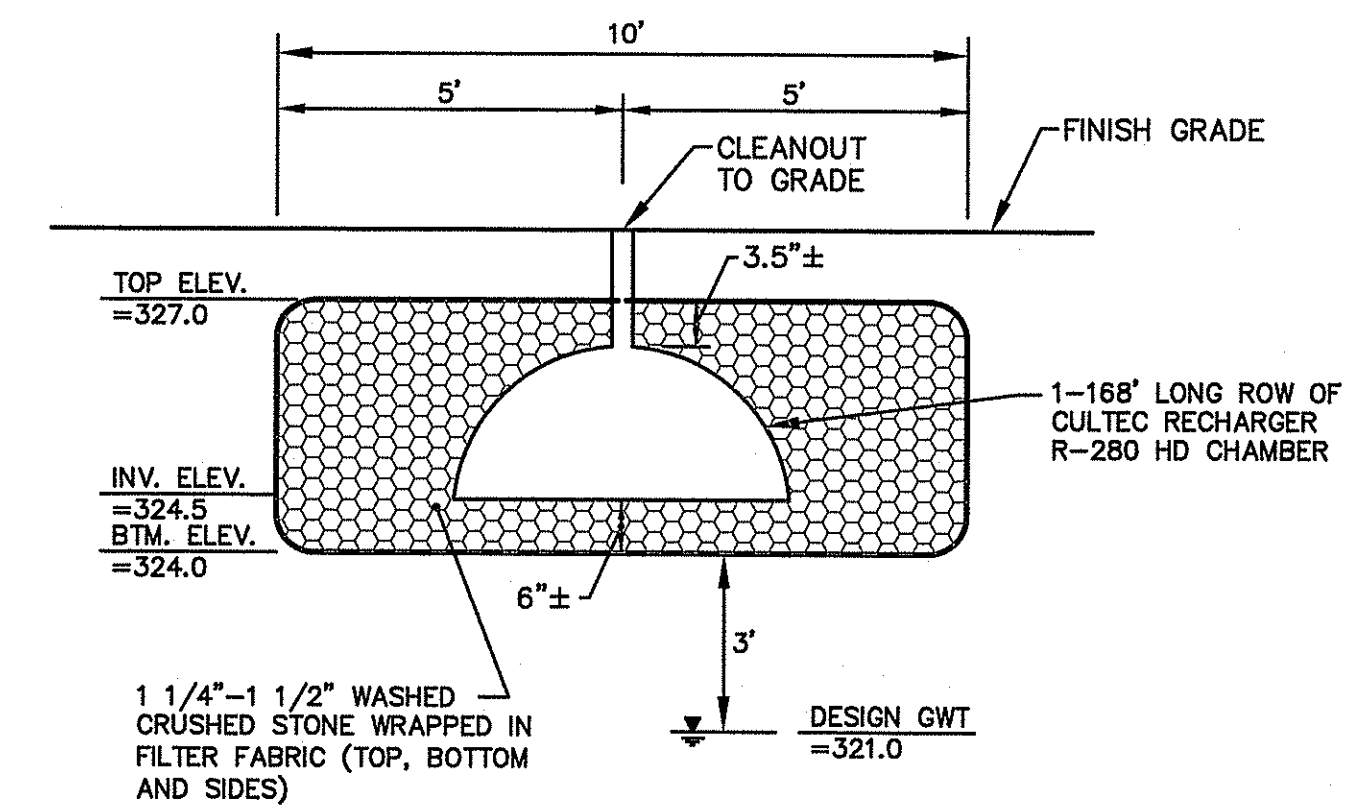
SHEET: 20 OF 29

**INFILTRATION SYSTEM CONSTRUCTION NOTES:**

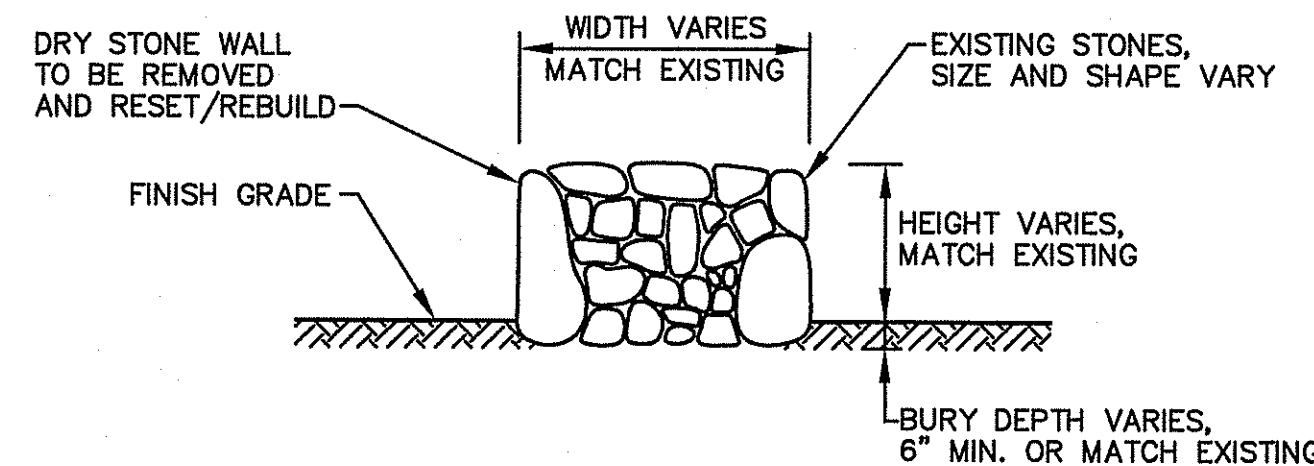
1. WITHIN THE INFILTRATION SYSTEM, THE CONTRACTOR SHALL REMOVE ALL TOPSOIL AND SUBSOIL AREAS (A AND B HORIZONS) AND ANY EXISTING SOILS THAT YIELD A PERMEABILITY RATE <1.02 INCHES/HOUR. CONTRACTOR SHALL COORDINATE A BOTTOM BED INSPECTION WITH OWNER AND ENGINEER. IF NECESSARY THE AREA SHALL BE PREPARED WITH SAND FILL SOIL MEETING THE MEDIA REQUIREMENTS OF SAND FILTERS, AS DESCRIBED IN THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, MARCH 2015, SECTION 5.5 (ASTM C-33 SAND). THE DEPTH OF EXISTING SOIL REMOVAL SHALL BE VERIFIED BY THE ENGINEER. PLACEMENT OF THE SAND FILL (ASTM C-33 SAND), SHALL BE USED TO BRING THE BOTTOM OF BASIN TO THE DESIGN ELEVATIONS.
2. INFILTRATION SYSTEM CONSTRUCTION AND MATERIALS SHALL CONFORM TO RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, MARCH 2015, APPENDIX F.3 CONSTRUCTION STANDARDS/SPECIFICATIONS FOR INFILTRATION BMP'S. AFTER CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE FINAL INSPECTIONS WITH THE OWNER IN ACCORDANCE WITH TABLE F-5 IN APPENDIX F.3.
3. THE CONTRACTOR IS REQUIRED TO SUBMIT A LIST OF MATERIALS, GRADATIONS AND THE NAME AND ADDRESS OF THE SUPPLIERS TO THE ENGINEER FOR APPROVAL PRIOR TO BRINGING MATERIAL ON SITE. MATERIAL CERTIFICATIONS SHALL ALSO BE REQUIRED FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE ABOVE REFERENCED MANUAL. THE MANUAL CAN BE FOUND AT: <http://www.dem.ri.gov/pubs/regs/regs/water/swmanual.pdf>
5. GREAT CARE MUST BE TAKEN TO PREVENT THE INFILTRATION AREA FROM COMPACTION; BY MARKING OFF THE INFILTRATION UNDERGROUND SYSTEM LOCATION BEFORE THE START OF CONSTRUCTION, AND BY CONNECTING UPSTREAM DRAINAGE AREAS ONLY AFTER CONSTRUCTION IS COMPLETE AND THE CONTRIBUTING AREA IS STABILIZED.
6. IF LARGE ROCKS OR BOULDERS ARE FOUND WITHIN 36" BELOW THE INFILTRATION SYSTEMS, OR WITHIN A 10' PERIMETER AROUND SYSTEM, THE CONTRACTOR SHALL REMOVE THE ROCKS/BOULDERS AND REPLACE WITH GRAVEL BORROW. CONTRACTOR SHALL COORDINATE WITH ENGINEER.
6. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR THE PIPES TO BE USED IN THE UNDERGROUND INFILTRATION AND DETENTION SYSTEMS TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SHOP DRAWINGS MUST VERIFY THAT THE PIPES CAN SUPPORT H-20 LOADING WITH THE SYSTEM SPECIFIC COVER.



**BMP-2 UNDERGROUND INFILTRATION SYSTEM  
OUTLET CONTROL STRUCTURE**  
NOT TO SCALE



**BMP-2  
UNDERGROUND INFILTRATION  
TRENCH SECTION**  
NOT TO SCALE



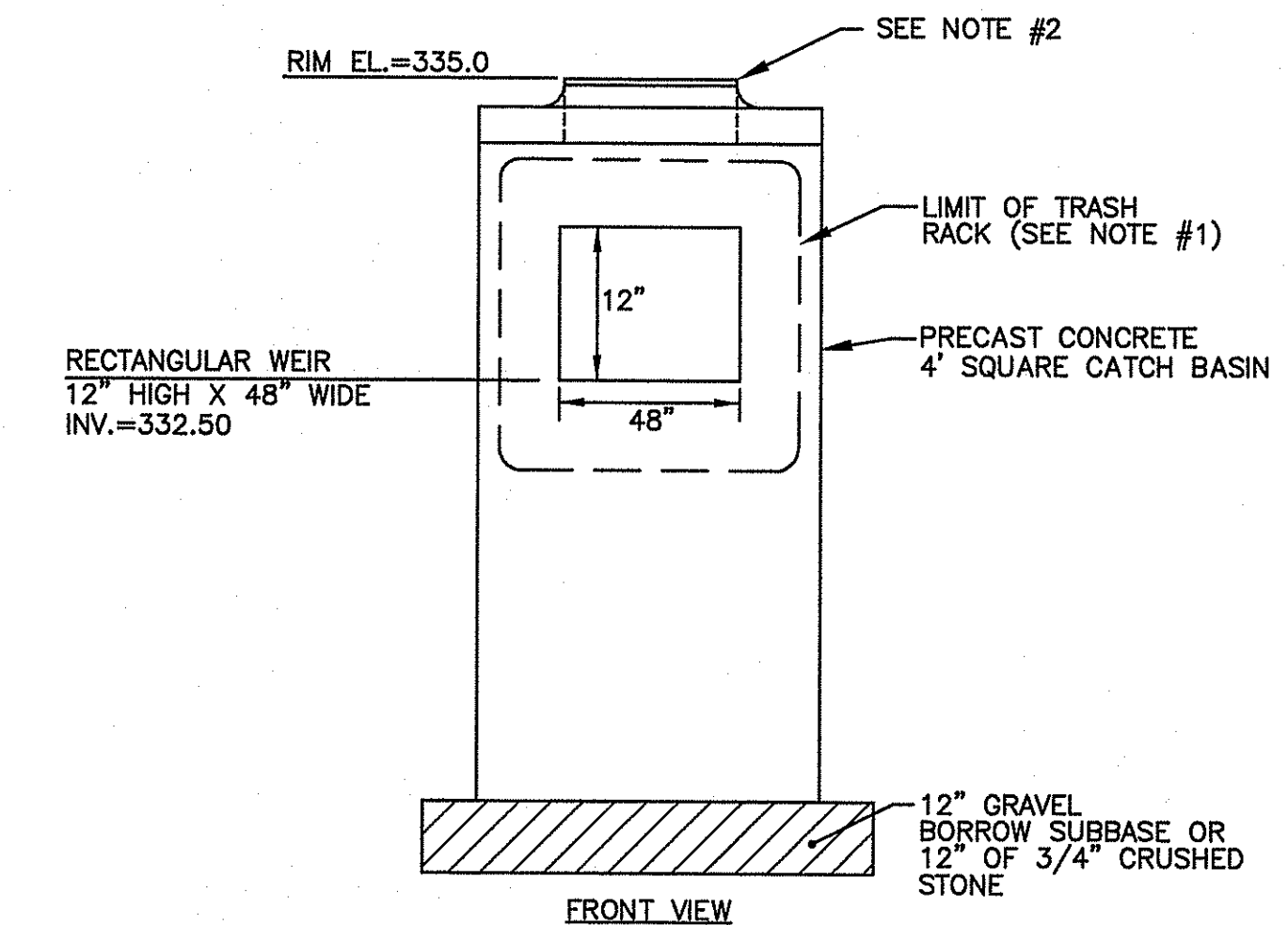
**NOTES:**

1. WHEN REMOVING THE EXISTING DRY STONE WALL, STOCKPILE THE STONES PARALLEL TO THEIR EXISTING POSITIONS IN A MANNER WHICH PERMITS REPLICATION OF THE EXISTING STYLE DURING THE REBUILDING PROCESS.
2. REBUILDING OF DRY STONE WALLS SHALL MATCH THE EXISTING STYLE AND STONE PLACEMENT TECHNIQUE. AT A MINIMUM, PLACE LARGE STONES WITH A FLAT SURFACE ALONG THE BORDER/SIDEWALLS AND FILL THE CENTER VOID WITH SMALLER STONES.
3. IF THE EXISTING CONSTRUCTION STYLE IS INCONSISTENT, THE ENGINEER AND/OR OWNER SHALL SELECT A STYLE/TECHNIQUE.
4. IF EXISTING STONES ARE LOST OR DAMAGED DURING THE PROCESS, THE CONTRACTOR SHALL PROVIDE NEW STONES AT NO ADDITIONAL COST TO THE OWNER.
5. ANY EXISTING STONE WALLS THAT ARE DAMAGED DUE TO STUMP REMOVAL SHALL ONLY BE REBUILT AFTER ALL STUMP REMOVAL IS COMPLETED, THE VOID AREA HAS BEEN FILLED WITH MATERIAL AND THOROUGHLY COMPACTED.

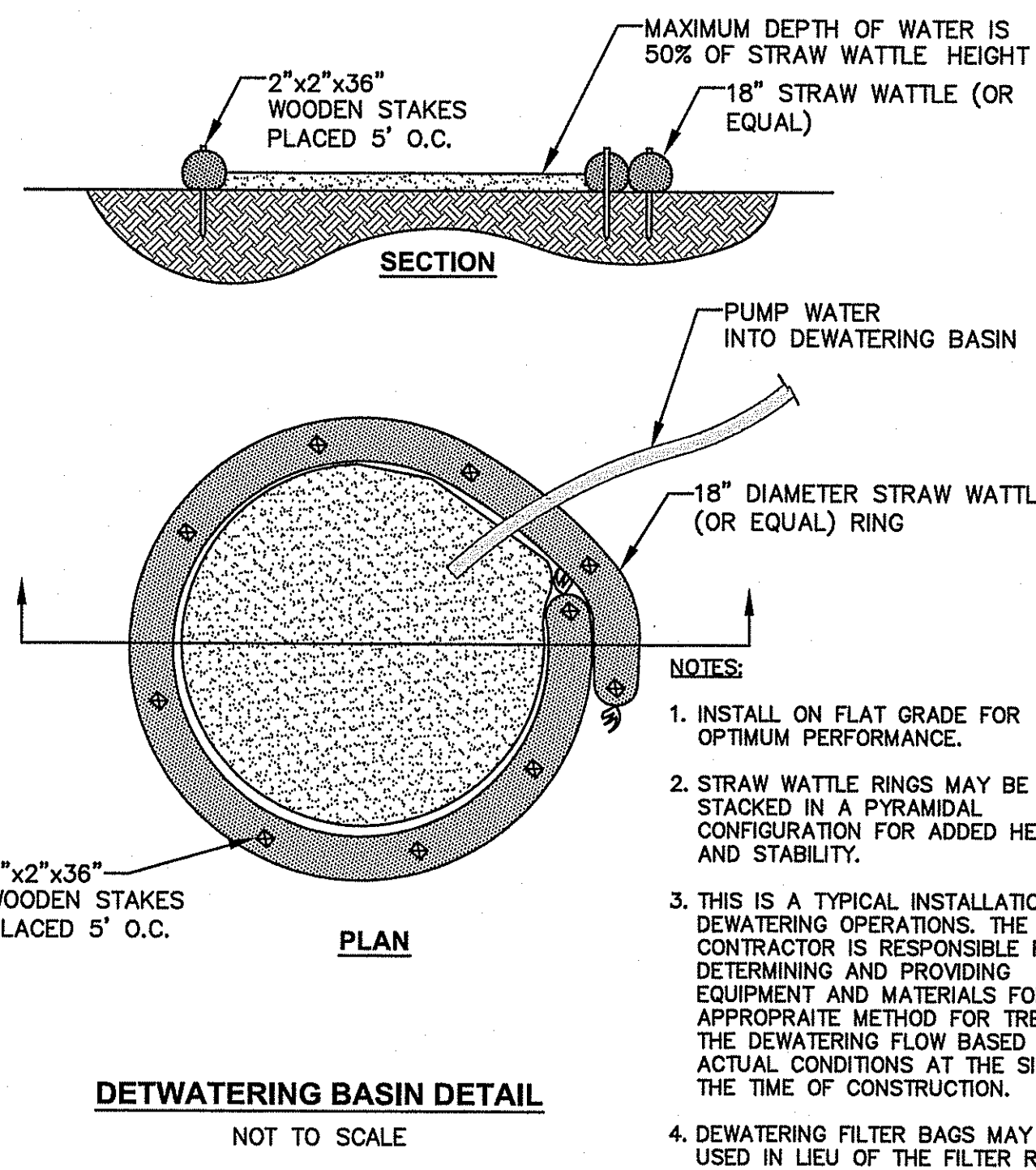
**REMOVE, STOCKPILE AND REBUILD DRY STONE WALL**  
NOT TO SCALE

**NOTES:**

1. TRASH RACK TO BE COMPOSED OF #4 BARS OR EQUAL WELDED IN A 4" GRID AND BOLTED TO THE STRUCTURE. THERE SHALL BE A MINIMUM CLEAR SPACE OF 6" BETWEEN THE RACK AND THE STRUCTURE. THE TRASH RACK SURFACE AREA SHALL BE 10 TIMES THE TOTAL SURFACE AREA OF THE OUTLET ORIFICES.
2. SECURE MANHOLE COVER FRAME TO PRECAST CONCRETE STRUCTURE WITH BOLTS OR CAST FRAME INTO TOP SLAB.



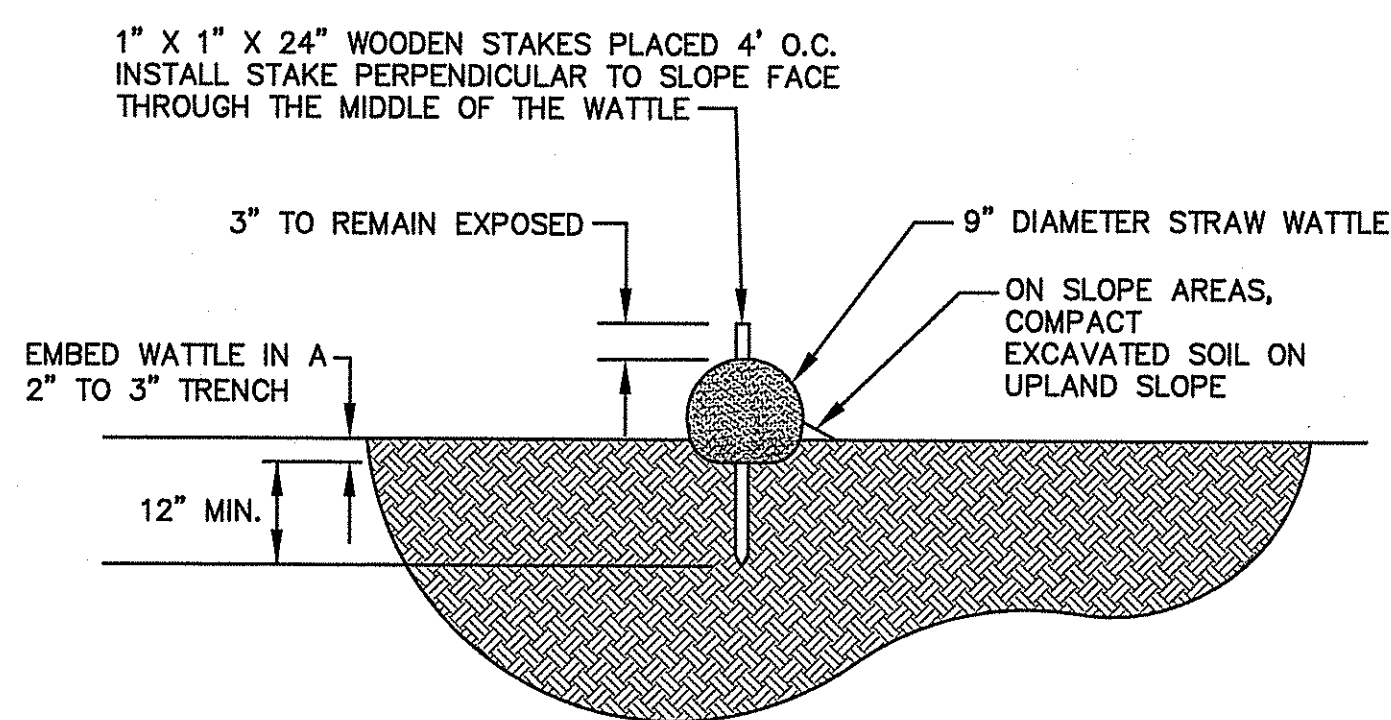
**BMP-5  
OUTLET CONTROL STRUCTURE**  
NOT TO SCALE



**NOTES:**

1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. STRAW WATTLE RINGS MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY.
3. THIS IS A TYPICAL INSTALLATION FOR DEWATERING OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING EQUIPMENT AND MATERIALS FOR THE APPROPRIATE METHOD FOR TREATING THE DEWATERING FLOW BASED UPON ACTUAL CONDITIONS AT THE SITE AT THE TIME OF CONSTRUCTION.
4. DEWATERING FILTER BAGS MAY BE USED IN LIEU OF THE FILTER RING.

**DEWATERING BASIN DETAIL**  
NOT TO SCALE



**NOTE:**

INSTALLATION OF THE STRAW WATTLE SHALL CONFORM TO ALL THE MANUFACTURER'S RECOMMENDATIONS. AN "OR EQUAL" PRODUCT MUST BE APPROVED BY THE ENGINEER OR OWNER PRIOR TO CONSTRUCTION.

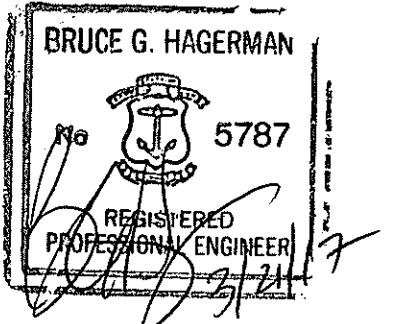
**STRAW WATTLE DETAIL**  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 12 2017 FILE # 16-030G  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Christopher P. Seneck*

**Crossman Engineering**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5680  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
Email: ce@crosmaneng.com

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**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**MISCELLANEOUS  
DETAILS PLAN NO. 5**

DATE: FEBRUARY 27, 2017  
SCALE: AS NOTED  
DWG. NAME: 2118-21-DET05 CON.dwg

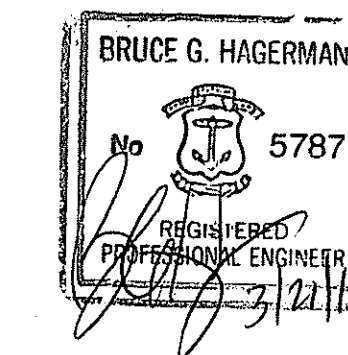
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER: **C9.5**  
SHEET: 21 OF 29

**CROSSMAN ENGINEERING**

Rhode Island: 151 Centerville Road, Warwick, RI 02886  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763  
 Phone: (401) 738-5660 Phone: (508) 695-1700  
 Email: cel@crossmaneng.com

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PROJECT TITLE:

**PROPOSED PUBLIC WORKS FACILITY**

151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

PREPARED FOR:



**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**

65 UNION AVENUE  
 HARRISVILLE, RI 02830

**DRAWING TITLE:  
MISCELLANEOUS  
DETAILS PLAN NO. 6**

DATE: FEBRUARY 27, 2017 SCALE: AS NOTED  
 DWG. NAME: 2118-22-DET06 CON.dwg

REVISIONS	NUMBER	REMARKS	DATE
1		RIDEM COMMENTS	3/17/17

DRAWING NUMBER

**C9.6**

SHEET: 22 OF 29

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST 5'-0" ROUND MANHOLE**  
 R.I. STANDARD 4.2.1  
 JUNE 15, 1998

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST 4'-0" ROUND MANHOLE**  
 R.I. STANDARD 4.2.0  
 JUNE 15, 1998

DIMENSIONS								REINFORCEMENT
DL	A	B	C	D	E	R	T	ONE LAYER REINFORCEMENT IN CENTER OF WALL (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0"	7/8"	6'-0"	7/8"	2'-0"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-5"	11"	2 1/4"	0.054
1'-6"	8"	2'-6"	3'-10"	6'-1"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-0"	6'-1 1/2"	4'-0"	11'-2"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	1'-6"	4"	0.098
3'-6"	1'-6"	6'-0"	2'-11"	6'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	6'-2"	7'-0"	1'-10"	5 1/2"	0.120
4'-6"	2'-3"	6'-0"	2'-11"	6'-4"	7'-6"	2'-0"	6 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	6'-3"	8'-0"	2'-0"	6"	0.144

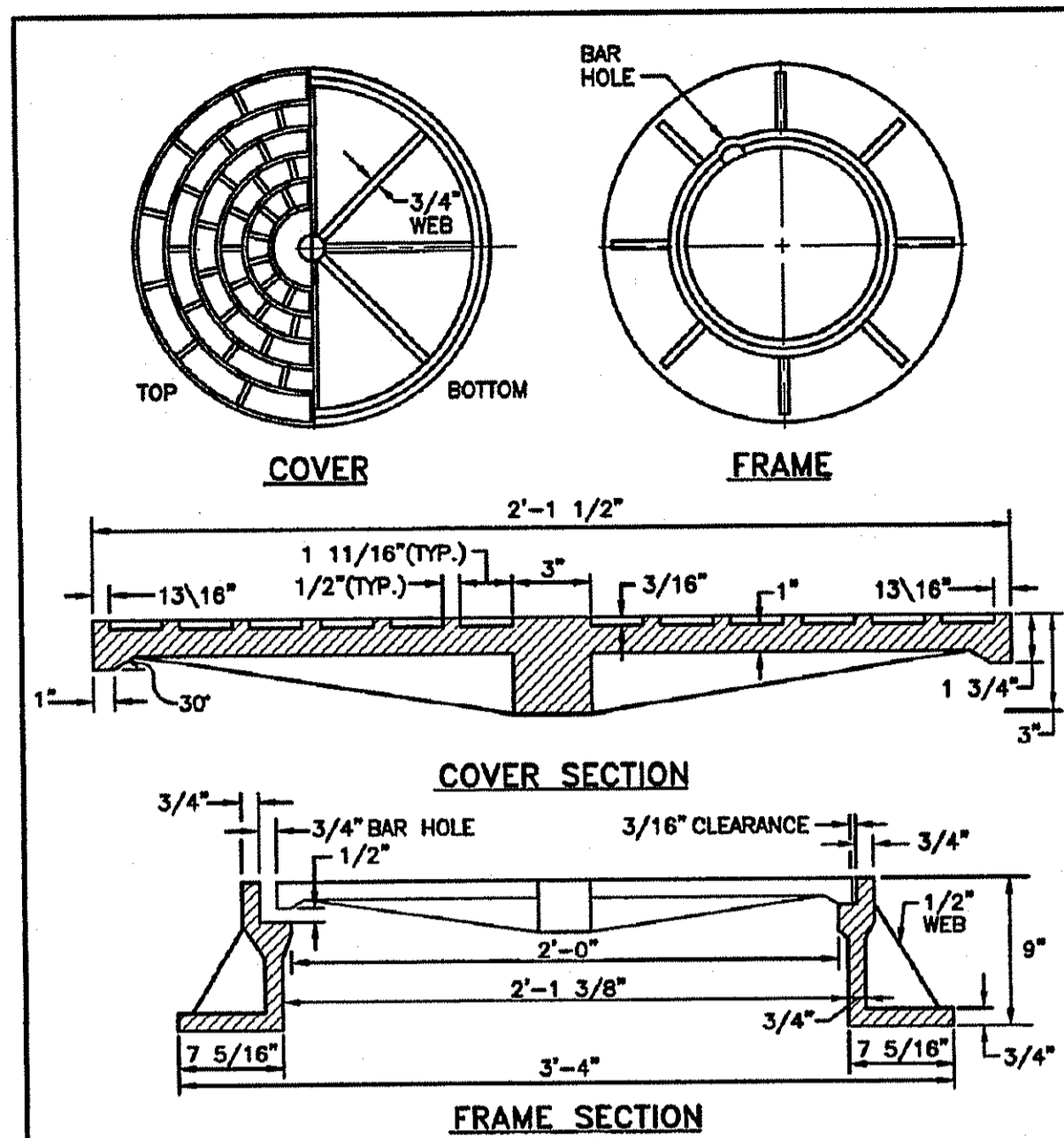
RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST CONCRETE FLARED END SECTION**  
 R.I. STANDARD 2.3.0  
 JUNE 15, 1998

CONCRETE TOLERANCES		
DIMENSION	TOLERANCE	
0"-12"	1/4"	
12"-24"	1/2"	
24"-36"	3/4"	

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST CONCRETE DROP INLET**  
 R.I. STANDARD 4.5.0  
 JUNE 15, 1998

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN**  
 R.I. STANDARD 4.4.0  
 JUNE 15, 1998

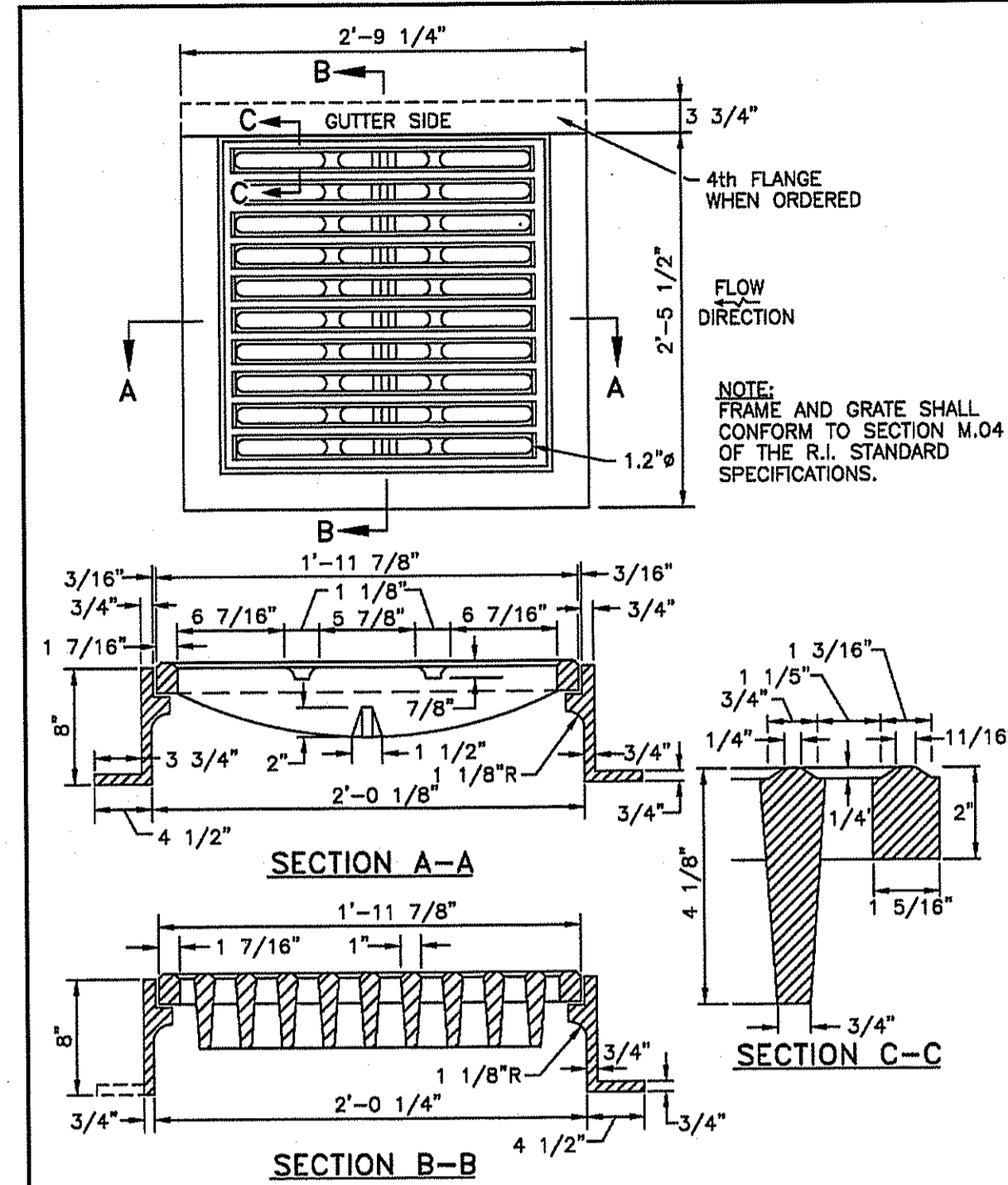
RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
**PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN**  
 R.I. STANDARD 4.3.0  
 JUNE 15, 1998



REVISIONS

NO.	BY	DATE
1	MLP	7/21/08

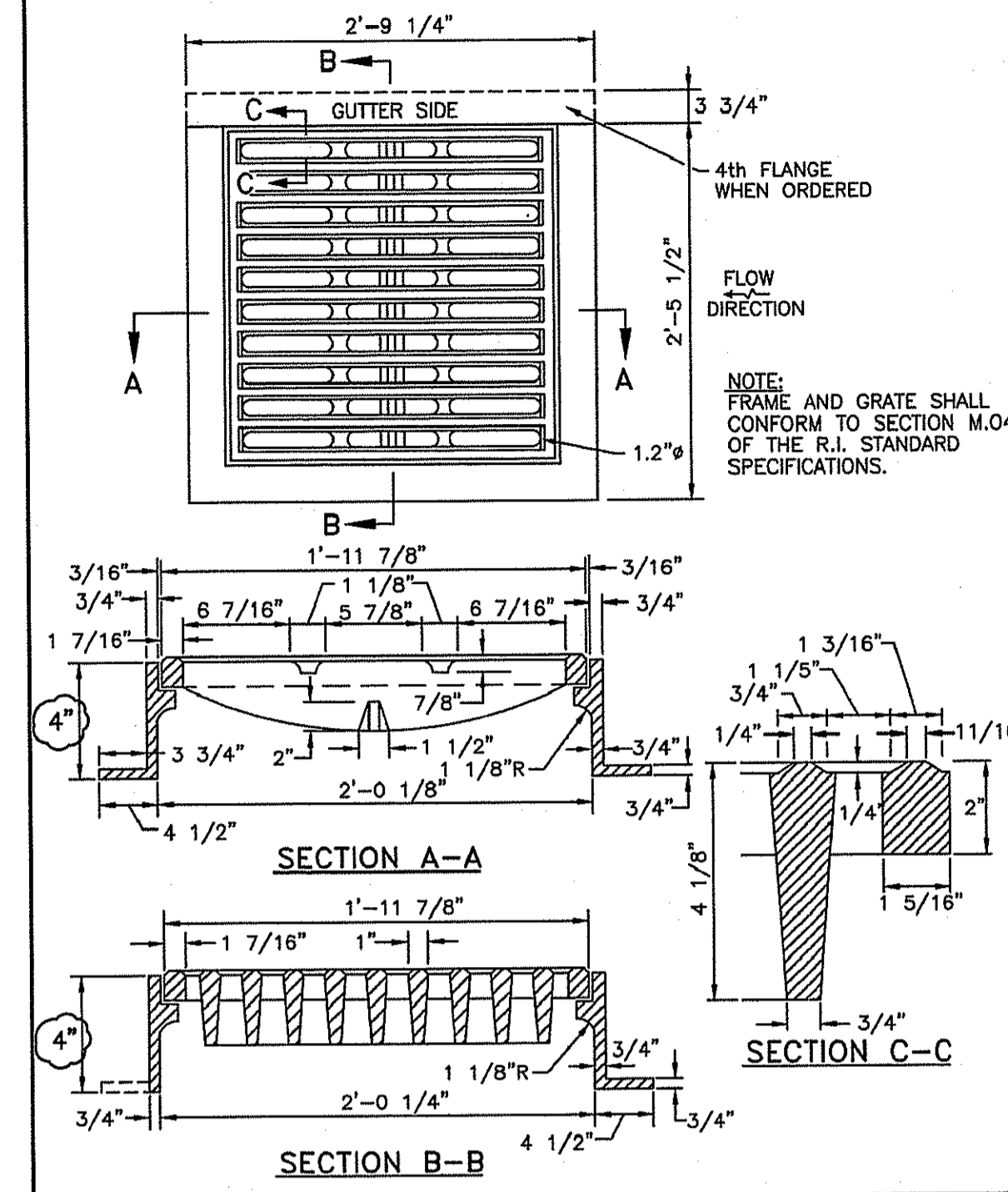
RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
HEAVY-DUTY ROUND FRAME AND COVER  
JUNE 15, 1998  
R.I. STANDARD 6.2.1



REVISIONS

NO.	BY	DATE
1	MLP	7/21/08

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
SQUARE FRAME AND GRATE (BICYCLE SAFE)  
JUNE 15, 1998  
R.I. STANDARD 6.3.2

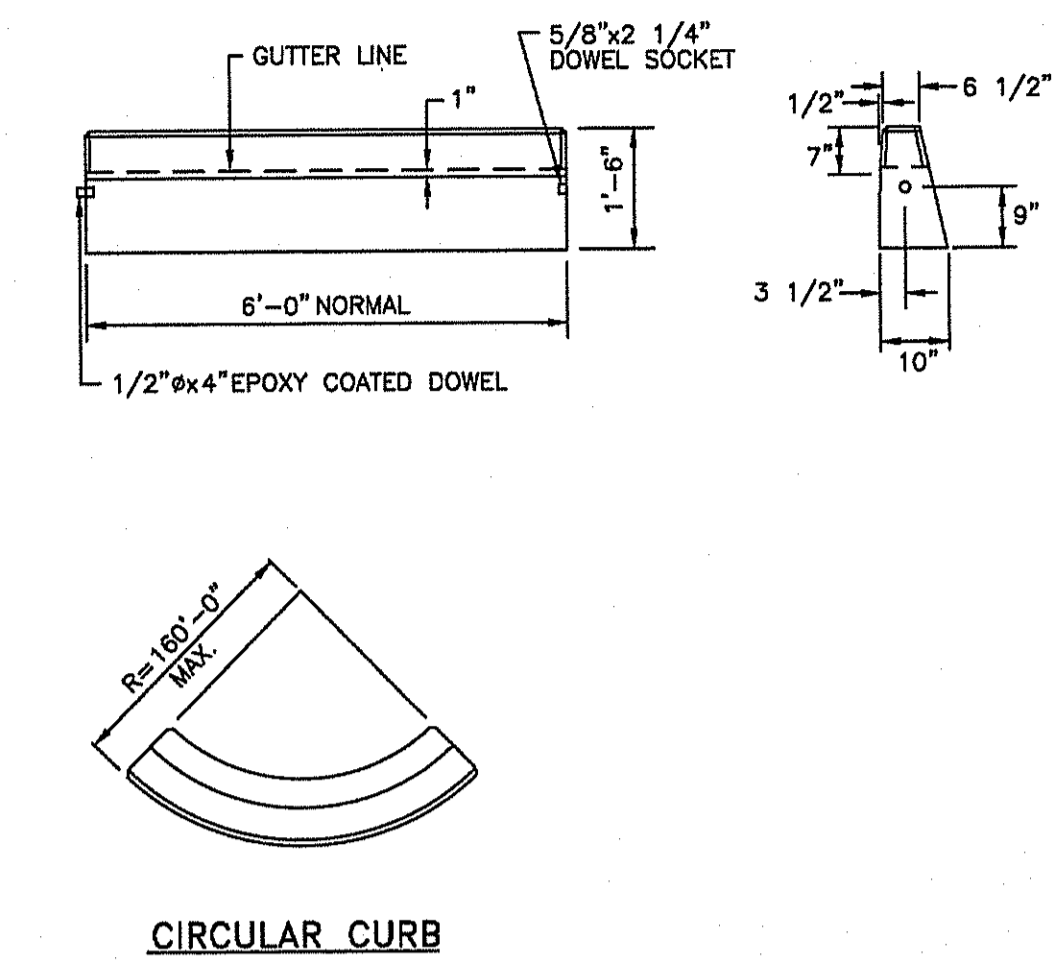


REVISIONS

NO.	BY	DATE
1	MLP	7/21/08

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
SQUARE FRAME AND GRATE (BICYCLE SAFE) - MODIFIED  
JUNE 15, 1998  
R.I. STANDARD 6.3.2N

NOTE: FRAME HEIGHT MODIFIED TO 4".



- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
  - MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
  - EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
  - CIRCULAR CURB IS REQUIRED ON CURVES WITH RADIUS OF 180'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 180'-0" RADIUS.
  - EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

REVISIONS

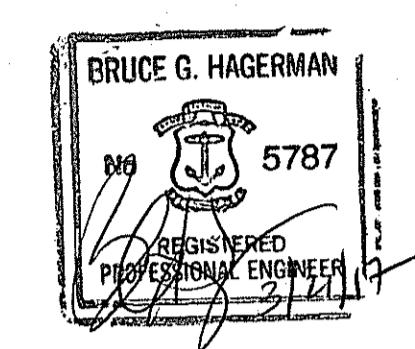
NO.	BY	DATE
1	MLP	Mar 05

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
PRECAST CONCRETE CURB  
JUNE 15, 1998  
R.I. STANDARD 7.1.0



**CROSSMAN ENGINEERING**  
Rhode Island  
151 Centerville Road  
Warwick, RI 02886  
Phone: (401) 738-8680  
Massachusetts  
103 Commonwealth Avenue  
North Attleboro, MA 02763  
Phone: (508) 695-1700  
Email: cel@crossmaneng.com

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PROJECT TITLE:  
**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

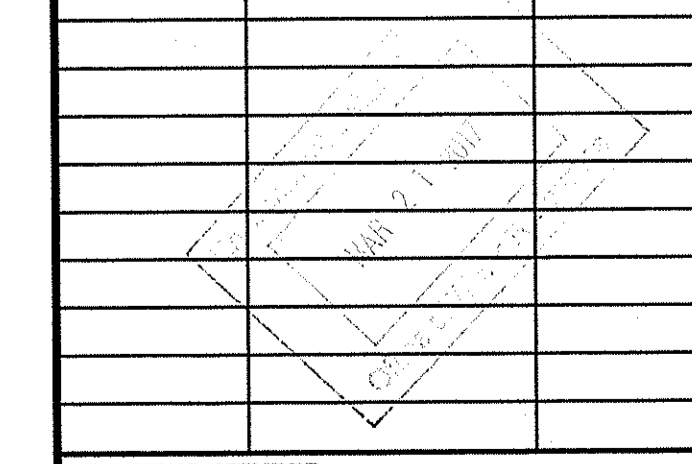
PREPARED FOR:  
  
**TOWN OF BURRILLVILLE**  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES  
65 UNION AVENUE  
HARRISVILLE, RI 02830

DRAWING TITLE:  
**MISCELLANEOUS DETAILS PLAN NO. 7**

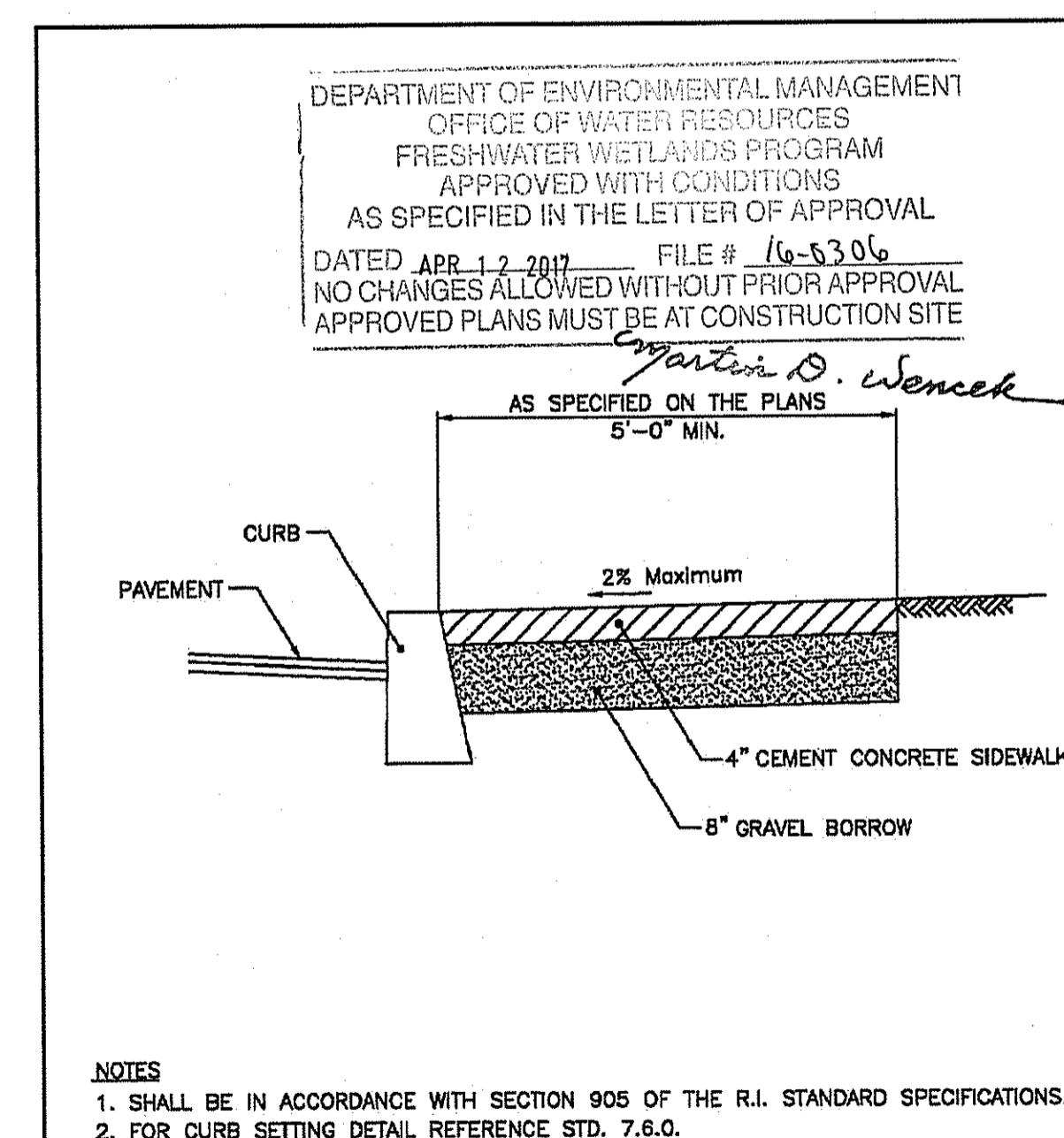
DATE: FEBRUARY 27, 2017  
SCALE: AS NOTED  
DWG. NAME: 2118-23-DET07 CON.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17



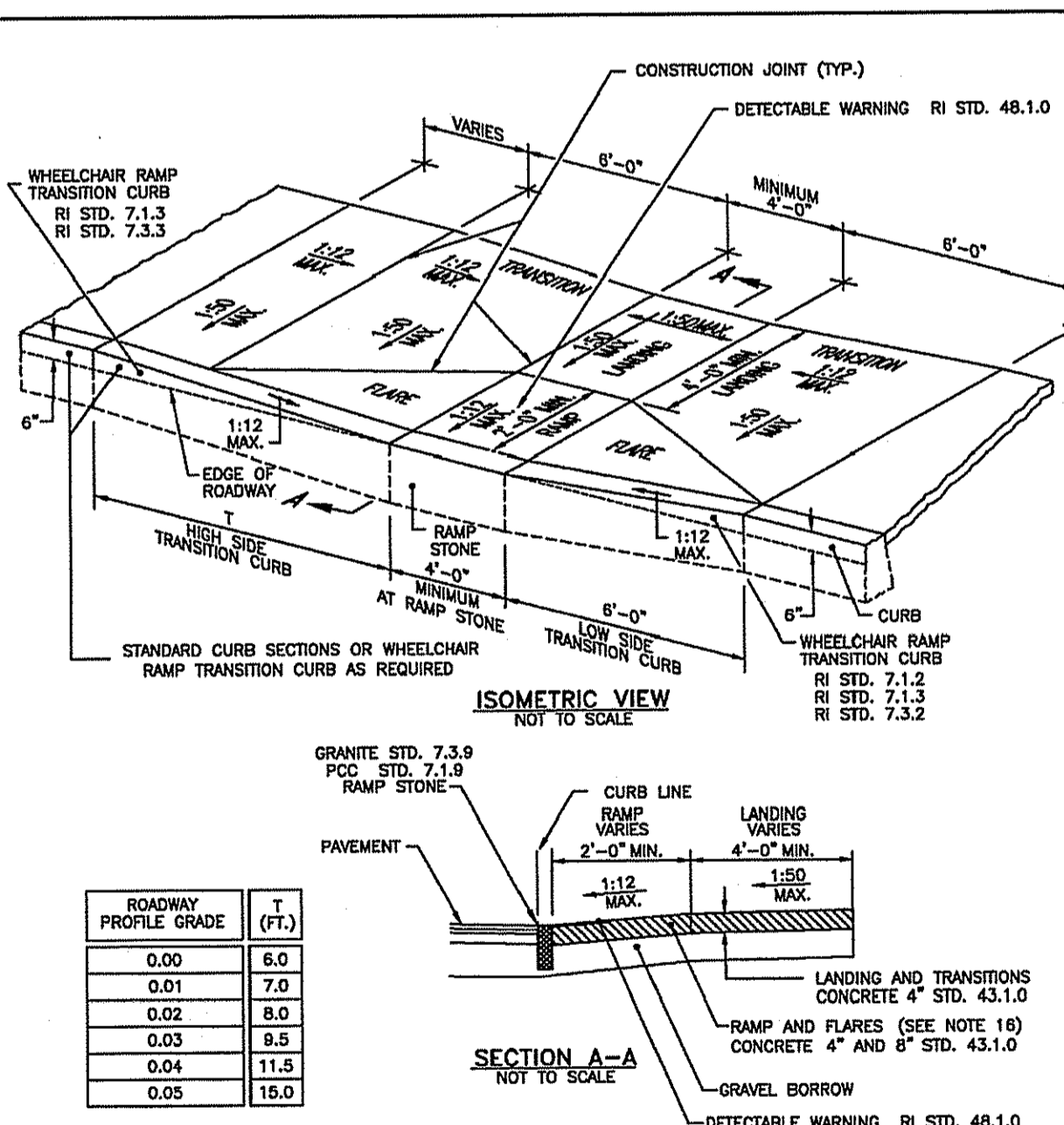
DRAWING NUMBER  
**C9.7**  
SHEET: 23 OF 29



REVISIONS

NO.	BY	DATE
1	MLP	3/17/05
2	MLP	06/07/10

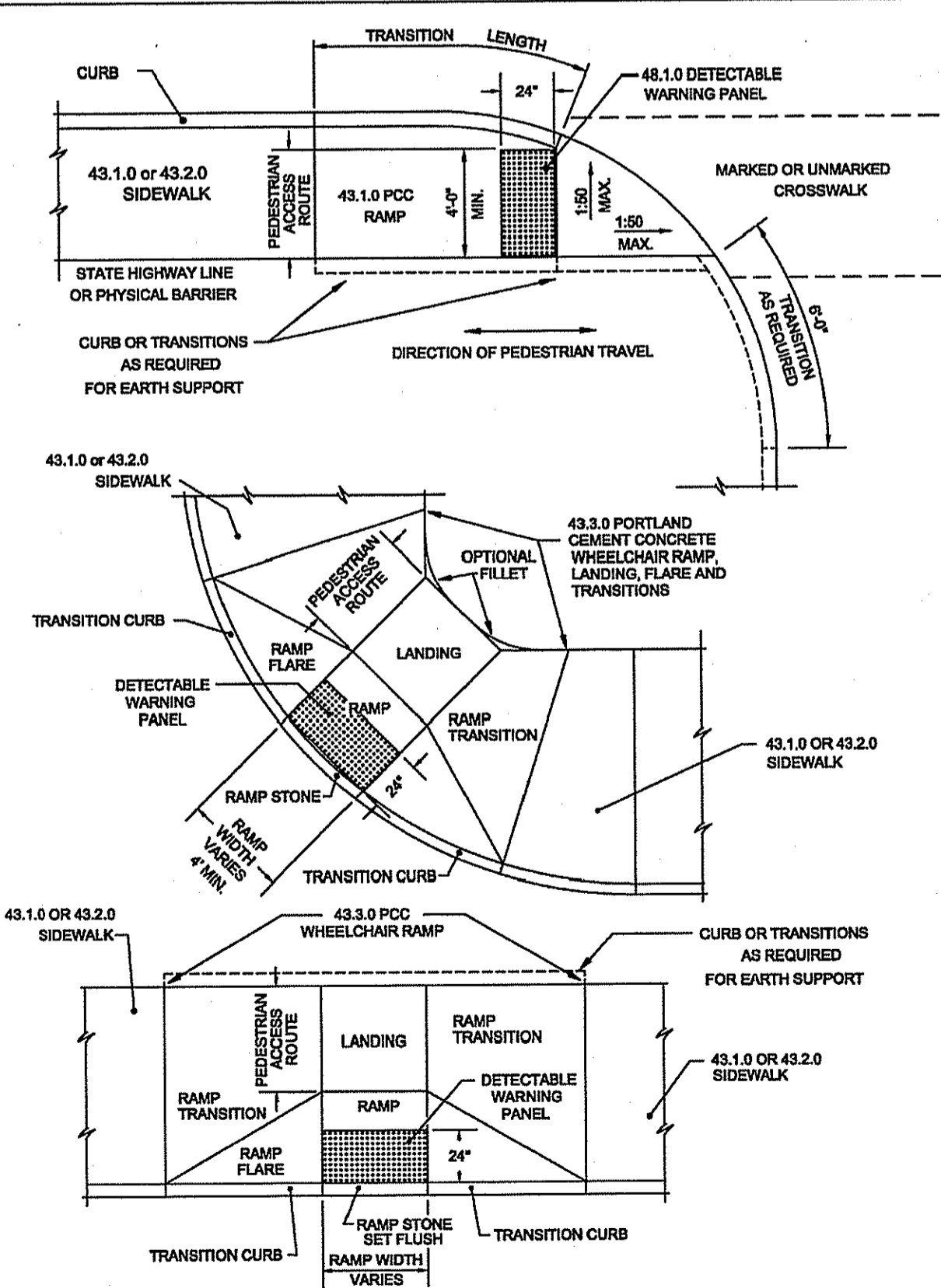
RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
CEMENT CONCRETE SIDEWALK  
JUNE 15, 1998  
R.I. STANDARD 43.1.0



REVISIONS

NO.	BY	DATE
1	MLP	04/03/09
2	MLP	10/09/09
3	MLP	09/20/12

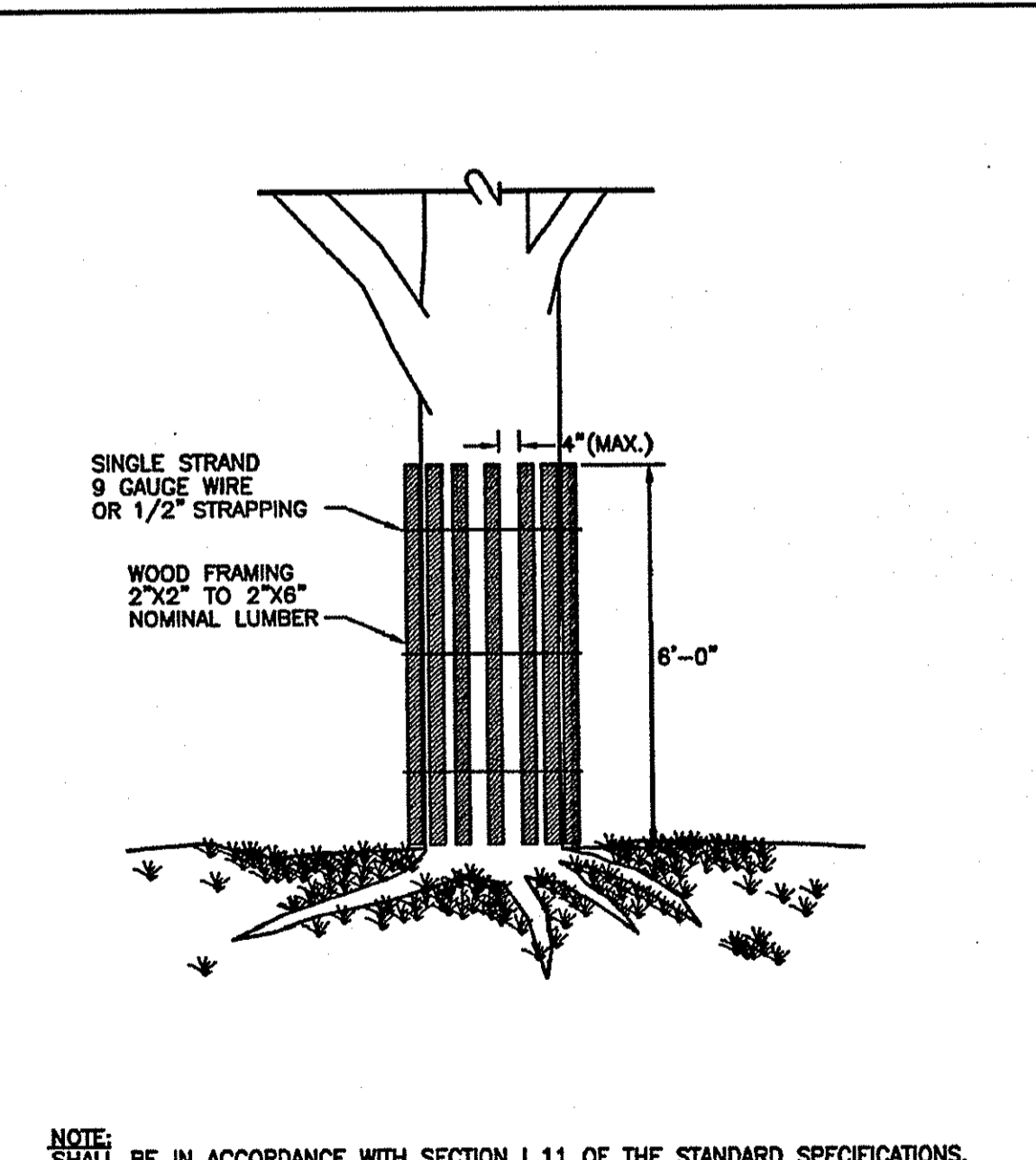
RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
WHEELCHAIR RAMP  
JUNE 15, 1998  
R.I. STANDARD 43.3.0



REVISIONS

NO.	BY	DATE
1	MLP	10/20/05
2	MLP	10/20/05
3	MLP	09/20/12

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
DETECTABLE WARNING PANEL PLACEMENT  
JUNE 15, 1998  
R.I. STANDARD 48.1.0

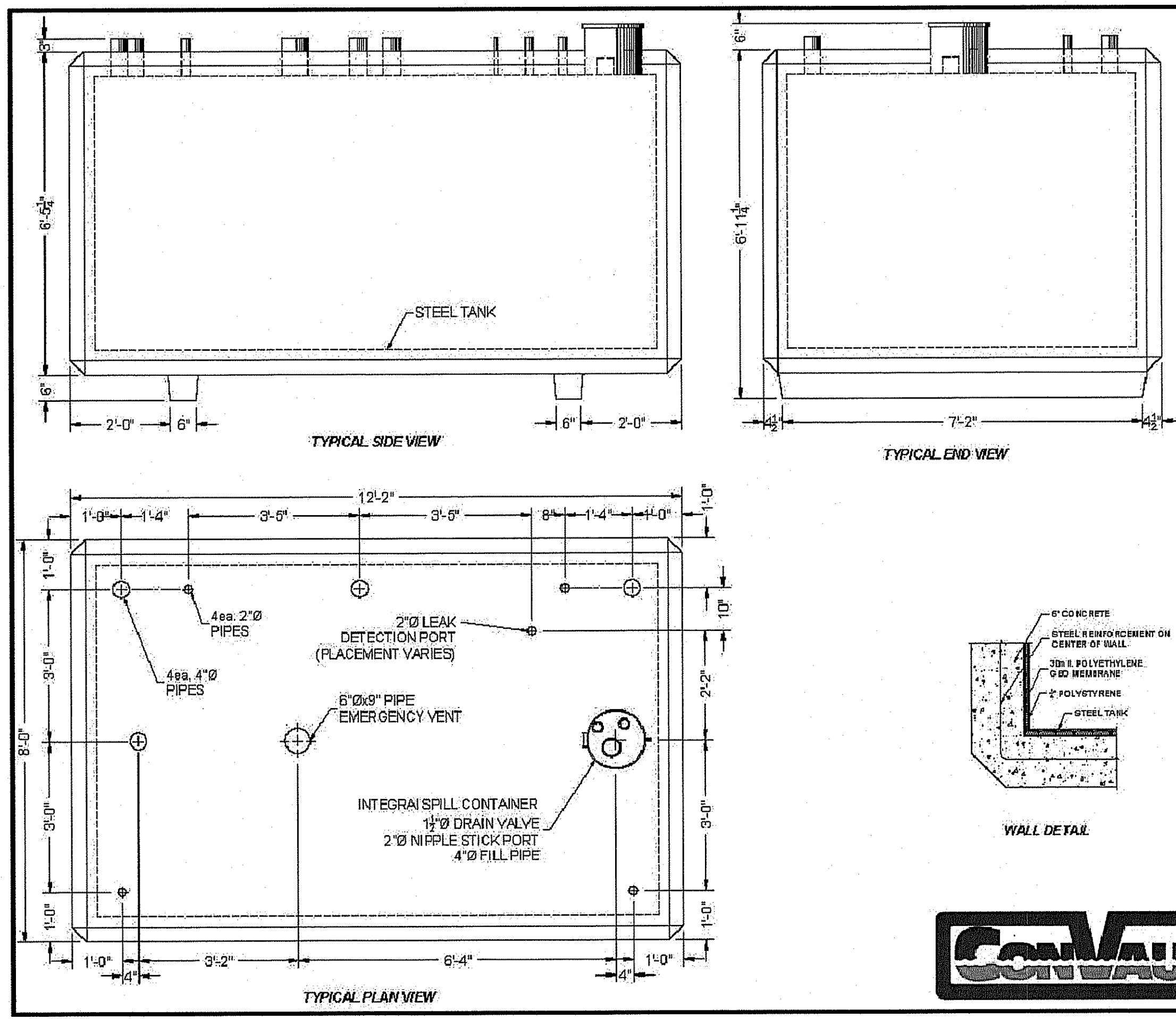


REVISIONS

NO.	BY	DATE
1	MLP	04/03/09
2	MLP	10/09/09
3	MLP	09/20/12

RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
TREE PROTECTION DEVICE  
JUNE 15, 1998  
R.I. STANDARD 51.1.0

DRAWING NUMBER  
**C9.7**  
SHEET: 23 OF 29



- NOTES:**
1. STEEL TANK SHALL BE ULL-142 LISTED FOR ABOVE GROUND STORAGE OF FLAMMABLE LIQUIDS.
  2. STEEL TANK SKIN SHALL BE 3/16\"/>

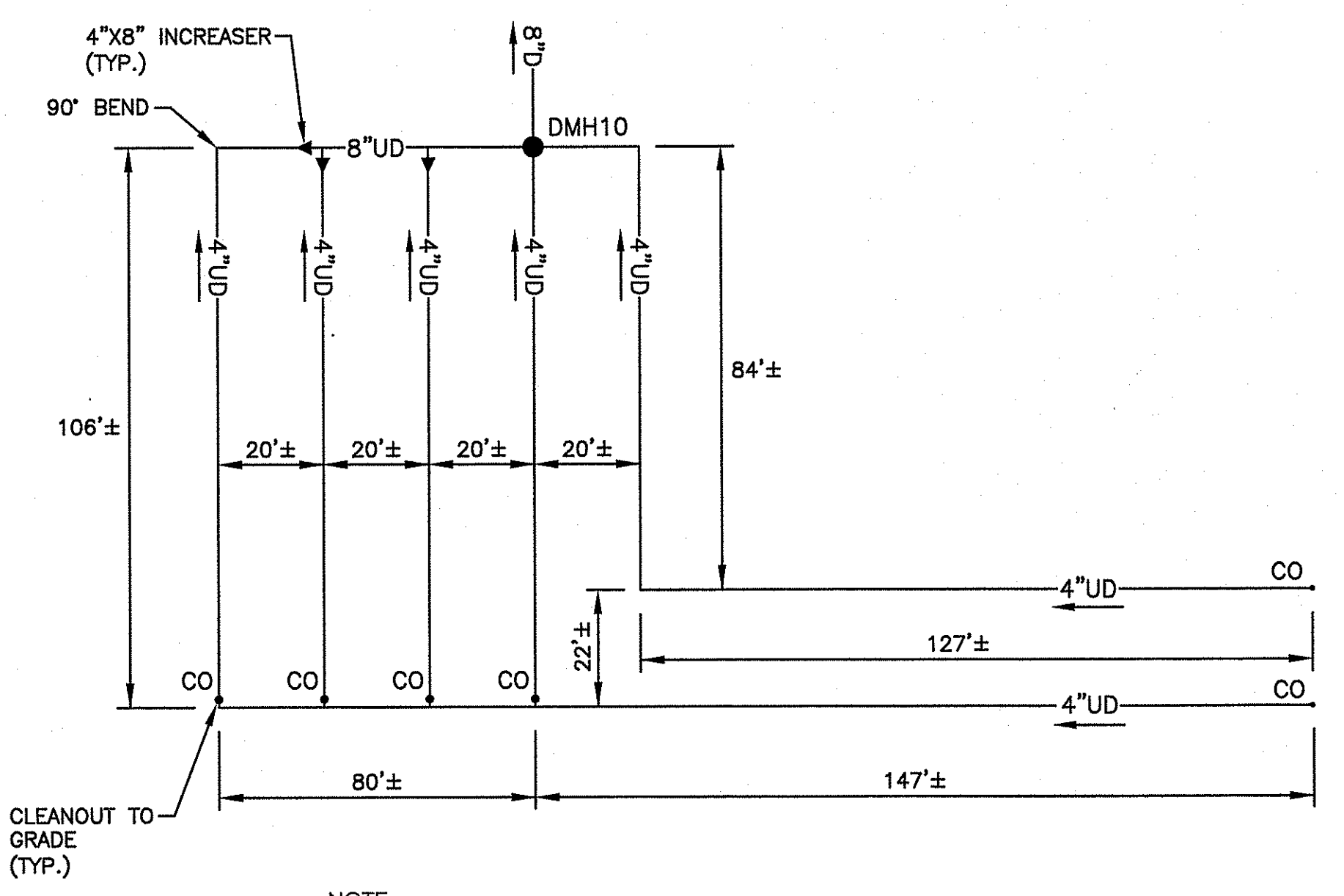
**WALL DETAIL**

**CONVAULT STORAGE TANK**

2085 Listed "Protected" Type

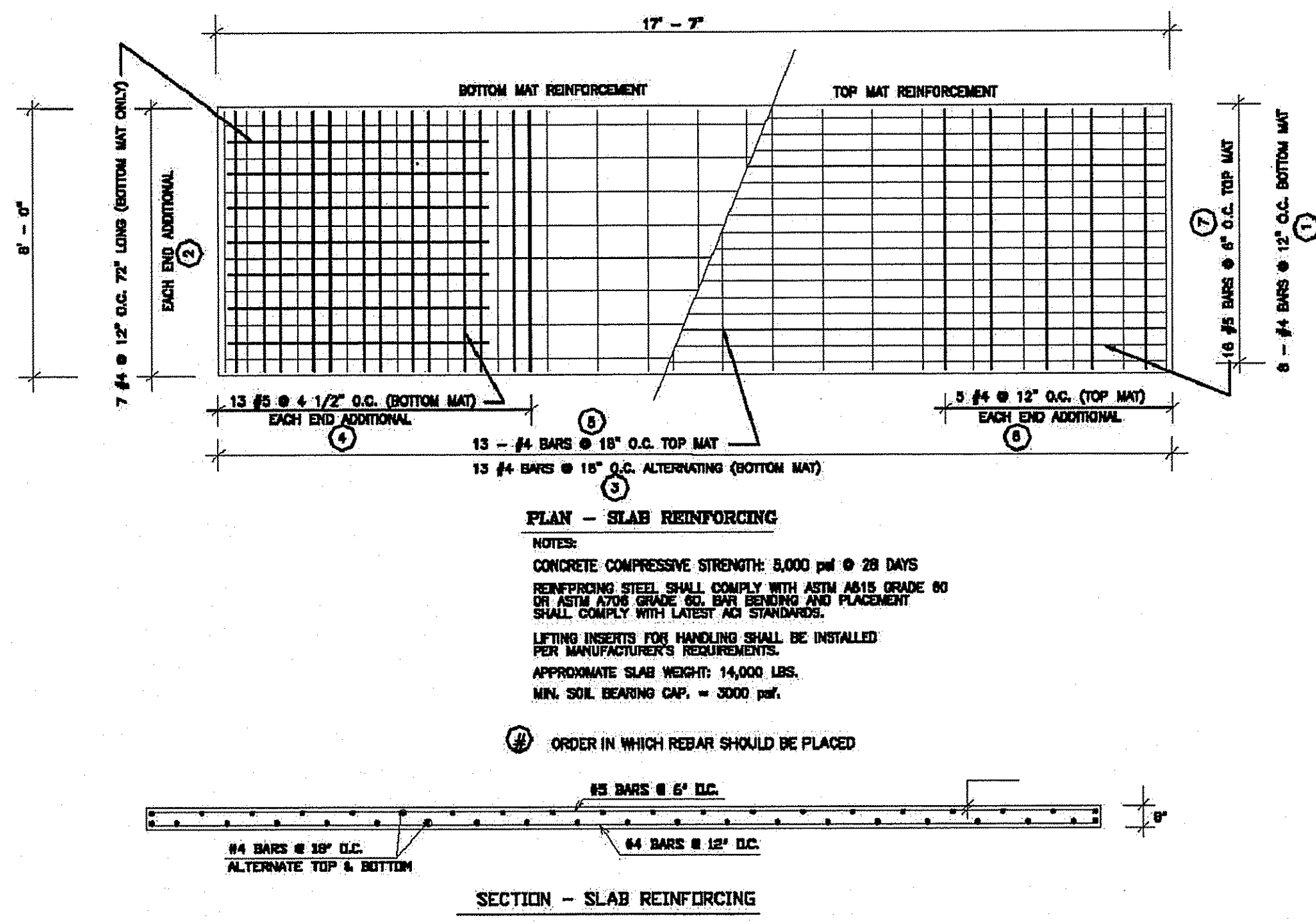
**Oldcastle Precast**  
1.888.665.2227

**BASE BUILDING TANK NO.1-  
ABOVE GROUND OIL STORAGE TANK DETAIL**  
NOT TO SCALE



**NOTE:**  
REFER TO UNDERDRAIN DETAIL ON DRAWING C9.2 FOR TRENCH AND PIPE DETAILS.

**LAYOUT OF 4 INCH DIAMETER  
UNDER-DRAINAGE SYSTEM**  
NOT TO SCALE

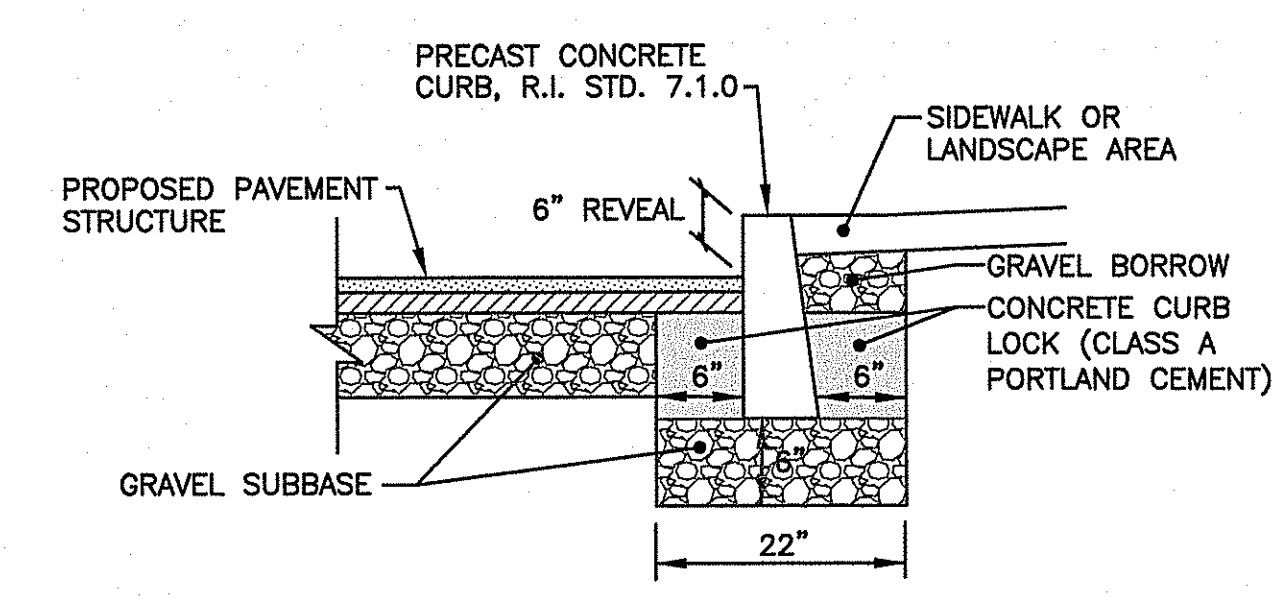
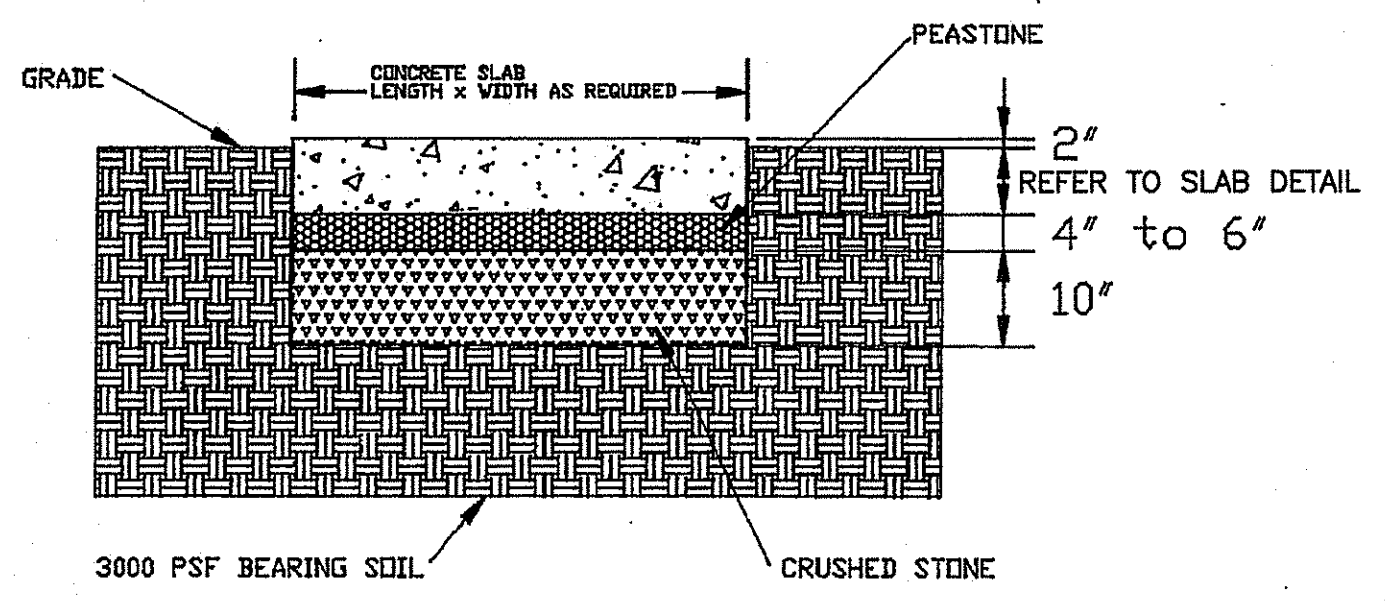


**SLAB DETAILS  
FOR  
CONVAULT  
3,000 & 4,000 GALLON TANK**  
UNITED CONCRETE PRODUCTS, INC.  
173 CHURCH STREET  
YALESVILLE, CT  
(203) 269-3119  
(203) 265-4941 FAX

**BASE BUILDING TANK NO.1-  
ABOVE GROUND OIL STORAGE TANK  
SLAB DETAILS**  
NOT TO SCALE

**RECOMMENDED SITE PREPARATION REQUIREMENTS FOR CONVAULT CONCRETE SLABS**

1. EXCAVATE TOPSOIL DOWN TO 3000 PSF BEARING SOIL
2. INSTALL 10\"/>



**NOTE:** CAST-IN-PLACE CONCRETE MAY BE UTILIZED

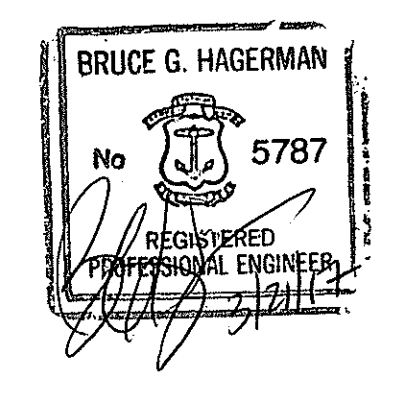
**TYPICAL PRECAST CONCRETE  
CURB INSTALLATION WITHIN PARKING AREAS**  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 12 2017 FILE # 16-0306  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Myartia D. Senek*

**Crossman Engineering**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-6660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
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**PROJECT TITLE:**  
**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

**PREPARED FOR:**  
**TOWN OF BURRILLVILLE  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES**  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**DRAWING TITLE:**  
**MISCELLANEOUS  
DETAILS PLAN NO. 8**

**DATE:** FEBRUARY 27, 2017  
**SCALE:** AS NOTED  
**DWG. NAME:** 2118-24-DET08 CON.dwg

**REVISIONS**

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

**DRAWING NUMBER**  
**C9.8**  
SHEET: 24 OF 29

**GENERAL WATER NOTES:**

1. ALL INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CURRENT RULES AND REGULATIONS OF THE HARRISVILLE FIRE DISTRICT, 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 CLASS 52 (AMERICAN MANUFACTURER ONLY) AND SHALL MEET THE REQUIREMENTS OF HARRISVILLE FIRE DISTRICT AND ANSI/AWWA C151/A21.51.
4. CONSTRUCTION SHALL INCLUDE ALL PIPE, JOINTS, BENDS, TEES, FITTINGS, THRUST BLOCKS, GATE VALVES, GATE BOXES, 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 MECHANICAL RESTRAINED JOINT PIPE MAY BE UTILIZED.
6. PRESSURE AND LEAKAGE TESTS AND DISINFECTING PIPES SHALL BE PERFORMED BY THE CONTRACTOR IN CONFORMANCE TO HARRISVILLE FIRE DISTRICT REQUIREMENTS, AMERICAN WATER WORKS ASSOCIATION (AWWA) RECOMMENDATIONS, AND GOVERNMENTAL AGENCIES HAVING JURISDICTION. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS SET FORTH IN THE RULES AND REGULATIONS OF THE HARRISVILLE FIRE DISTRICT.
7. ALL GATE VALVES, FITTINGS, PIPE, JOINTS, ETC. SHALL BE DESIGNED FOR 1.5 TIMES WORKING PRESSURE BUT NOT LESS THAN 150 PSI.
8. WATER PIPE SHALL BE LOCATED AT A DEPTH OF COVER EQUAL TO 5'-0". A MINIMUM OF 10'-FEET HORIZONTAL OR 18-INCH VERTICAL SEPARATION SHALL BE MAINTAINED IN THE PLACEMENT OF WATER MAINS, SERVICES, OR APPURTENANCES WITHIN THE VICINITY OF SEWER FACILITIES, OR VICE VERSA. WHERE THE ABOVE SEPARATION DISTANCES CANNOT BE ACHIEVED, THE SANITARY SEWER/STORM DRAIN PIPE SHALL BE ENCASED WITHIN A DUCTILE IRON CARRIER PIPE FOR A DISTANCE EQUAL TO 10'-FEET ON EITHER SIDE OF THE AREA OF CONCERN. CONCRETE ENCASEMENT IS NOT ALLOWED. UTILITY SEPARATION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE HARRISVILLE FIRE DISTRICT.
9. ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS GATE VALVE, PIPE, THRUST BLOCKS, FITTINGS, CASTINGS, ETC. SHALL BE SUBMITTED TO THE HARRISVILLE FIRE DISTRICT AND ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
10. WATER LINE TRENCH TO BE AWWA TYPE 5. COMPACTION MUST BE ACCOMPLISHED IN 6" LIFTS. A METALIZED DETECTABLE IDENTIFICATION TAPE 2.5" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE UTILIZED OVER ALL MAINS. TAPE SHALL BE SET AT APPROXIMATELY 1'-0" BELOW FINISHED GRADE.
11. GATE VALVES TO BE AMERICAN DARLING RESILIENT VALVE SEAT MODEL CRS-80 OR AN APPROVED EQUAL.
12. CURB BOXES TO BE ERIC STYLE OR AN APPROVED EQUAL.
13. FIRE HYDRANTS TO BE AMERICAN DARLING B-84-B OR AN APPROVED EQUAL.
14. DOMESTIC WATER SERVICE PIPE SHALL BE COPPER TYPE K AND SHALL MEET THE REQUIREMENTS OF THE HARRISVILLE FIRE DISTRICT AND ANSI/AWWA C151/A21.51. THE SERVICE PIPE SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH FROM THE MAIN TO THE BUILDING.
15. THE FINAL LOCATIONS FOR ALL INTERIOR PIPING, BACK FLOW PREVENTORS AND VALVES SHALL BE VERIFIED WITH THE PLUMBING AND FIRE SPRINKLER SYSTEM SUB-CONTRACTORS.
16. THE MANUFACTURER AND MODEL OF BACK FLOW PREVENTORS ARE TO BE VERIFIED BY THE APPROPRIATE PLUMBING AND FIRE SPRINKLER SUB-CONTRACTORS; AND MUST BE APPROVED FOR USE BY THE HARRISVILLE FIRE DISTRICT PRIOR TO ORDERING.
17. AS-BUILT DRAWINGS MUST BE FURNISHED BY THE CONTRACTOR TO, AND APPROVED BY, HARRISVILLE FIRE DISTRICT PRIOR TO WATER SERVICE ACTIVATION.
18. THE CONTRACTOR MUST INSTALL TEMPORARY BLOW-OFFS AT ALL DEAD-ENDS INSIDE THE PROPOSED BUILDING. THE BLOW-OFFS ARE TO BE USED FOR FLUSHING AND SAMPLES. THE CONTRACTOR MUST FLUSH THE FIRE LINE TO EACH BUILDING USING A 4-INCH TEMPORARY FLUSHING CONNECTION.
19. ALL VALVES MUST OPEN RIGHT.
20. WATER UTILIZED FOR DISINFECTION, PRESSURE TESTING AND FLUSHING WHICH IS OBTAINED DIRECTLY FROM THE HARRISVILLE FIRE DISTRICT SYSTEM, MUST FLOW THROUGH AN ISOLATED CONNECTION TO THE HARRISVILLE FIRE DISTRICT SYSTEM VIA AN APPROVED METER, TESTABLE BACK FLOW PREVENTION DEVICE AND JUMPER LINE.
21. THE CONTRACTOR SHALL FURNISH AND INSTALL SUITABLE TEMPORARY TESTING PLUGS, CAPS, PUMPS, PIPE CONNECTIONS, AND OTHER APPURTENANCES, AS NECESSARY, TO OBTAIN SAMPLES AT POINTS NO FURTHER THAN 1,000 FEET APART.
22. ANY CONFLICTS ENCOUNTERED DURING CONSTRUCTION MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONTINUING WORK.

**WATER SERVICE NOTE:**

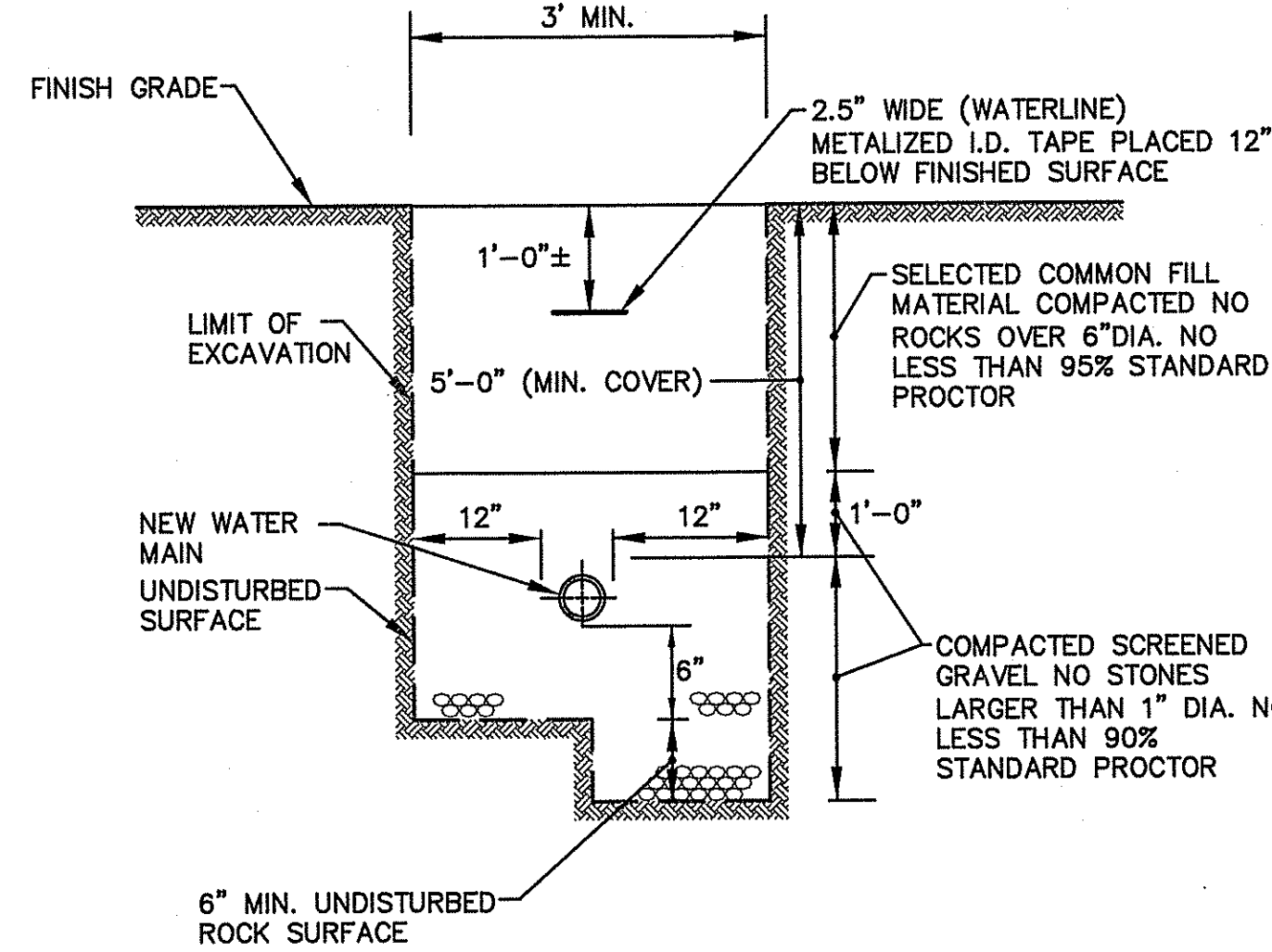
ANY CONFLICT WITH THE PROPOSED WATER SYSTEM MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ANY CONSTRUCTION.

**GENERAL NOTES**

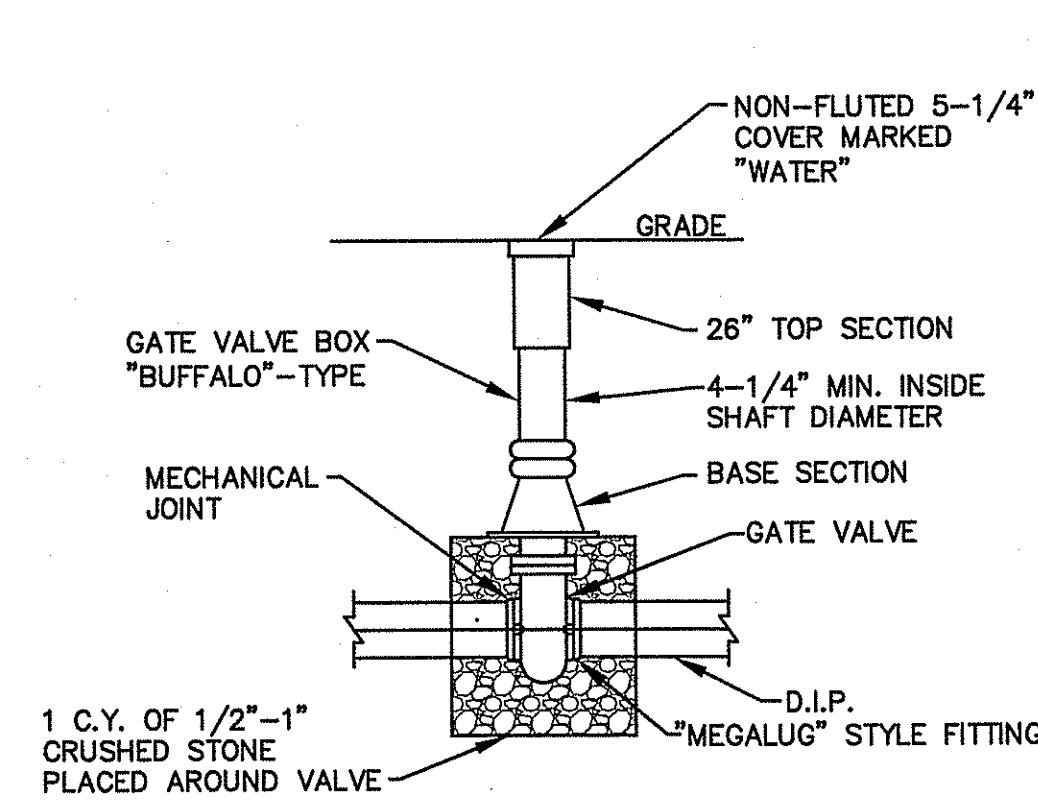
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT PRIOR TO THE INITIATION OF WORK. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS, RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.
2. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY WORK.
3. ALL DISTURBED AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.

**CONSTRUCTION NOTES**

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ANY SITE EXCAVATION. THE COORDINATION IS NECESSARY FOR THE ENGINEER TO SCHEDULE SITE INSPECTIONS AS REQUIRED.
2. THE CONTRACTOR SHALL NOTIFY THE HARRISVILLE FIRE DISTRICT PRIOR TO BACKFILLING ANY PIPING, VALVES, TEES, ETC. FOR INSPECTION AND APPROVAL. FAILURE TO NOTIFY THE HARRISVILLE FIRE DISTRICT MAY RESULT IN THE WORK BEING EXCAVATED FOR INSPECTION AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR IS REQUIRED TO MAINTAIN DETAILED AS-BUILT INFORMATION FOR ALL UTILITY INSTALLATION. AS-BUILT INFORMATION INCLUDES MATERIAL LIST, PIPE DEPTH NOTATIONS AND SWING TIE LOCATIONS (2 MINIMUM) NEW PIPE TO BUILDING CORNERS. ALL PIPE BEND/ELBOW LOCATIONS SHALL BE DIMENSIONED.

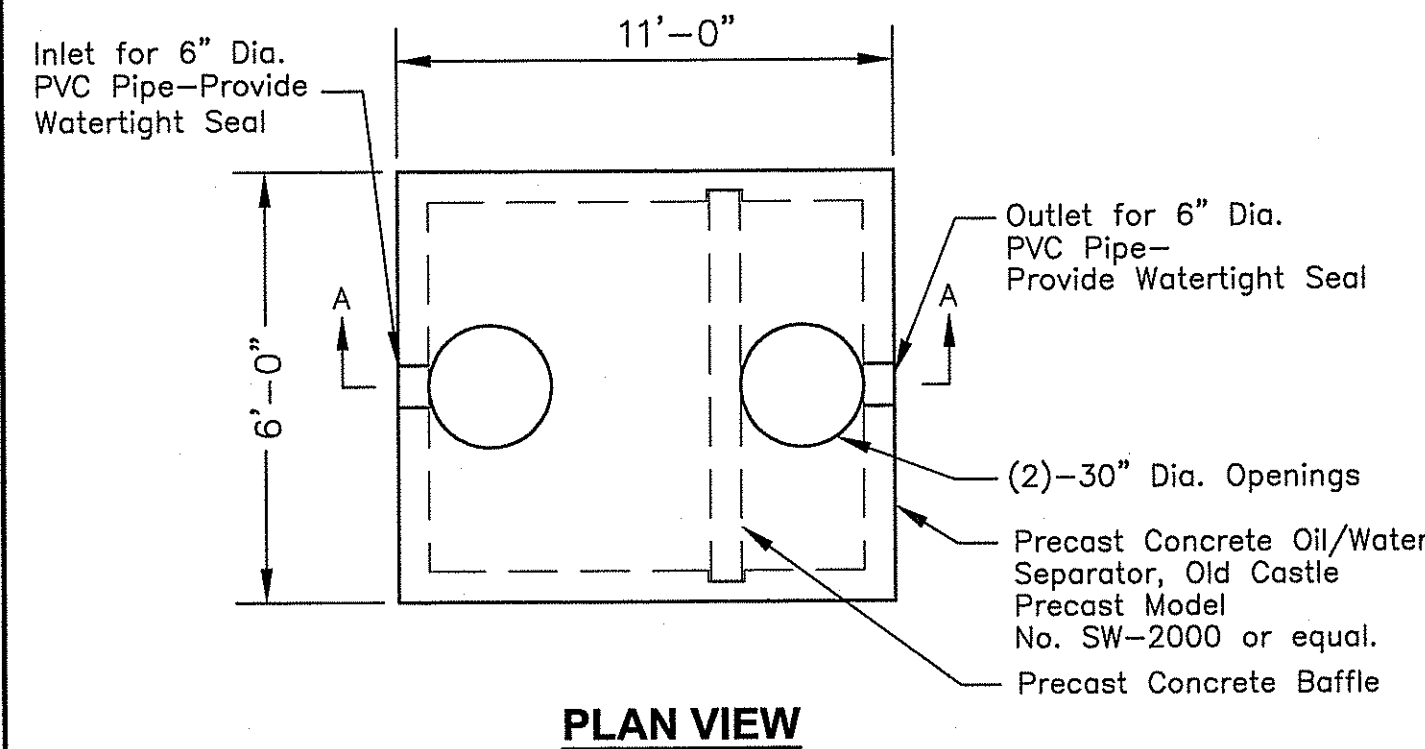


**WATER TRENCH DETAIL**  
NOT TO SCALE

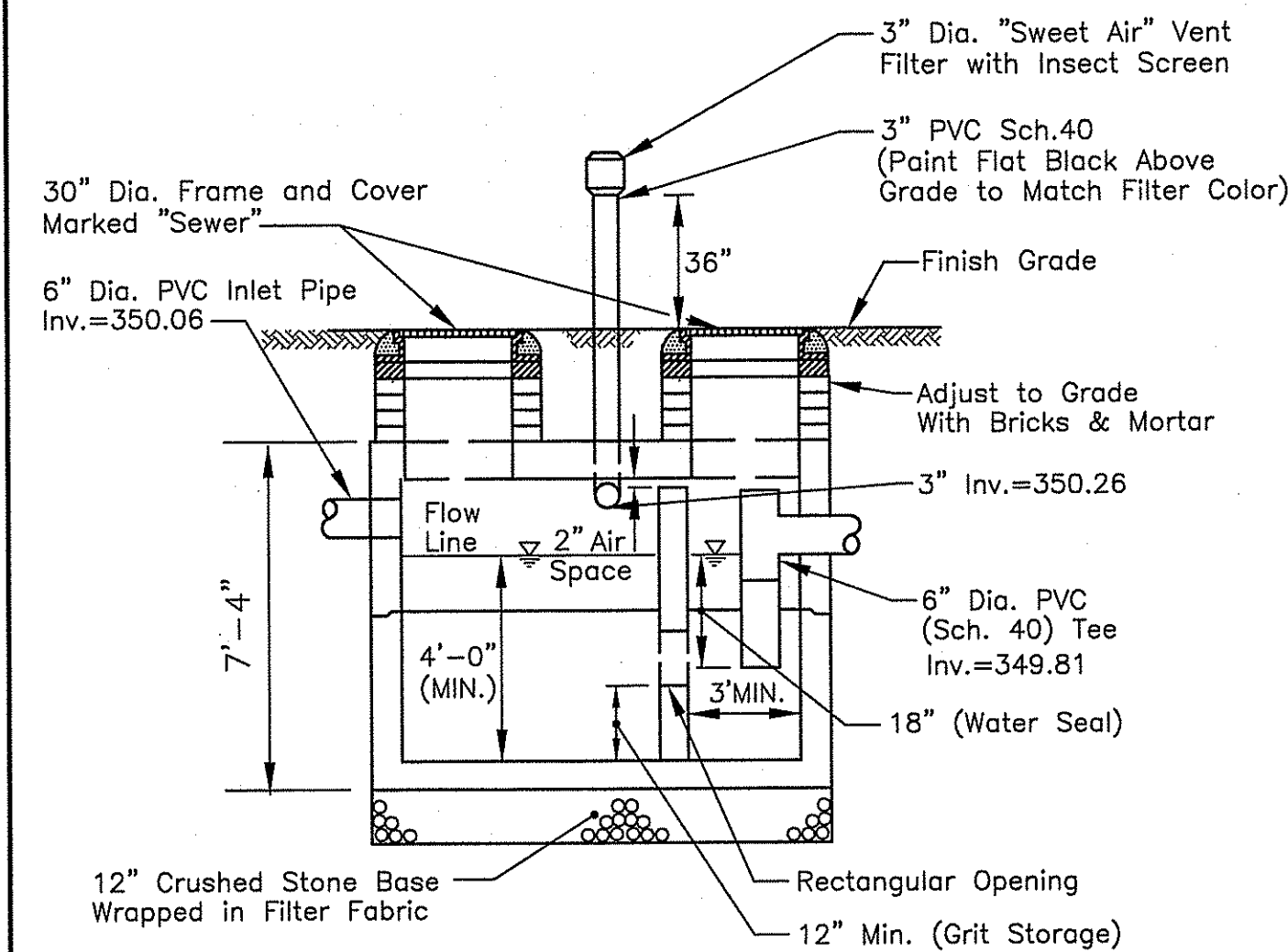


**NOTE:**  
ELEVATION  
WRAP CRUSHED STONE WITH 4 OZ. NON-WOVEN GEOTEXTILE FABRIC BEFORE FILLING EXCAVATION.

**TYPICAL WATER GATE BOX INSTALLATION**  
NOT TO SCALE



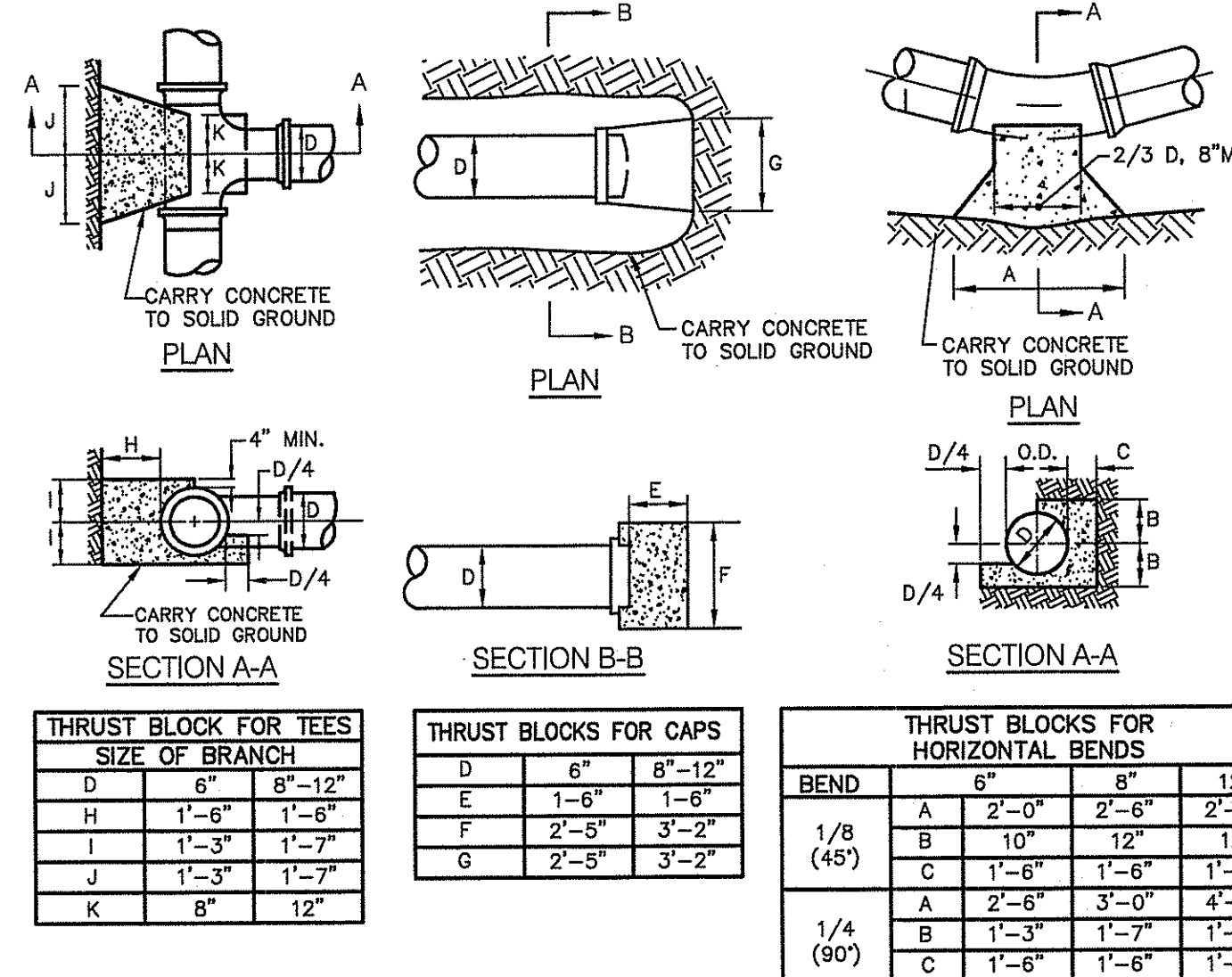
**PLAN VIEW**



**SECTION A-A**

**OIL/WATER SEPARATOR TANK SIZING FOR INTERIOR TRENCH DRAINS:**  
 -TRENCH DRAIN WATERSHED AREA = 21,500 SF  
 -REQUIRED OIL/WATER SEPARATOR TANK VOLUME PER IBC 1003 FOR OIL/WATER SEPARATORS  
 = (21,400 SF X 1 CF/100 SF) + 6 CF = 220 CF = 1,646 GALLONS.  
 -PROPOSED OIL/WATER SEPARATOR TANK SIZE = 2,000 GALLONS.

**2,000 GALLON OIL/WATER SEPARATOR DETAIL**  
NOT TO SCALE



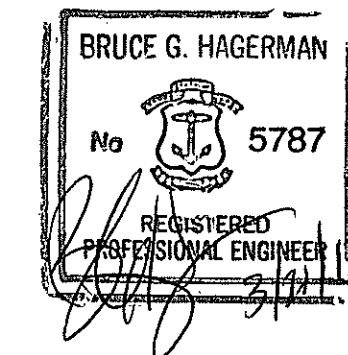
**THRUST BLOCKS FOR CAPS, TEES AND HORIZONTAL BENDS**  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED APR 12 2017 FILE # 16-0306  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Senesek*

**Crossman Engineering**  
 Rhode Island: 151 Warwick Road, Warwick, RI 02886  
 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02783  
 Phone: (401) 738-5660 Phone: (508) 695-1700  
 Email: col@crossmaneng.com

THESE DRAWINGS ARE THE PROPERTY OF CROSSMAN ENGINEERING AND HAVE BEEN PREPARED FOR THEIR CLIENT FOR A SPECIFIC SITE AND PROJECT. THESE DRAWINGS ARE NOT TO BE COPIED OR USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF CROSSMAN ENGINEERING.



**PROJECT TITLE:**  
**PROPOSED PUBLIC WORKS FACILITY**  
 151 CLEAR RIVER DRIVE  
 A.P. 161, LOTS 6 & 15  
 A.P. 178, LOT 5  
 BURRILLVILLE, RHODE ISLAND

**PREPARED FOR:**  
  
**TOWN OF BURRILLVILLE**  
 DEPARTMENT OF PUBLIC WORKS  
 AND ENGINEERING SERVICES  
 65 UNION AVENUE  
 HARRISVILLE, RI 02830

**DRAWING TITLE:**  
 MISCELLANEOUS  
 DETAILS PLAN NO. 9

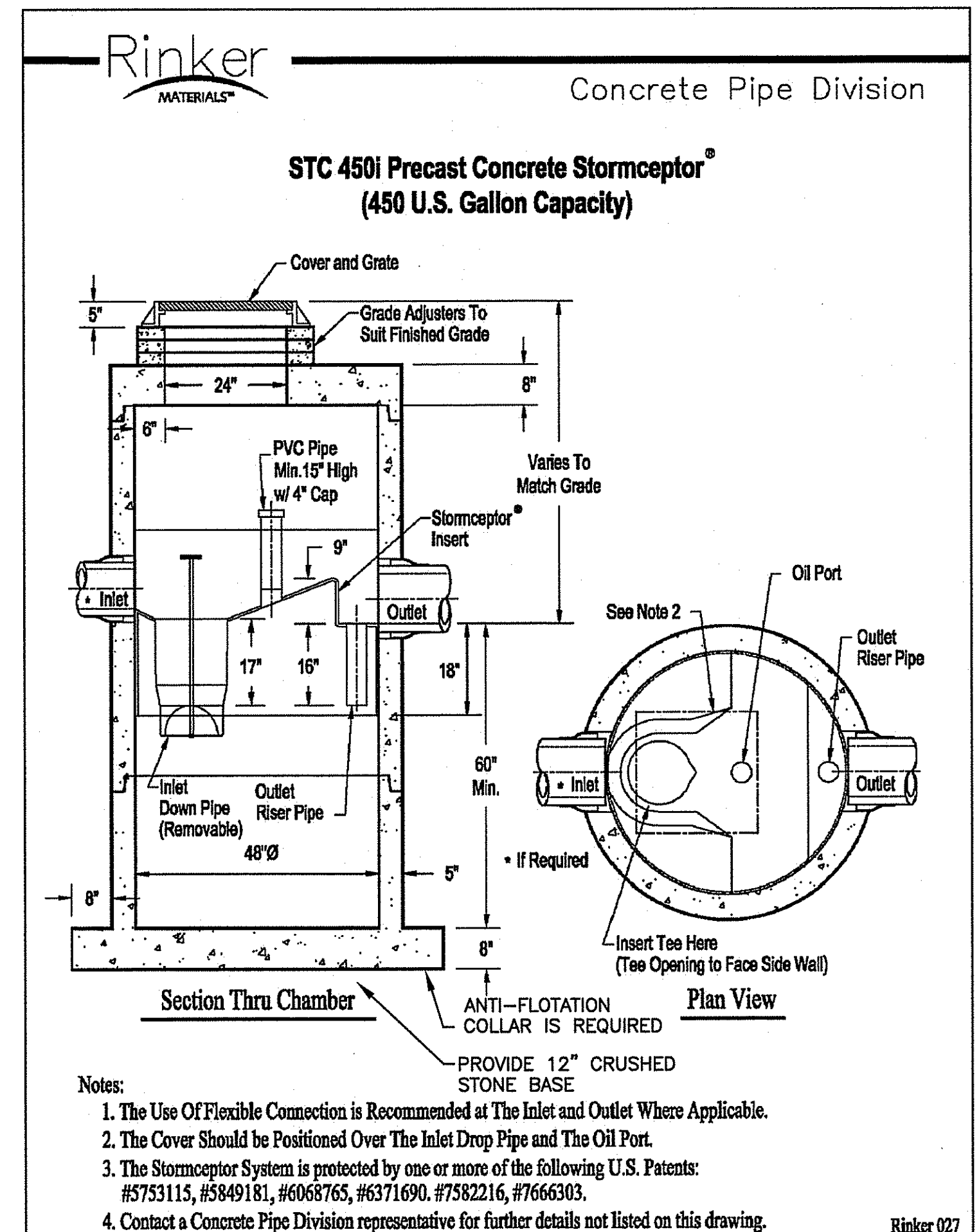
**DATE:** FEBRUARY 27, 2017 **SCALE:** AS NOTED  
**DWG. NAME:** 2118-25-DET09 CON.dwg

**REVISIONS**

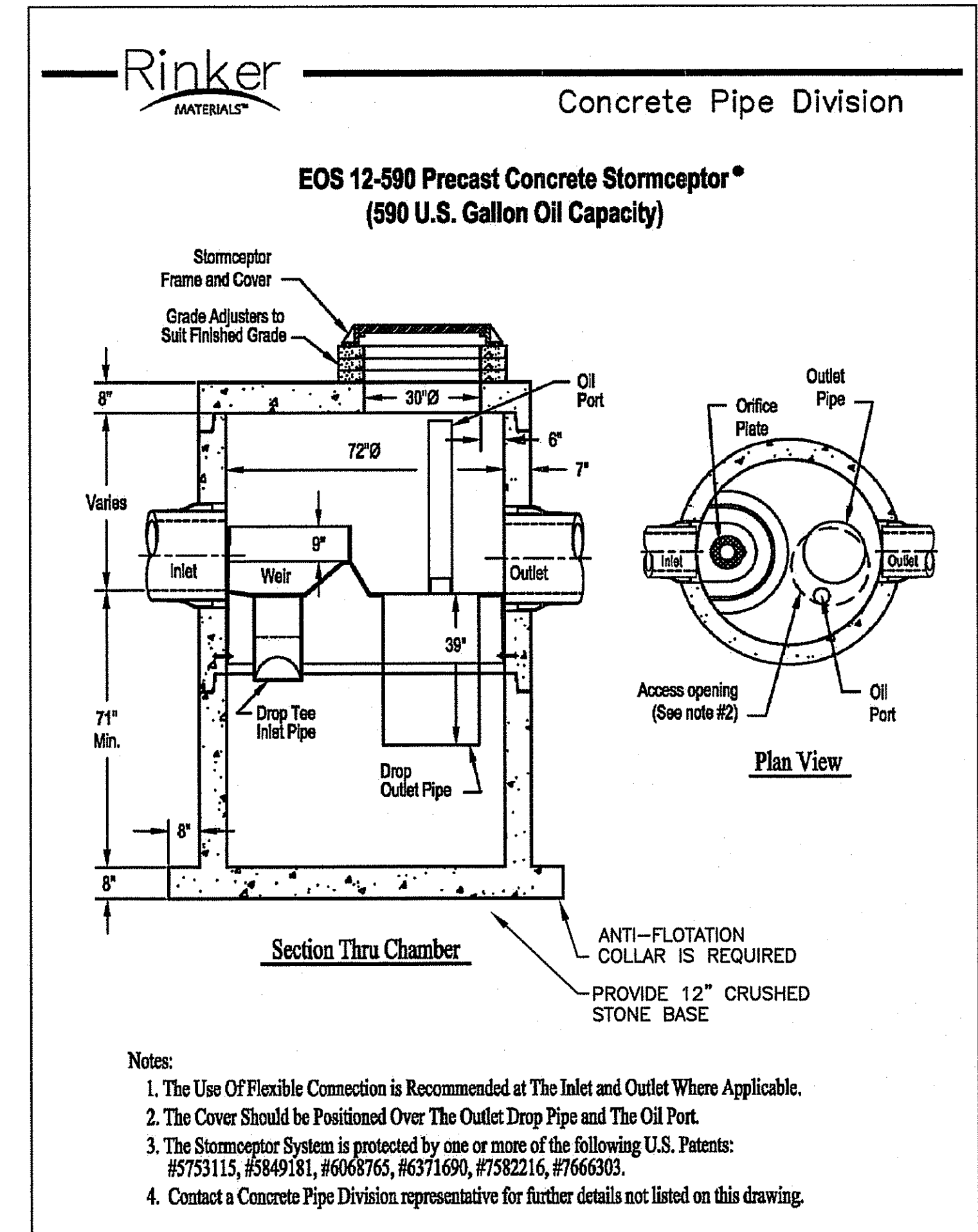
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/17/17

**DRAWING NUMBER**  
**C9.9**  
 SHEET: 25 OF: 29





**BMP-1 STORMWATER TREATMENT CHAMBER STC-1 DETAIL**  
NOT TO SCALE



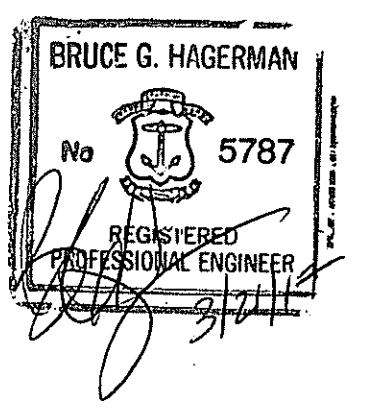
**BMP-3 AND BMP-9 STORMWATER TREATMENT CHAMBER STC-2 AND STC-3 DETAIL**  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 12 2017 FILE # 16-0306  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Wencek*

**CROSSMAN ENGINEERING**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
Email: cel@crossmaneng.com

THESE DRAWINGS ARE THE PROPERTY OF CROSSMAN ENGINEERING AND HAVE BEEN PREPARED FOR THEIR CLIENT FOR A SPECIFIC SITE AND PROJECT. THESE DRAWINGS ARE NOT TO BE COPIED OR USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF CROSSMAN ENGINEERING.



**PROPOSED PUBLIC WORKS FACILITY**  
151 CLEAR RIVER DRIVE  
A.P. 161, LOTS 6 & 15  
A.P. 178, LOT 5  
BURRILLVILLE, RHODE ISLAND

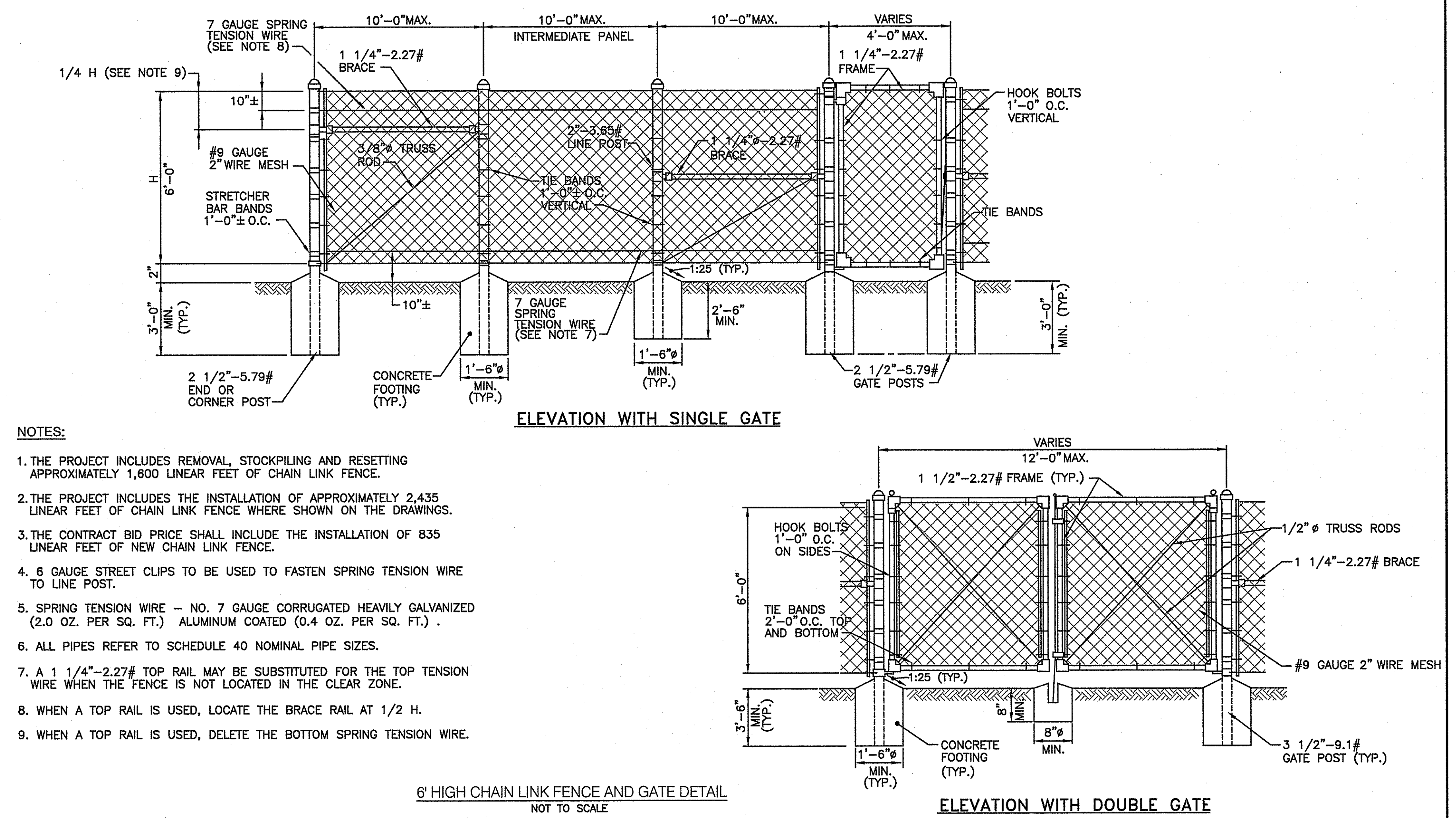
**TOWN OF BURRILLVILLE**  
DEPARTMENT OF PUBLIC WORKS  
AND ENGINEERING SERVICES  
65 UNION AVENUE  
HARRISVILLE, RI 02830

**MISCELLANEOUS DETAILS PLAN NO. 11**

DATE: FEBRUARY 27, 2017 SCALE: AS NOTED  
DWG. NAME: 2118-27-DET11 CON.dwg

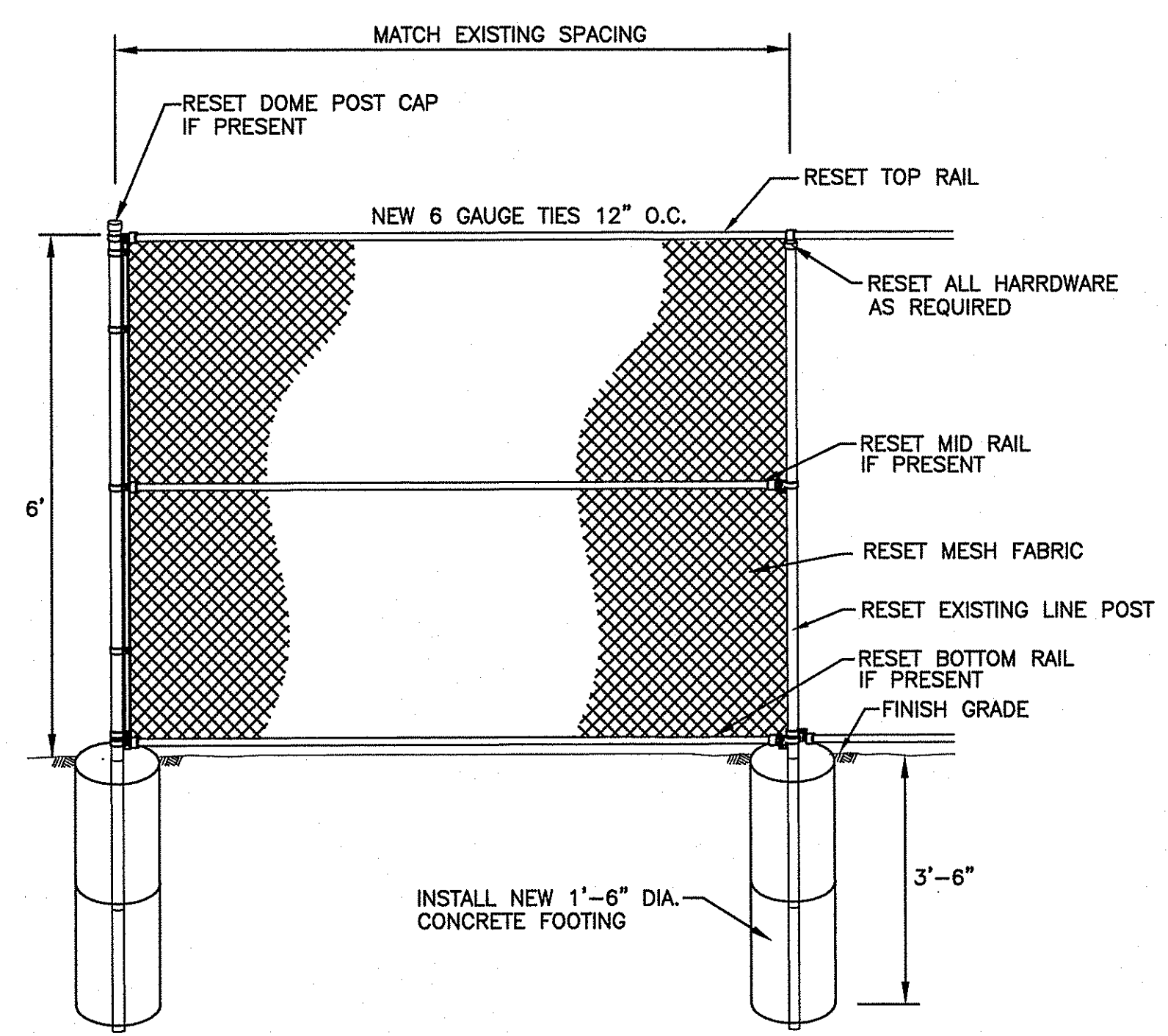
REVISIONS	NUMBER	REMARKS	DATE
1	1	RIDEM COMMENTS	3/17/17

DRAWING NUMBER  
**C9.11**  
SHEET: 27 OF 29



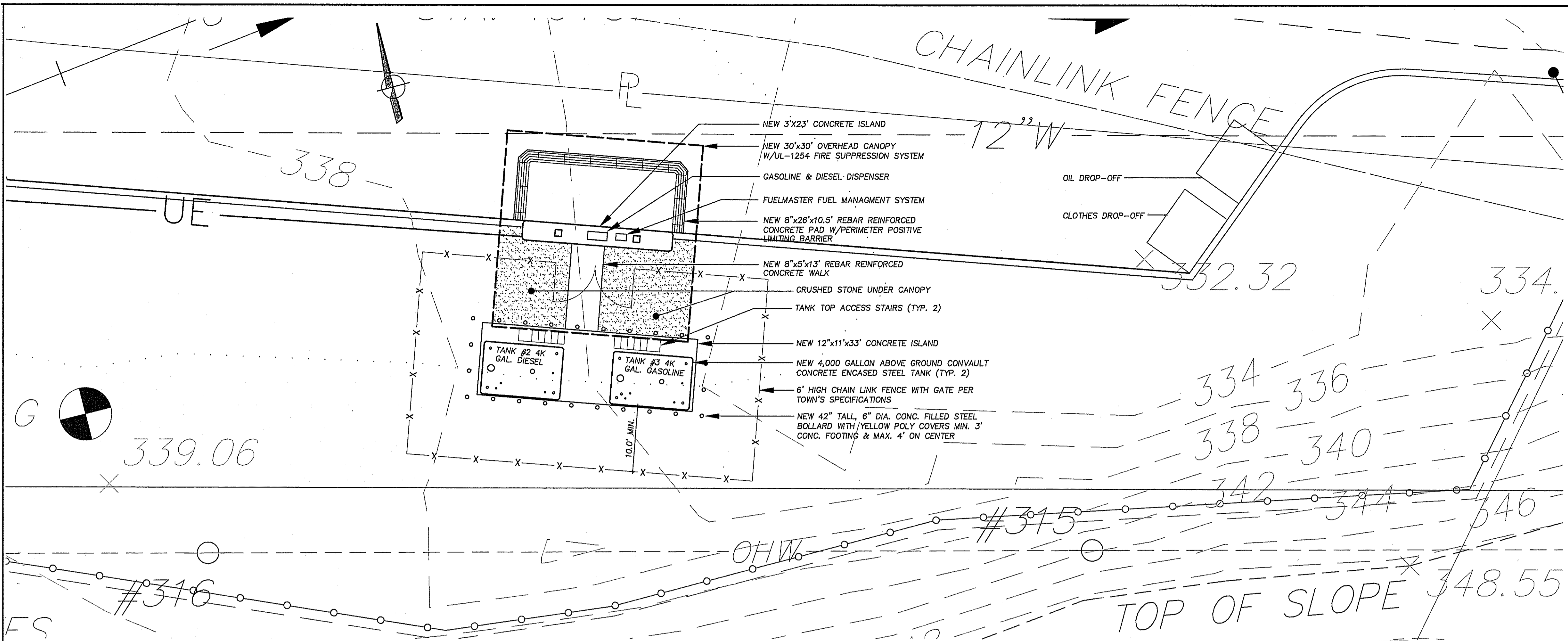
- NOTES:**
1. THE PROJECT INCLUDES REMOVAL, STOCKPILING AND RESETTING APPROXIMATELY 1,600 LINEAR FEET OF CHAIN LINK FENCE.
  2. THE PROJECT INCLUDES THE INSTALLATION OF APPROXIMATELY 2,435 LINEAR FEET OF CHAIN LINK FENCE WHERE SHOWN ON THE DRAWINGS.
  3. THE CONTRACT BID PRICE SHALL INCLUDE THE INSTALLATION OF 835 LINEAR FEET OF NEW CHAIN LINK FENCE.
  4. 6 GAUGE STREET CLIPS TO BE USED TO FASTEN SPRING TENSION WIRE TO LINE POST.
  5. SPRING TENSION WIRE - NO. 7 GAUGE CORRUGATED HEAVILY GALVANIZED (2.0 OZ. PER SQ. FT.) ALUMINUM COATED (0.4 OZ. PER SQ. FT.).
  6. ALL PIPES REFER TO SCHEDULE 40 NOMINAL PIPE SIZES.
  7. A 1 1/4"-2.27# TOP RAIL MAY BE SUBSTITUTED FOR THE TOP TENSION WIRE WHEN THE FENCE IS NOT LOCATED IN THE CLEAR ZONE.
  8. WHEN A TOP RAIL IS USED, LOCATE THE BRACE RAIL AT 1/2 H.
  9. WHEN A TOP RAIL IS USED, DELETE THE BOTTOM SPRING TENSION WIRE.

**6' HIGH CHAIN LINK FENCE AND GATE DETAIL**  
NOT TO SCALE



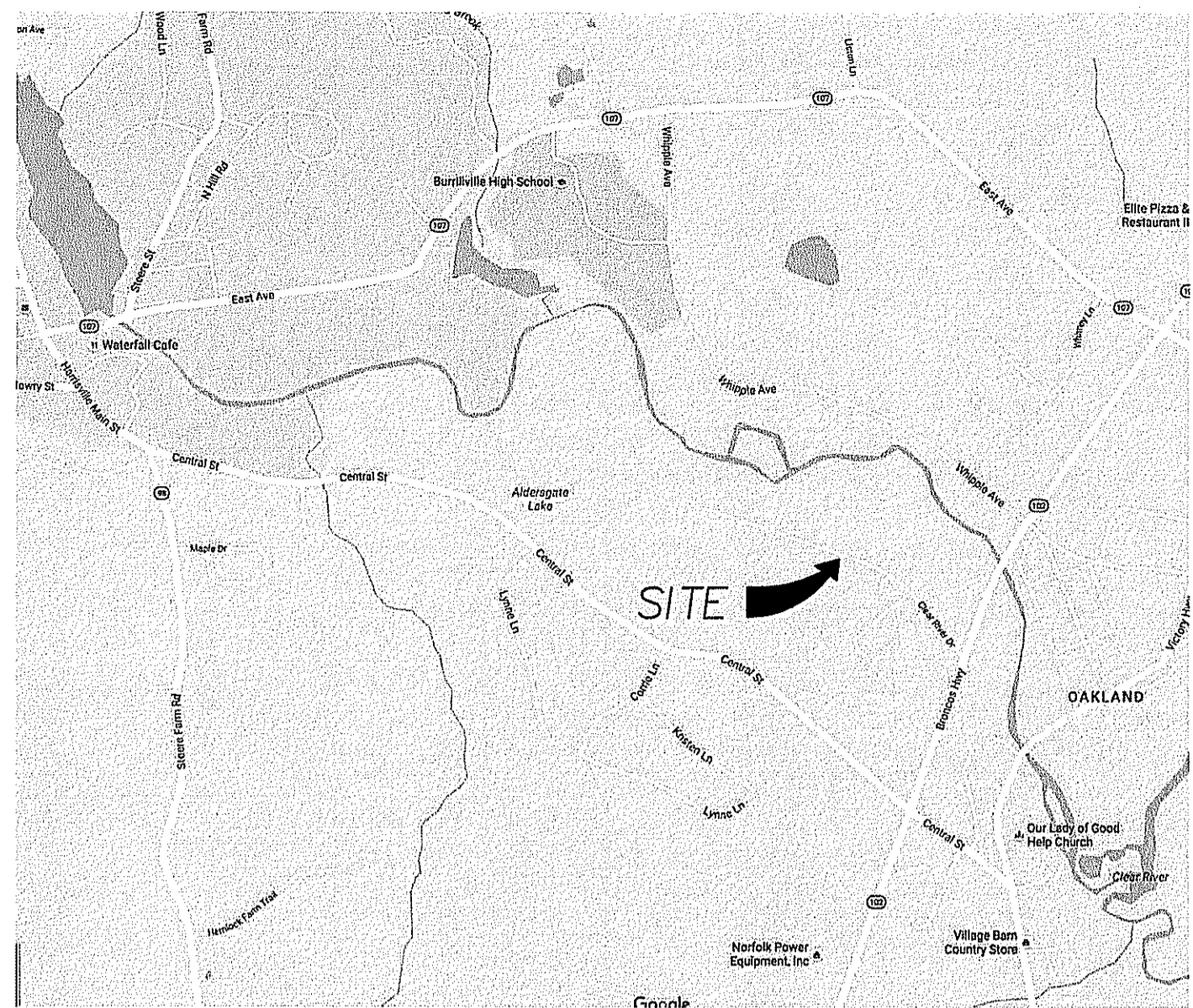
- NOTES:**
1. THE PROJECT INCLUDES REMOVAL, STOCKPILING AND RESETTING APPROXIMATELY 1,600 LINEAR FEET OF CHAIN LINK FENCE.
  2. THE CONTRACT BID PRICE SHALL INCLUDE ALL THE COMPONENTS, ACCESSORIES, FITTINGS, ANCHORAGES AND HARDWARE REQUIRED TO RESET THE EXISTING CHAIN LINK FENCE AS SHOWN ON THE DRAWINGS.

**6' HIGH CHAIN LINK FENCE RESETTING DETAIL**  
NOT TO SCALE



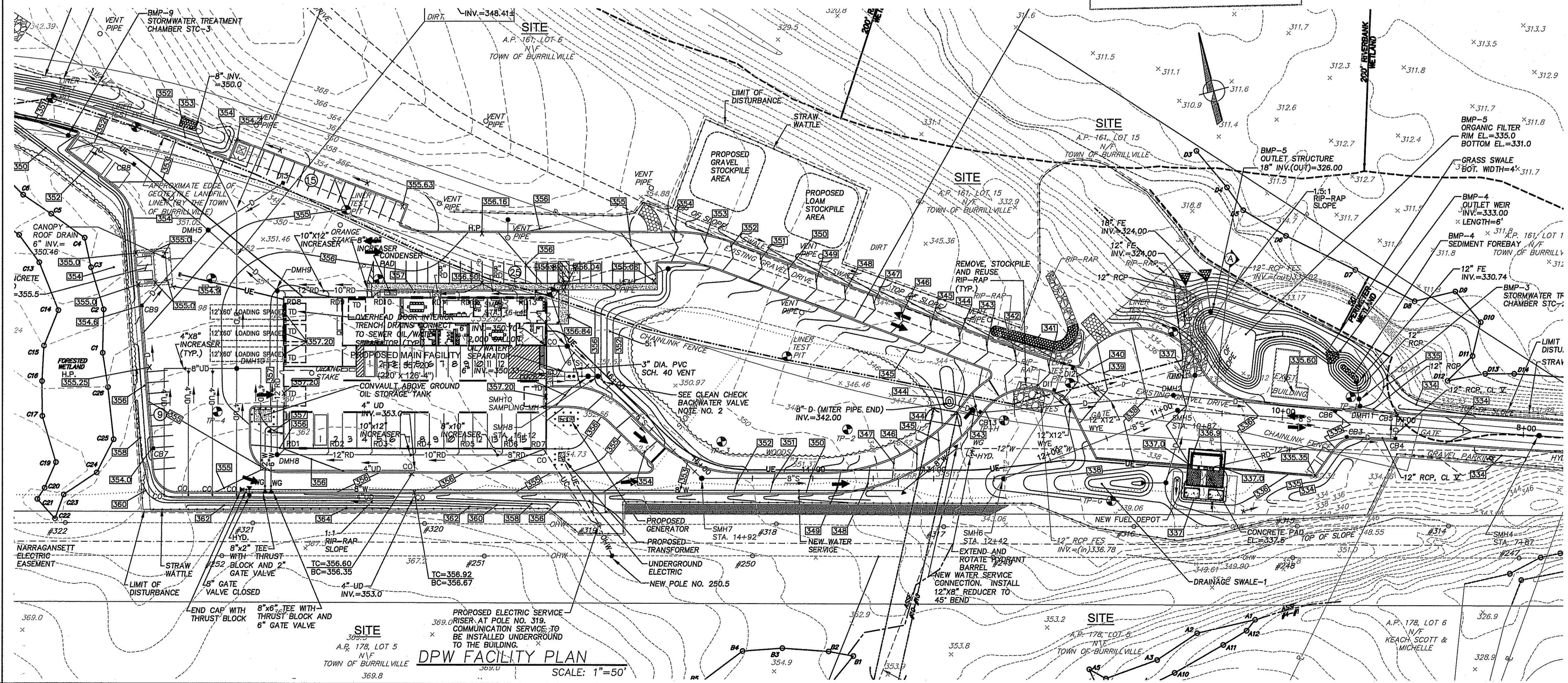
FUEL DEPOT PLAN  
SCALE: 1"=10'

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



SITE PLAN/LOCUS  
NOT TO SCALE

- GENERAL NOTES**
1. THIS PLAN & THE TANK DETAILS SHEET OUTLINES THE PROPOSED INSTALLATION OF (2) 4,000-GAL CONCRETE ENCASED STEEL ABOVE-GROUND STORAGE TANKS MEETING U.L. 142 FOR THE STORAGE OF DIESEL AND GASOLINE MOTOR FUELS (CLASS I AND II LIQUIDS). THIS FACILITY IS A MUNICIPAL FLEET MOTOR FUELING FACILITY AND WILL NOT BE OPEN TO THE GENERAL PUBLIC.
  2. ALL WORK WILL BE DONE IN ACCORDANCE WITH (IAW) ALL APPLICABLE LOCAL, STATE AND FEDERAL RULES, CODES, AND REGULATIONS INCLUDING RHODE ISLAND OIL POLLUTION CONTROL REGULATIONS, NFPA 30A MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES, THE PETROLEUM EQUIPMENT INSTITUTE RECOMMENDED PRACTICE FOR INSTALLATION OF ABOVEGROUND STORAGE SYSTEMS RP200-99, AND ALL APPLICABLE OSHA REQUIREMENTS.
  3. ALL WORK WILL BE DONE IAW MFR'S SPECS. SHOULD ANY SPECIFICATION CONFLICT WITH GOVERNING REGULATIONS, THE CONTRACTOR SHALL BRING SUCH CONFLICT TO THE ATTN OF THE OWNER AND DESIGN ENGINEER IMMEDIATELY.
  4. THE INSTALLATION CONTRACTOR WILL INSURE THAT ALL PERMITS ARE OBTAINED PRIOR TO STARTING THE INSTALLATION, INCLUDING APPROVAL FROM THE LOCAL FIRE MARSHAL, LOCAL BUILDING PERMIT (IF REQUIRED), LOCAL TRADE PERMITS FOR ELECTRICAL, ETC.. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL NECESSARY INSPECTIONS AND TESTING AS REQUIRED BY ANY PERMITTING AUTHORITIES.
  5. THE CONTRACTOR SHALL VISIT THE SITE AND CONFIRM EXISTG CONDITIONS, LOCATIONS OF EXISTING AND PROPOSED IMPROVEMENTS, AND ANY CONFLICTS WITH THE PROPOSED INSTALLATION.
  6. THE CONTRACTOR SHALL OBTAIN A DIG-SAFE APPROVAL PRIOR TO ANY EXCAVATION.
  7. ALL MONITORING EQUIPMENT WILL BE TESTED FOR PROPER OPERATION. SITE PERSONNEL WILL BE TRAINED BY THE CONTRACTOR ON THE PROPER OPERATION OF ALL MONITORING AND SAFETY EQUIPMENT ASSOCIATED WITH THE TANK INSTALLATION. OVERFILL ALARM WILL BE MAINTAINED AT 90% TANK CAPACITY AND THE OVERFILL FILL LIMITER WILL BE MAINTAINED AT NO GREATER THAN 95% TANK CAPACITY WHEN FULLY ENGAGED.
  8. ALL VENTING DEVICES WILL BE CHECKED TO INSURE PROPER OPERATION AND OVERALL INSTALLATION HEIGHT.
  9. THE SITE OPERATOR WILL INSPECT THE TANK AND RELATED EQUIPMENT AT LEAST MONTHLY FOR DEFICIENCIES IN THE EXTERIOR SURFACE, CRACKS, SIGNS OF WEAR, STRUCTURAL DAMAGE, ETC. AND FOR THE PROPER OPERATION OF ALL MONITORING AND SAFETY EQUIPMENT.
  10. NO PART OF THIS TANK WILL BE IN DIRECT CONTACT WITH THE GROUND, NO CORROSION PROTECTION IS INCLUDED AS PART OF THIS DESIGN.
  11. NFPA 30A (2015) 4.3.7.1 REQUIRES TANK TO BE ENCLOSED WITHIN A SIX FOOT CHAINLINK FENCE NO CLOSER THAN TEN FEET TO THE TANK TO PROVIDE PHYSICAL PROTECTION AND TO INCLUDE A GATE SECURED AGAINST UNAUTHORIZED ENTRY OR, AS AN ALTERNATE, A SITE PERIMETER FENCE THAT INCLUDES THE TANK AREA. FENCING IS NOT INCLUDED IN THIS SCOPE AND IS THE RESPONSIBILITY OF THE SITE OWNER AND TANK OPERATOR.



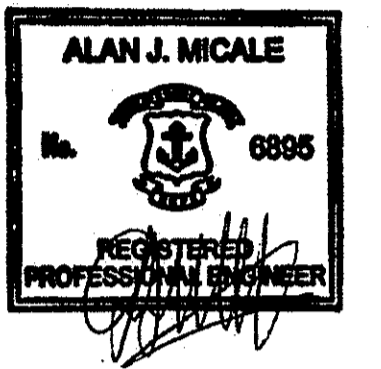
DPW FACILITY PLAN  
SCALE: 1"=50'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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THIS PLAN IS NOT AN INSTRUMENT SURVEY, IT IS BASED ON BEST AVAILABLE INFORMATION. EXISTING CONDITIONS SKETCHED FOR AST PURPOSES ONLY AND MUST BE CONFIRMED IN THE FIELD. THIS PLAN NOT INTENDED TO BE USED FOR ANY OTHER PURPOSE AND IS INTENDED TO BE USED WITH OTHER PLANS AND SURVEYS DEPICTING SITE CONDITIONS.

REFERENCE:  
PROPERTY LINES AND OTHER TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WERE TAKEN FROM A PLAN ENTITLED:  
SITE PLAN LAYOUT PLAN NO. 3 PROPOSED PUBLIC WORKS FACILITY CLEAR RIVER DRIVE A.P. 178, LOT 5 BURRILLVILLE, RHODE ISLAND AND TOWN OF BURRILLVILLE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING SERVICES 65 UNION AVENUE HARRISVILLE, RI 02830 DATE: JUNE, 2016 SCALE: 1"=40' PREPARED BY: CROSSMAN ENGINEERING 151 CENTERVILLE ROAD, WARWICK, RI 02886

**Ed Wojcik**  
architect, ltd  
One Richmond Square  
Providence, RI 02906  
401-861-7139  
Fax: 401-861-7165



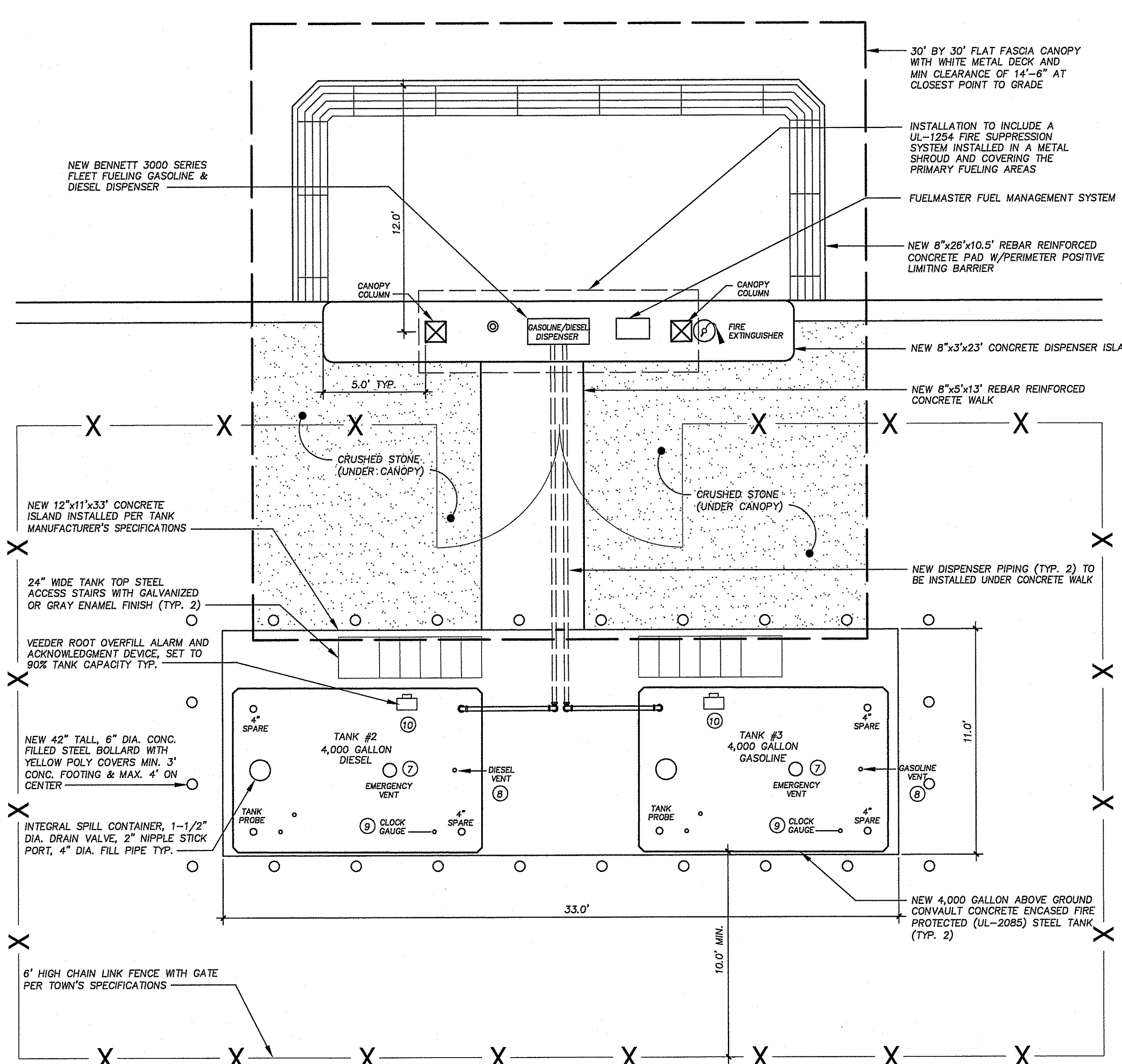
Town of Burrillville  
Public Works Facility  
151 Clear River Drive  
Oakland, RI 02858

**AYOUB**  
ENGINEERING  
Engineers & Architects  
ADDRESS:  
616 BRIMMETT STREET  
PAWTUCKET, RHODE ISLAND 02861  
401-788-9533

SHEET CONTENTS:  
Fuel Depot  
Tank &  
Piping Plan  
PROJECT # 4115

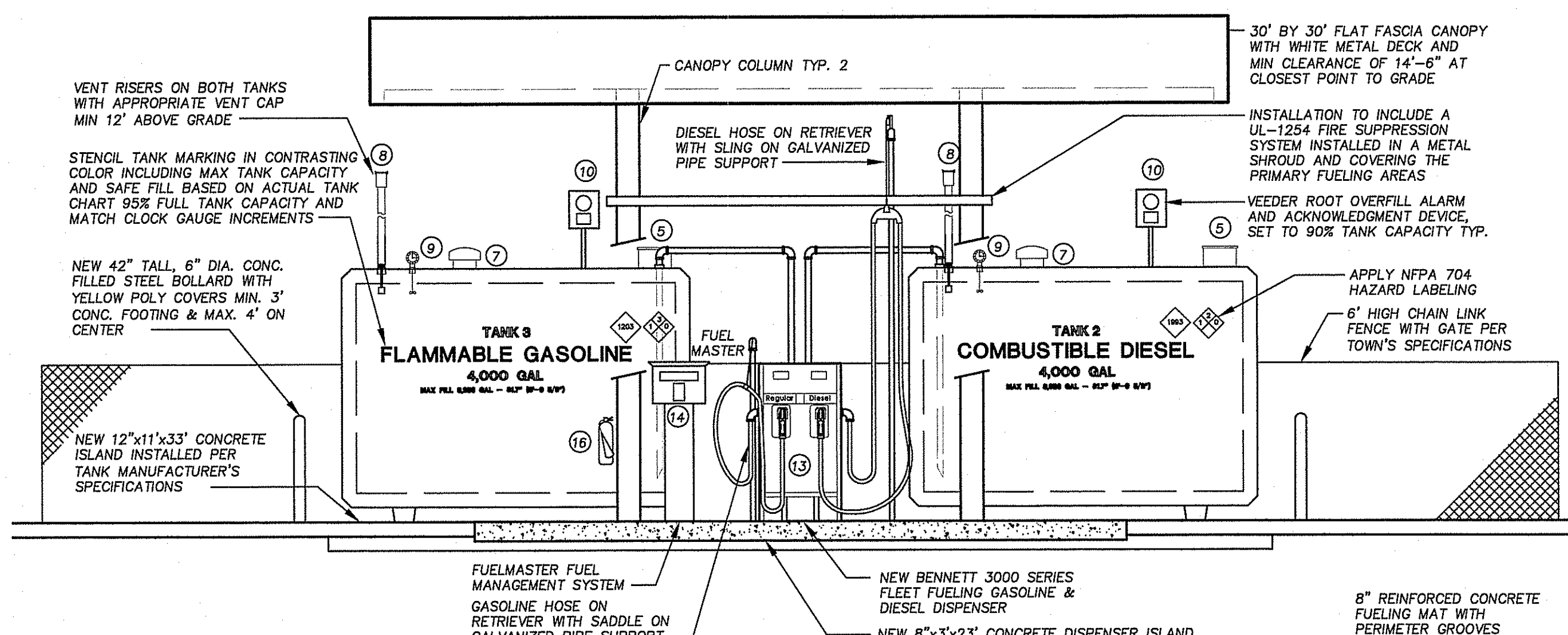
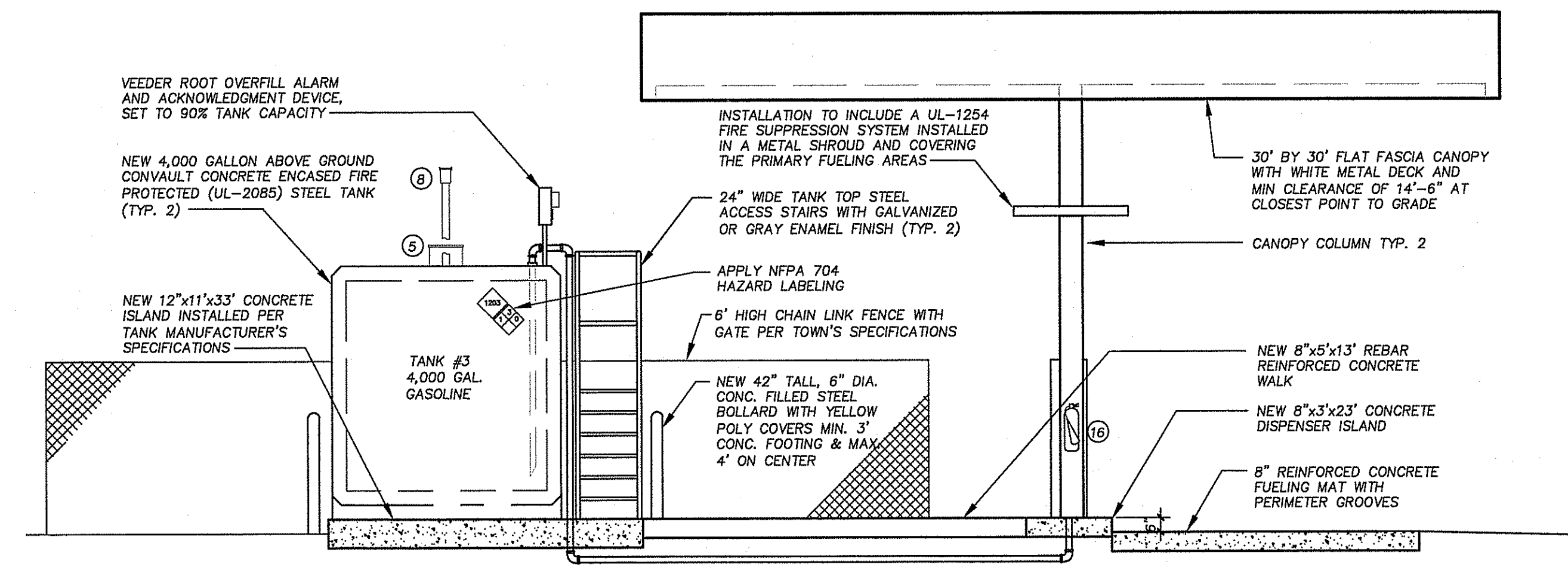
DATE: 02/27/2017  
REVISED DATE: 03/13/2017

AB-53.0



**TANK PLAN**

SCALE: 1/4"=1'



**TANK ELEVATIONS**

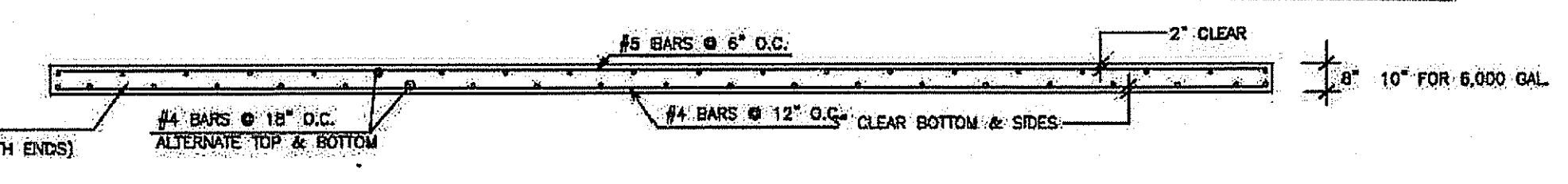
SCALE: 1/4"=1'

*Martin D. Wencel*

**EQUIPMENT LIST**

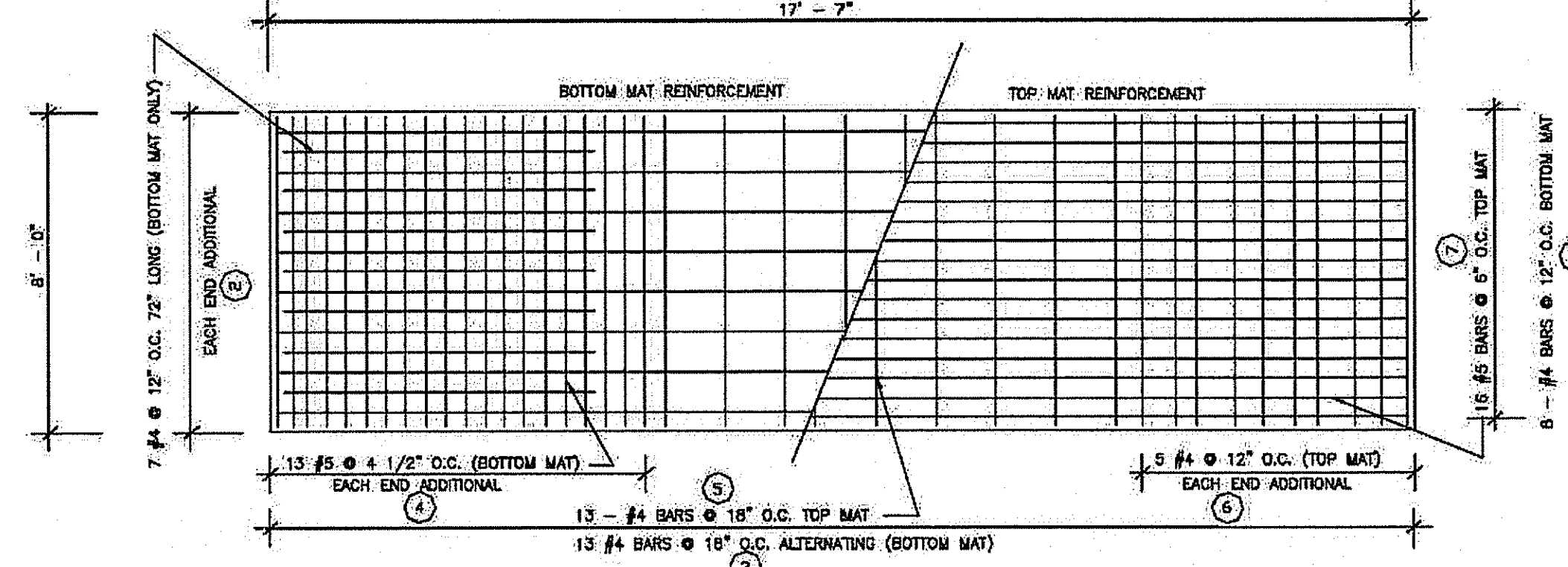
- CONVAULT 4,000 GALLON ABOVE GROUND STORAGE TANK MEETING UL-2085, 527 CMR 9.04, AND NFPA 30A REQUIREMENTS FOR PROTECTED TANK. APPLY PROPER NFPA REQUIRED LABELS AND STENCIL TANK NUMBER, PRODUCT STORED AND SAFE FILL HEIGHTS ON SIDE OF TANK IN CONTRASTING COLOR.
- 12" CONCRETE SLAB FOR TANKS POURED IN PLACE ON TO SITE AND CONSTRUCTED PER TANK MANUFACTURER'S SPECIFICATIONS AND DETAIL TO BE SET 6" ABOVE FUELING MAT.
- 30' BY 30' FLAT FASCIA TWO POST CANOPY WITH WHITE METAL DECK AND INSTALLED TO PROVIDE MINIMUM 14'-6" CLEARANCE AT HIGHEST POINT OF FINISHED GRADE BELOW CANOPY TO INCLUDE FOUR 250W LIGHTING FIXTURES.
- STEEL PROTECTIVE BOLLARDS ON ALL FOUR SIDES OF TANK, MAXIMUM SPACING OF FOUR FEET ON CENTER, 6" DIAMETER, 42" TALL AND 36" MIN BURIAL, CONCRETE FILLED AND COVERED WITH YELLOW POLYETHYLENE COVERS.
- INTEGRAL SPILL CONTAINER, 1-1/2" DIA. DRAIN VALVE, 2" NIPPLE STICK PORT, 4" DIA. FILL PIPE.
- FILL PIPING INTO TANK TO INCLUDE MORRISON 2" OVERFILL PREVENTION VALVE SET TO MECHANICALLY CLOSE FILL PIPING AT 95% TANK CAPACITY AND AFTER VEEDER ROOT OVERFILL ALARM TRIGGERS AT 90% CAPACITY.
- 8" EMERGENCY VENT (EACH COMPARTMENT). CONVAULT TANK INTERSTITIAL SPACE EMERGENCY VENT BY FORM CONSTRUCTION.
- 2" OPERATING VENT FOR EACH COMPARTMENT, PAINTED STEEL RISER WITH APPROPRIATE P/V CAP ON GASOLINE AND RAIN CAP ON DIESEL.
- MORRISON #818 CLOCK GAUGE. INSURE THAT TANK MARKINGS FOR SAFE FILL HEIGHT CORRESPOND TO CLOCK GAUGE INCREMENTS - FOR EXAMPLE FEET AND INCHES OR TOTAL INCHES ONLY OR GALLONS FOR EASY CHECK BY DELIVERY OPERATOR.
- VEEDER ROOT OVERFILL ALARM AND ACKNOWLEDGMENT DEVICE MOUNTED ON TANKS, AND PROVIDES VISUAL AND AUDIBLE ALERT TO DELIVERY OPERATOR, SET AT 90% TANK COMPARTMENT CAPACITY.
- ALL SENSORS AND TANK GAUGE PROBES TIED TO VEEDER ROOT CONSOLE MONITOR LOCATED AND UTILIZING UG CONDUIT AS DIRECTED AND INSTALLED BY TOWN.
- EMERGENCY STOP AND FIRE SUPPRESSION SYSTEM ACTIVATION SWITCHES LOCATED AS APPROVED BY TOWN ON FENCE OUTSIDE OF FUELING AREA BUT NO MORE THAN 75' FROM THE TANK.
- BENNETT 3000 SERIES FUEL PUMP AND DISPENSING SYSTEM. PUMP AND SUCTION PIPING ASSEMBLY TO INCLUDE ANTI-SIPHON VALVE. FUEL DISPENSER TIED TO FUEL MANAGEMENT SYSTEM. ONLY OPERABLE WHEN ACCESSED WITH AUTHORIZED KEY, CARD, OR CODE. DISPENSER TO INCLUDE GROUNDING CURB HOSE WITH BREAKAWAY FITTING, AND AUTO SHUTOFF NOZZLE.
- FUEL MASTER 2500 FUEL MANAGEMENT SYSTEM INCLUDING ACCESS CARDS AND TRAINING.
- A UL-1254 FIRE SUPPRESSION SYSTEM SUPPORTED BY CANOPY STRUCTURAL, DESIGN BY OTHERS.
- PORTABLE FIRE EXTINGUISHER MOUNTED ON CANOPY COLUMN.
- 10' BY 26' BY 8" REINFORCED CONCRETE MAT WITH PERIMETER GROOVES TO DEFINE FUELING AREA. MAT TO MEET TOWN SPECIFICATIONS PER BID PACKAGE TO INCLUDE MINIMUM 8" THICKNESS, 4,000 PSI MIX, #4 REBAR 12" ON CENTER EACH WAY AT TOP AND BOTTOM OF MAT. FUELING AREA MAT TO BE SLIGHTLY ELEVATED ABOVE THE SURROUNDING PAVEMENT AREA AND GRADED TO DRAIN AWAY FROM TANK SLAB.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
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**SECTION - SLAB REINFORCING**

NOTE:  
12" SLAB IS REQUIRED WHEN POURED IN THE FIELD  
8" SLAB IS AVAILABLE WHEN ORDERED IN PRECAST FROM UNITED CONCRETE

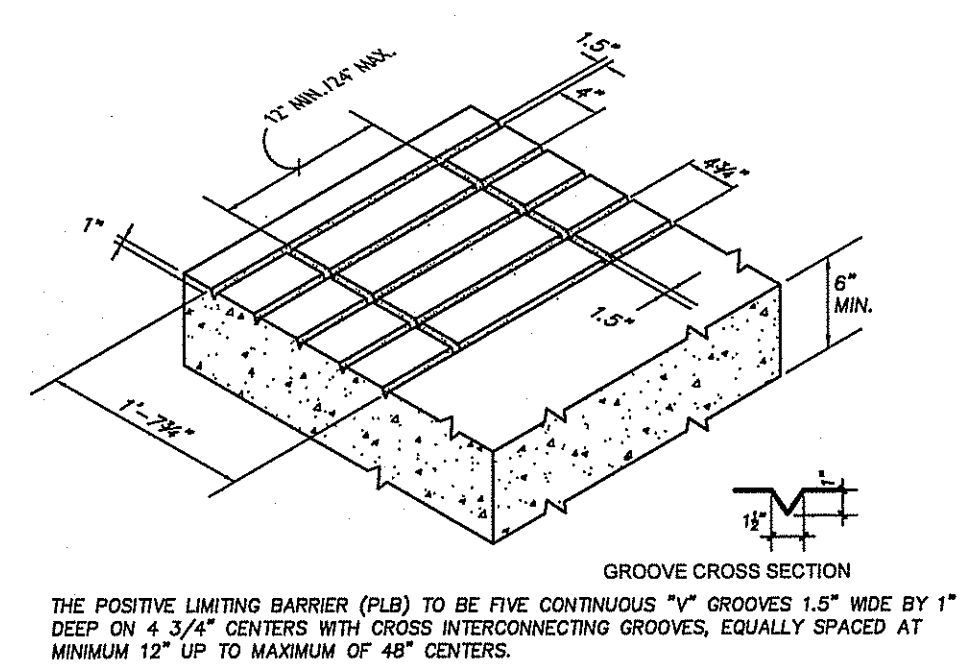


**PLAN - SLAB REINFORCING**

NOTES:  
CONCRETE COMPRESSIVE STRENGTH: 5,000 psi @ 28 DAYS  
REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60 OR ASTM A705 GRADE 60. BAR BENDING AND PLACEMENT SHALL COMPLY WITH LATEST ACI STANDARDS.  
LIFTING INSERTS FOR HANDLING SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.  
APPROXIMATE SLAB WEIGHT: 14,000 LBS.  
MIN. SOLE BEARING CAP. = 3000 psf.

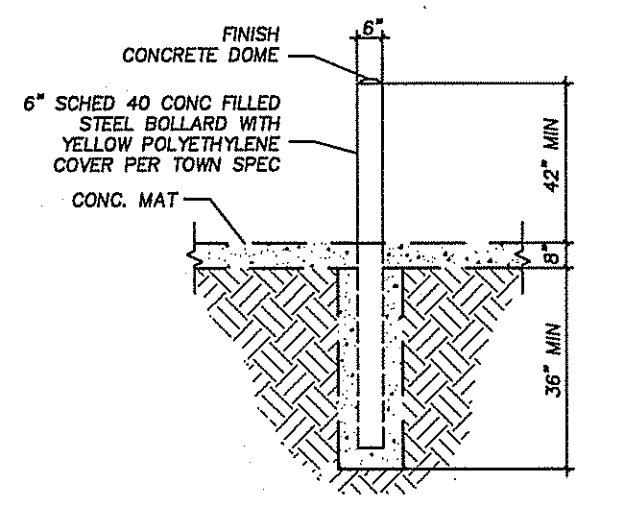
**SLAB DETAILS**

FOR  
CONVAULT  
4,000 GALLON TANK  
UNITED CONCRETE PRODUCTS, INC.  
173 CHURCH STREET  
YALESVILLE, CT  
(203) 269-3119  
(203) 265-4941 FAX



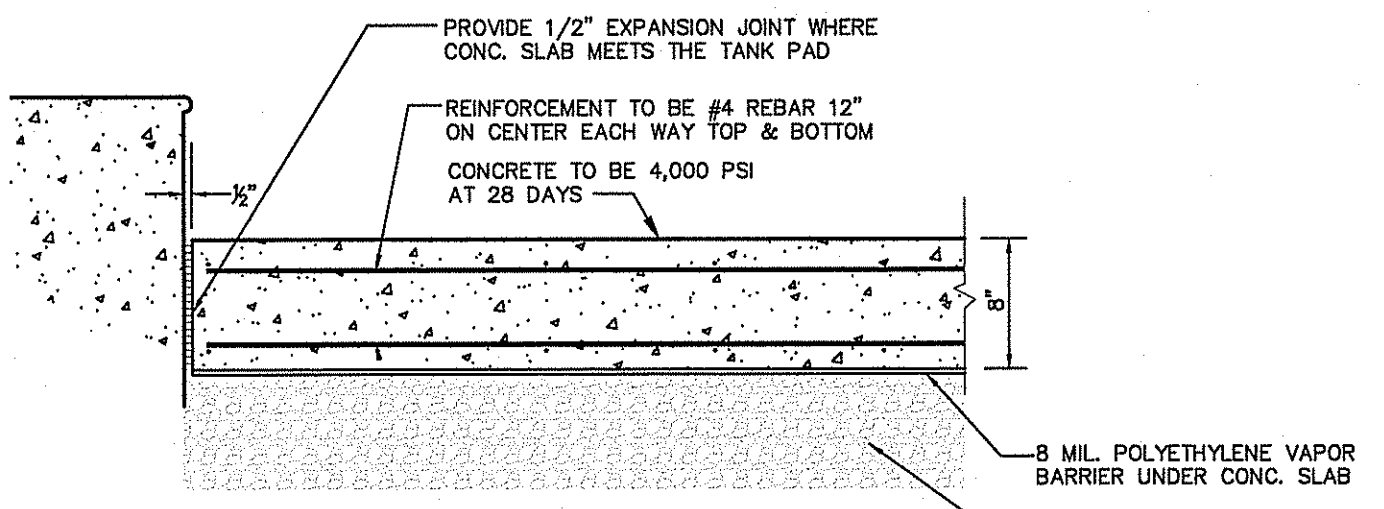
**POSITIVE LIMITING BARRIER DETAIL**

NOT TO SCALE



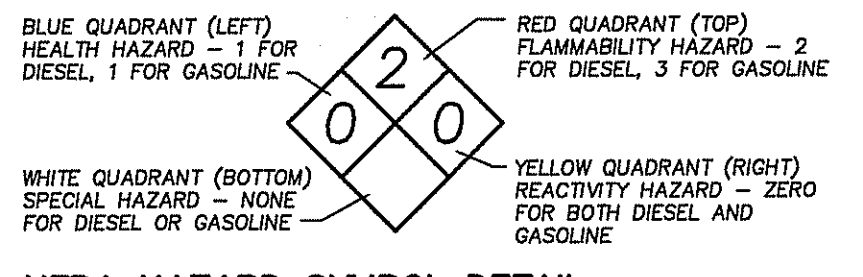
**BUMPER POST DETAIL**

NOT TO SCALE



**CONC. PAVEMENT FUELING MAT**

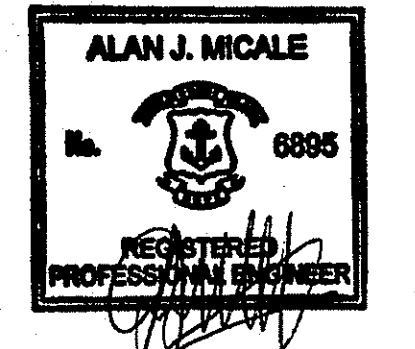
Not To Scale



**NFPA HAZARD SYMBOL DETAIL**

NOT TO SCALE

**Ed Wojcik**  
architect, itd  
One Richmond Square  
Providence, RI 02906  
401-861-7139  
Fax: 401-861-7165



Town of Burrillville  
Public Works Facility

151 Clear River Drive  
Oakland, RI 02858

**AYOUB**  
ENGINEERING  
ENGINEER & ARCHITECT  
ADDRESS:  
216 BENEFIT STREET  
PAWTUCKET, RHODE ISLAND 02861  
401-728-9335

SHEET CONTENTS:

Fuel Depot  
Tank Details  
PROJECT # 4115

DATE: 02/27/2017  
REVISED DATE: 03/13/2017

AB-S3.1