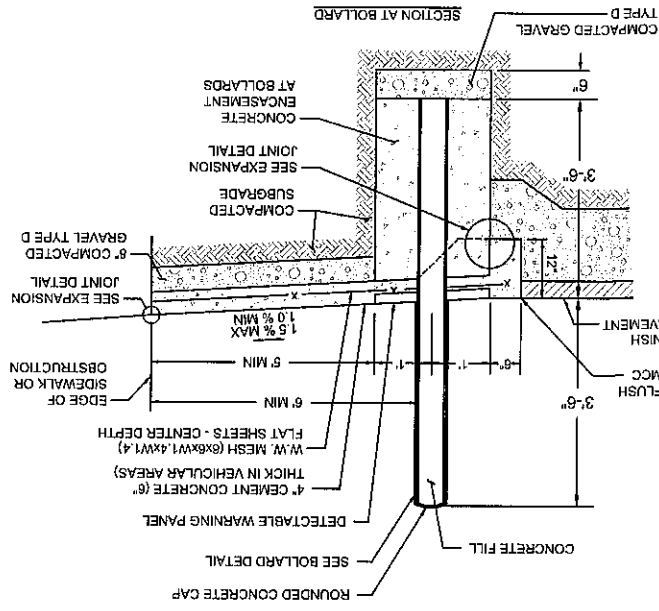


SCALE: N.T.S.

BOLLARD AT MONOLITHIC CONC. CURB (MCC) & SIDEWALK

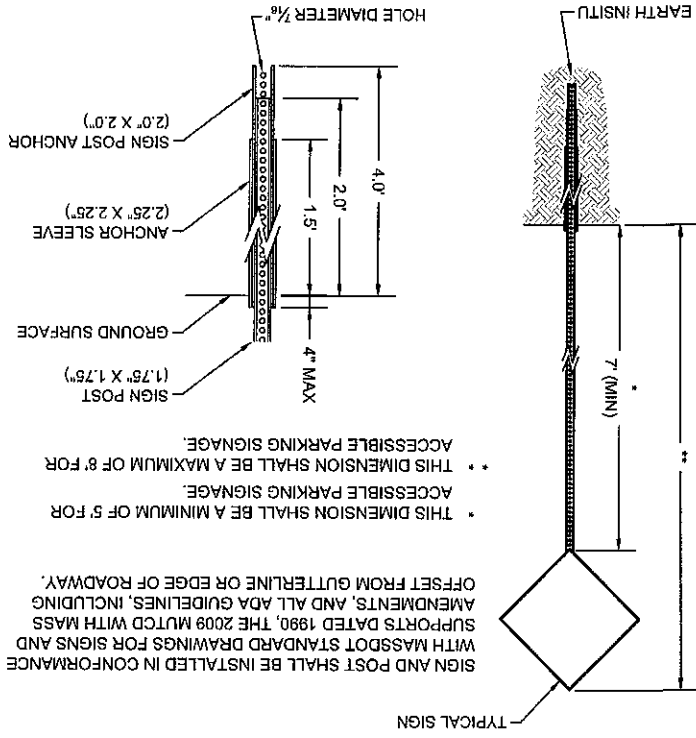
1. CONCRETE FOR SIDEWALKS TO BE 4000 PSI TYPE II, 6% (±1.5%) AIR ENTRAINED.
2. PROVIDE EXPANSION JOINTS AT MAX 30 FT. O.C. WITH PRE-FORMED EXPANSION JOINT FILLER.
3. PROVIDE TOoled CONTROL JOINTS AT 6' O.C.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.

NOTES:



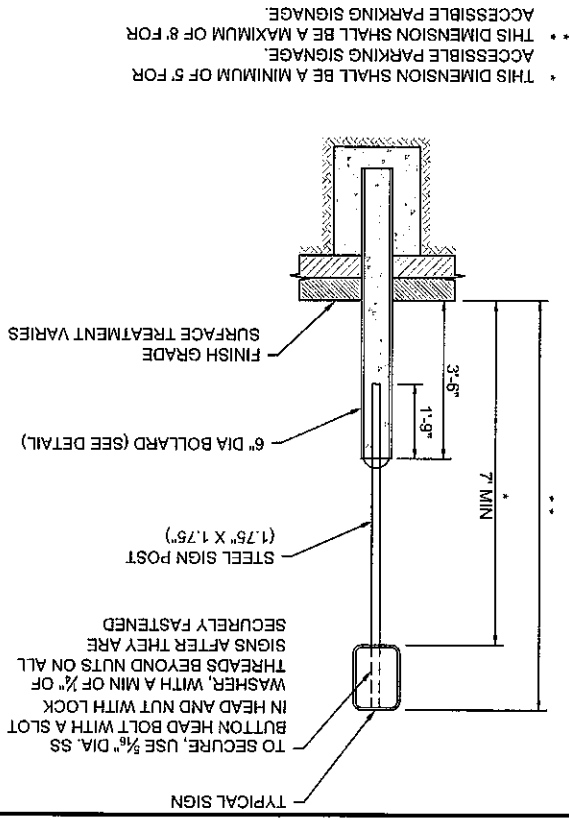
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SCALE: N.T.S.



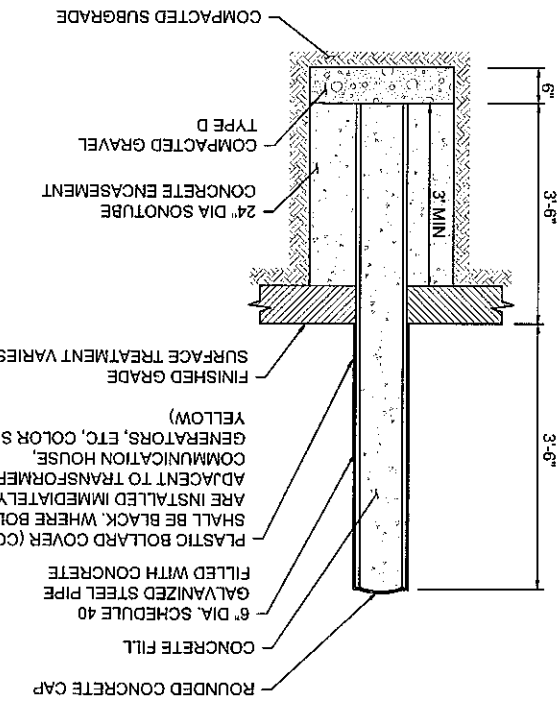
BOLLARD MOUNTED SIGN

SCALE: N.T.S.



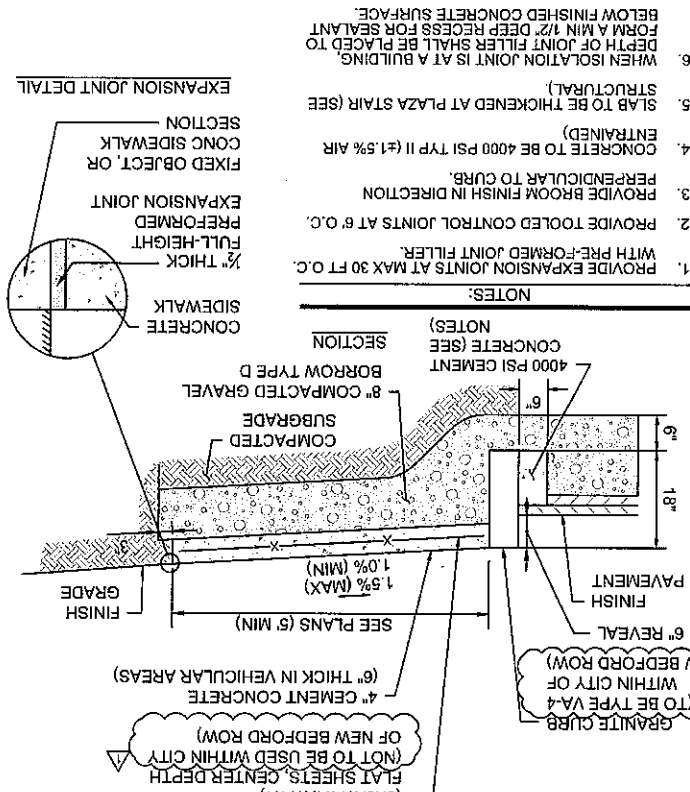
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SCALE: N.T.S.



CONCRETE SIDEWALK (SLAB ON GRADE) AT CURB

SCALE: N.T.S.

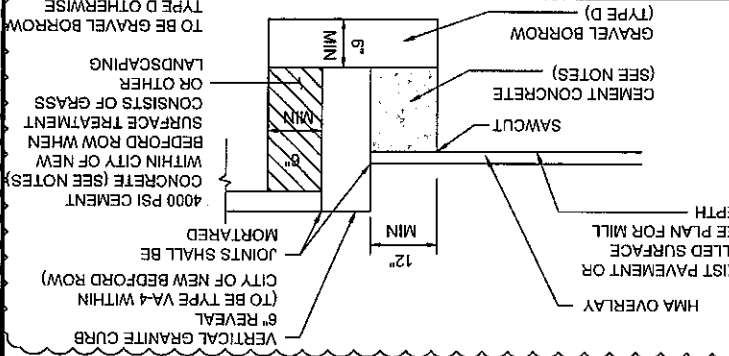


VERTICAL GRANITE CURB IN EXISTING PAVEMENT WITH OVERLAY

SCALE: N.T.S.

1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
2. SAWCUT 6\"/>

NOTES:

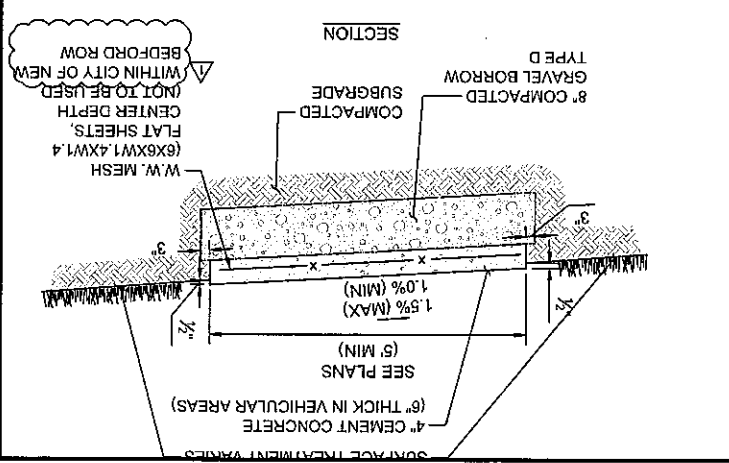


CONCRETE SIDEWALK (SLAB ON GRADE) IN LANDSCAPE AREA

SCALE: N.T.S.

1. SLAB TO BE THICKENED AT PLAZA STAIR AND TRANSITION PLAZA EQUIPMENT (SEE STRUCTURAL PLANS).
2. CONCRETE FOR SIDEWALKS TO BE 4000 PSI TYPE II, 6% (±1.5%) AIR ENTRAINED.
3. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE-FORMED JOINT FILLER.
4. PROVIDE TOoled CONTROL JOINTS AT 6' O.C.
5. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO SIDEWALK DIRECTION.

NOTES:



DATE: 09/18/2020	DATE: 02/19/2021
VERT: NONE	DATE: 02/19/2021
HORIZ: NONE	DESCRIPTION: DCR-013
ISSUE: 1	BY: CM JHC/RPM
PROJECT MANAGER: [Name]	DATE: 02/19/2021
PROJECT MANAGER: [Name]	DATE: 02/19/2021
PROJECT MANAGER: [Name]	DATE: 02/19/2021

NEW BEDFORD MAIN LINE CHURCH STREET STATION

CONTRACT NO. K78C404

MIDDLEBOROUGH TO NEW BEDFORD, MA

SCR MS/NBML COMMUTER RAIL EXPANSION PROJECT

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

DCR-013

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

APPROVED BY: [Signature]

PROJECT MANAGER: [Name]

DATE: 02/19/2021

DESCRIPTION: DCR-013

BY: CM JHC/RPM

DATE: 02/19/2021

ISSUE: 1

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

PROJECT MANAGER: [Name]

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PROJECT MANAGER: [Name]

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PROJECT MANAGER: [Name]

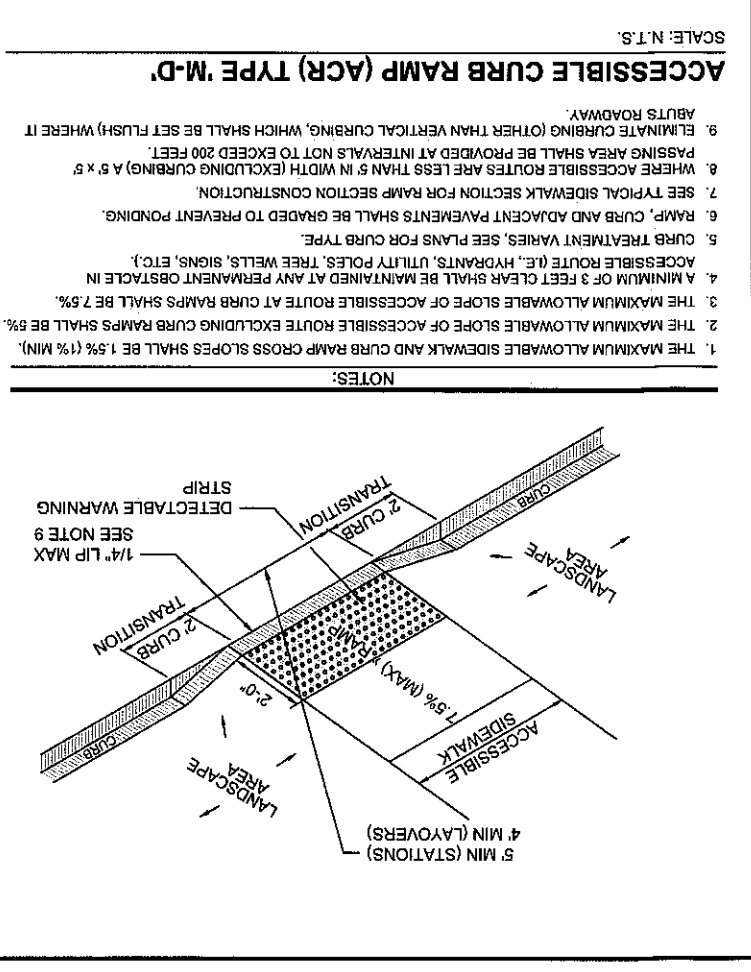
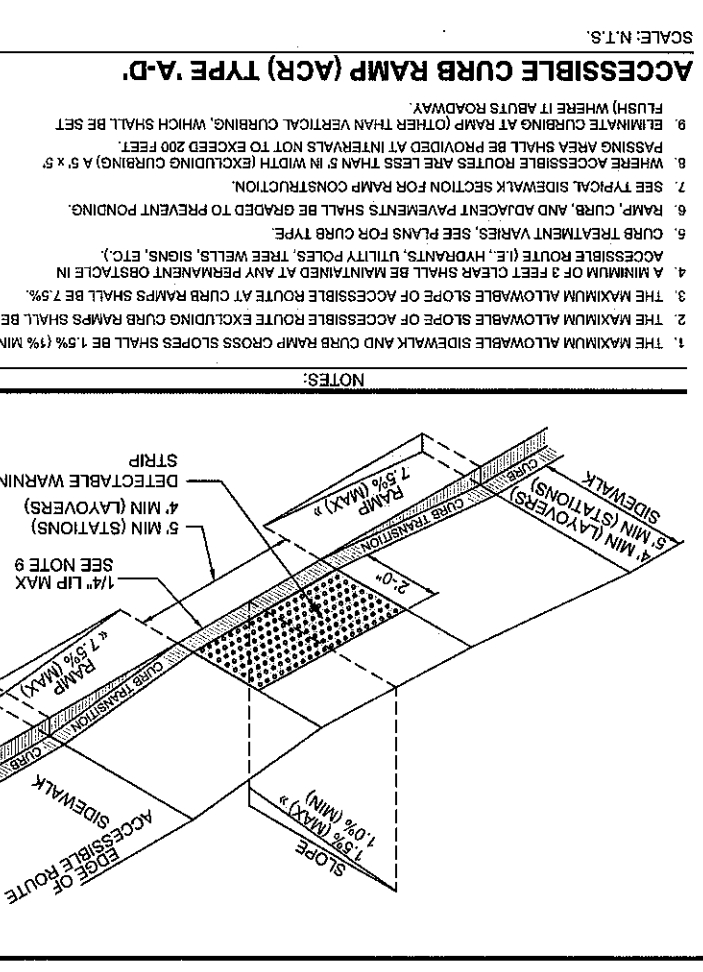
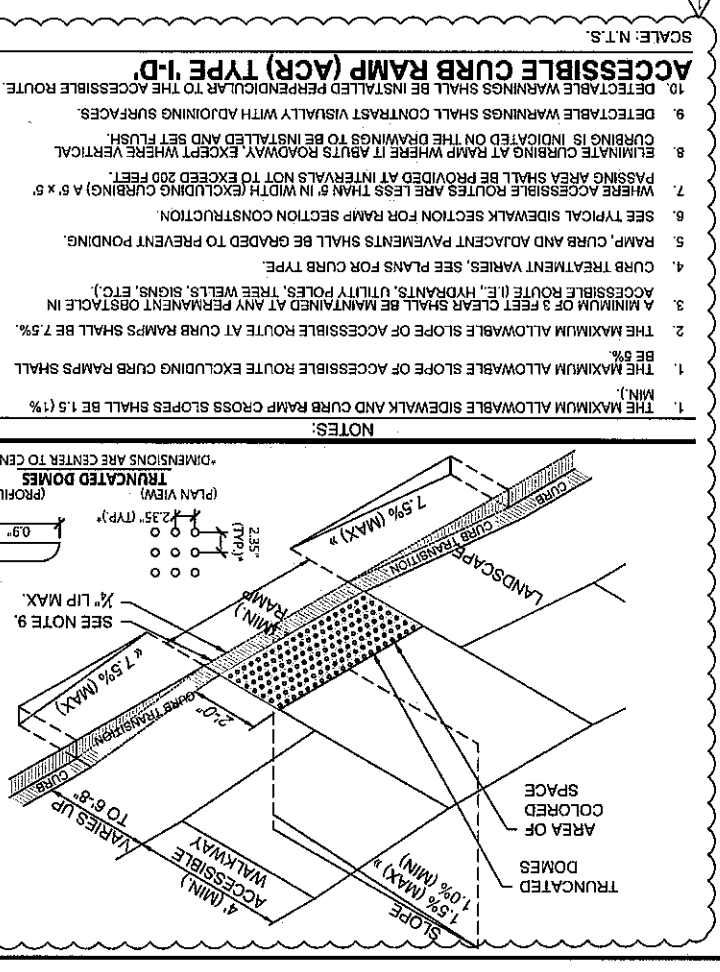
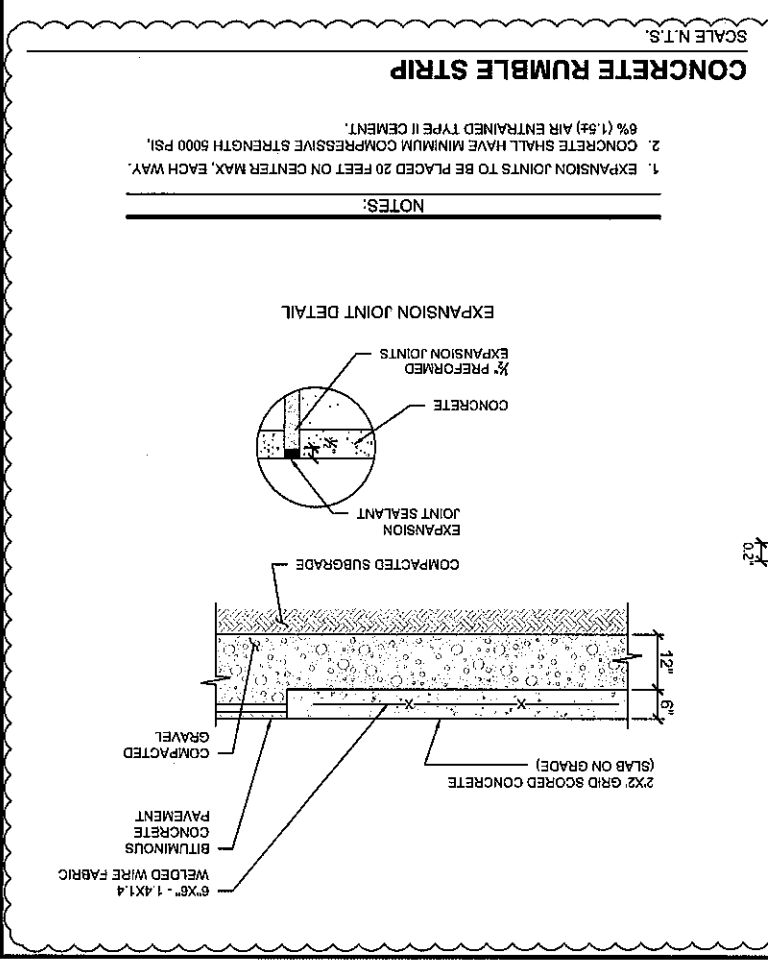
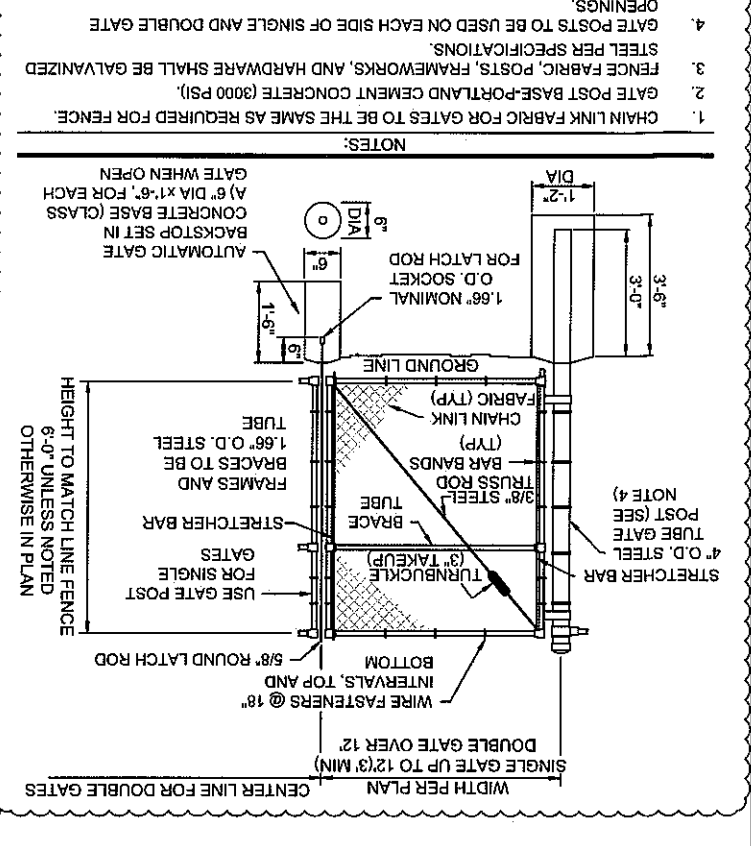
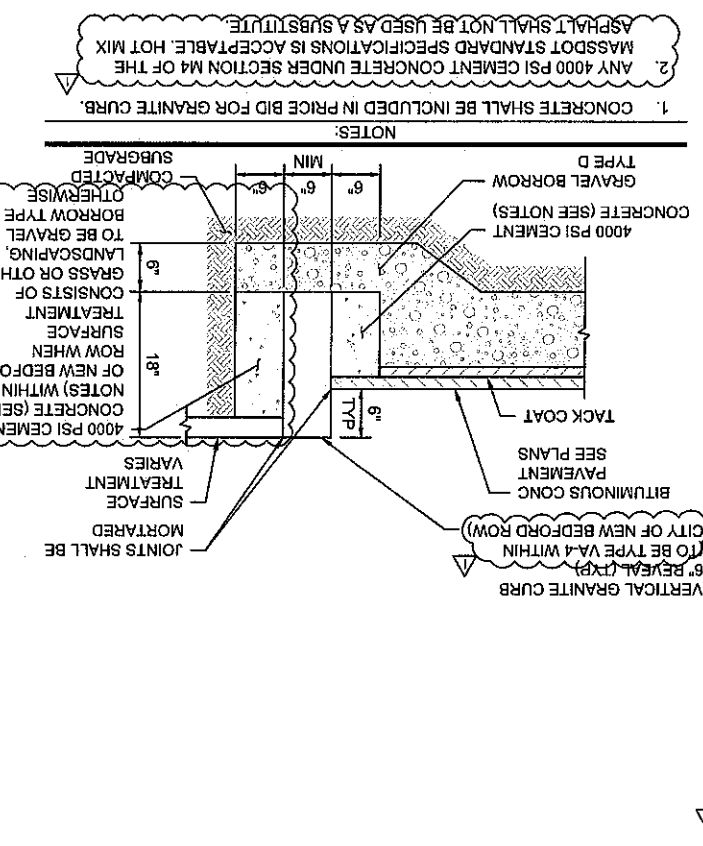
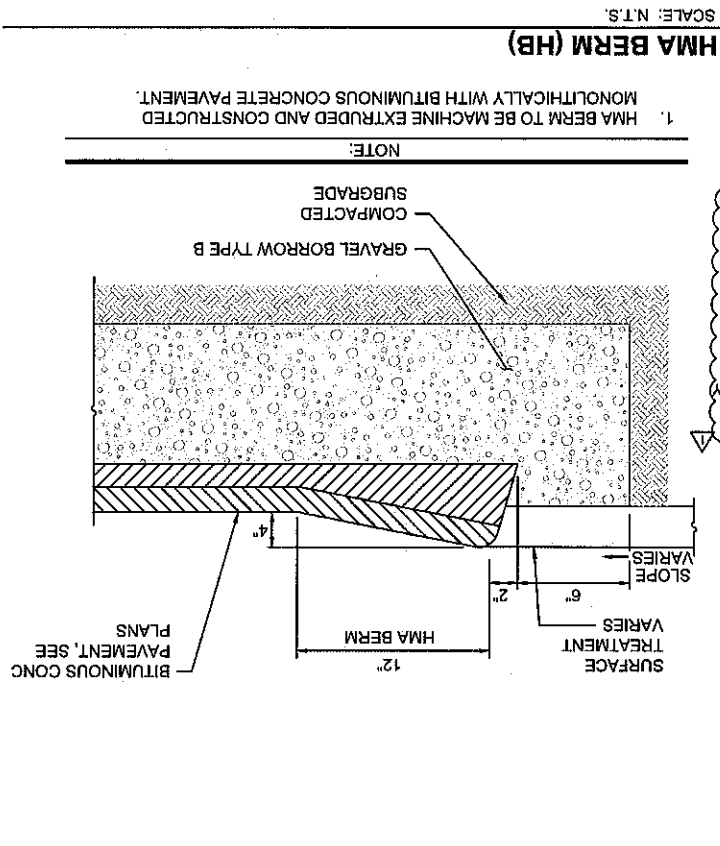
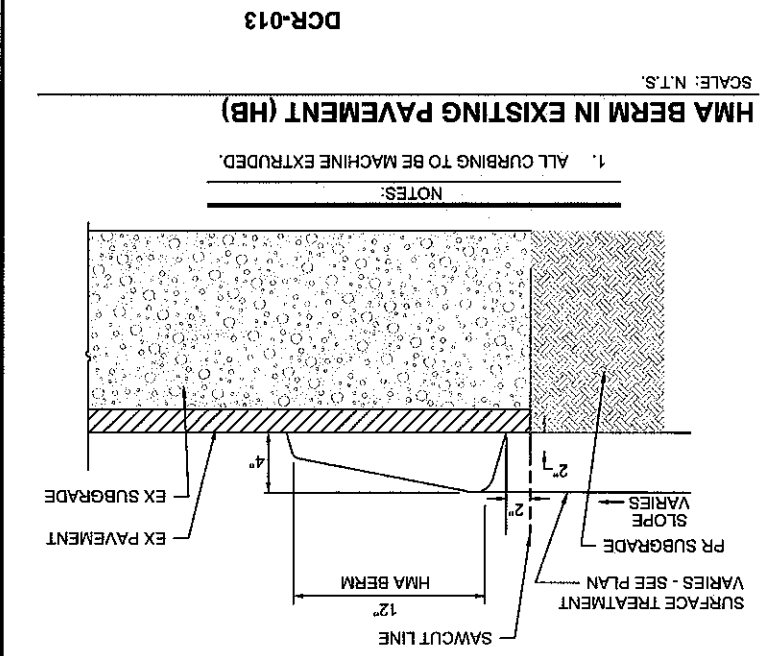
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PROJECT MANAGER: [Name]

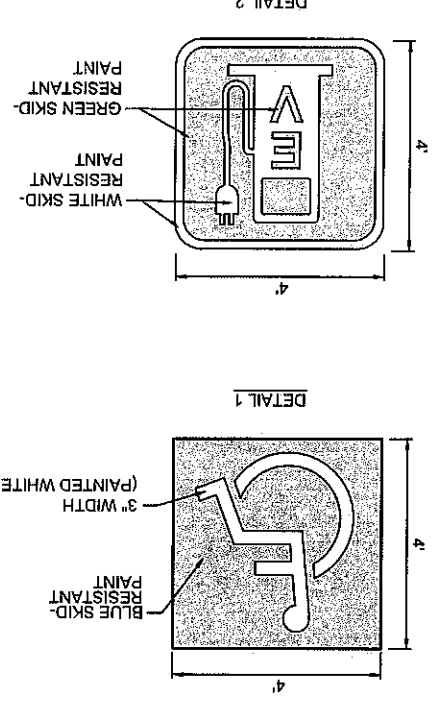
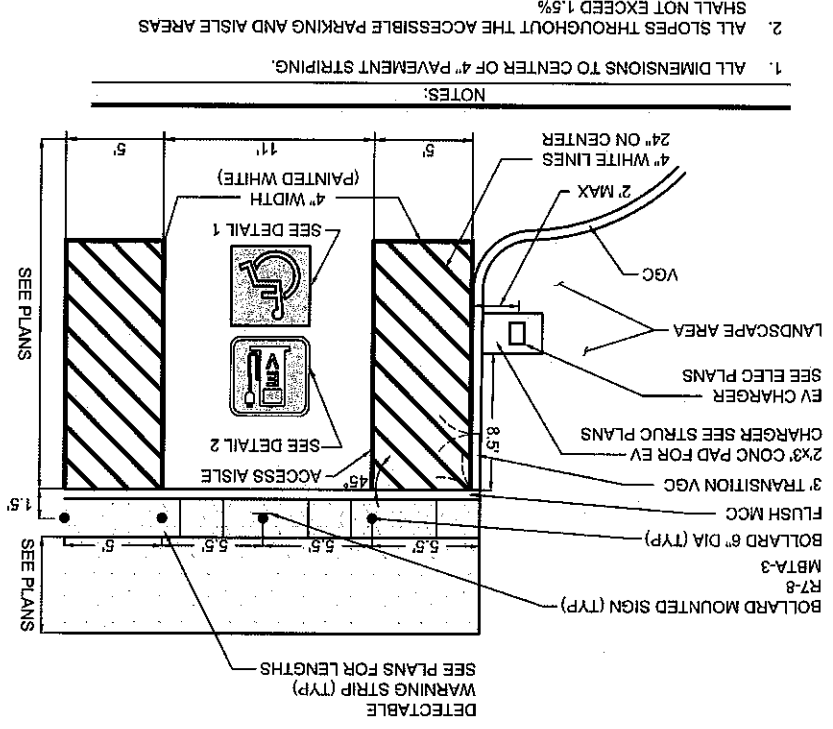
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HORIZ: NONE	BY: CM JHC/PM	ISSUE: 1
DES: BY: RM	CHK: BY: RM	ISSUE: 1
SJH	MRT	RM
SHEET SD-302	PLAN NO. 31913	PROJECT MANAGER
PROJECT MANAGER		
APPROVED BY:		
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY		

NEW BEDFORD MAIN LINE
CHURCH STREET STATION
 SITE DETAILS 2

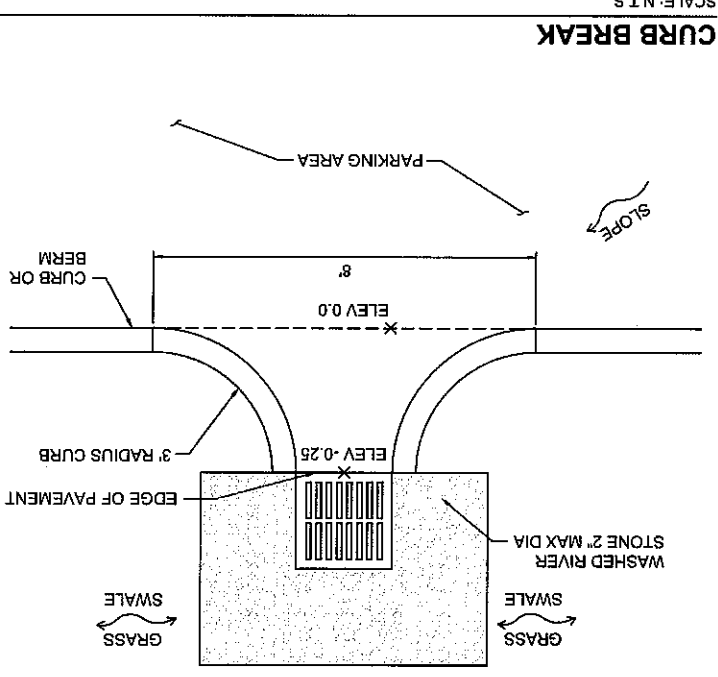
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 CONTRACT NO. K78CN04
 MIDDLEBOROUGH TO NEW BEDFORD, MA



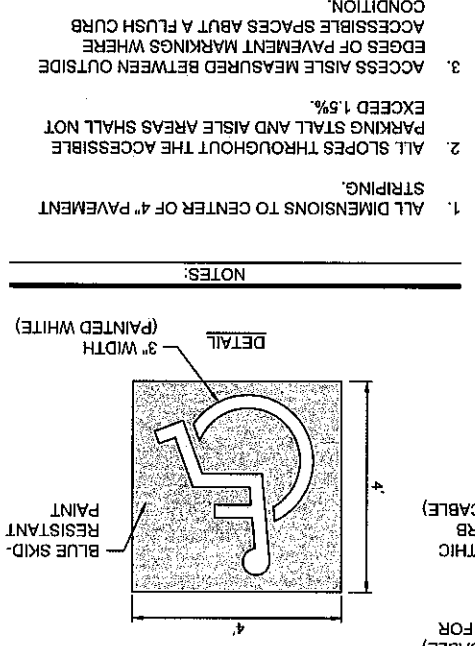
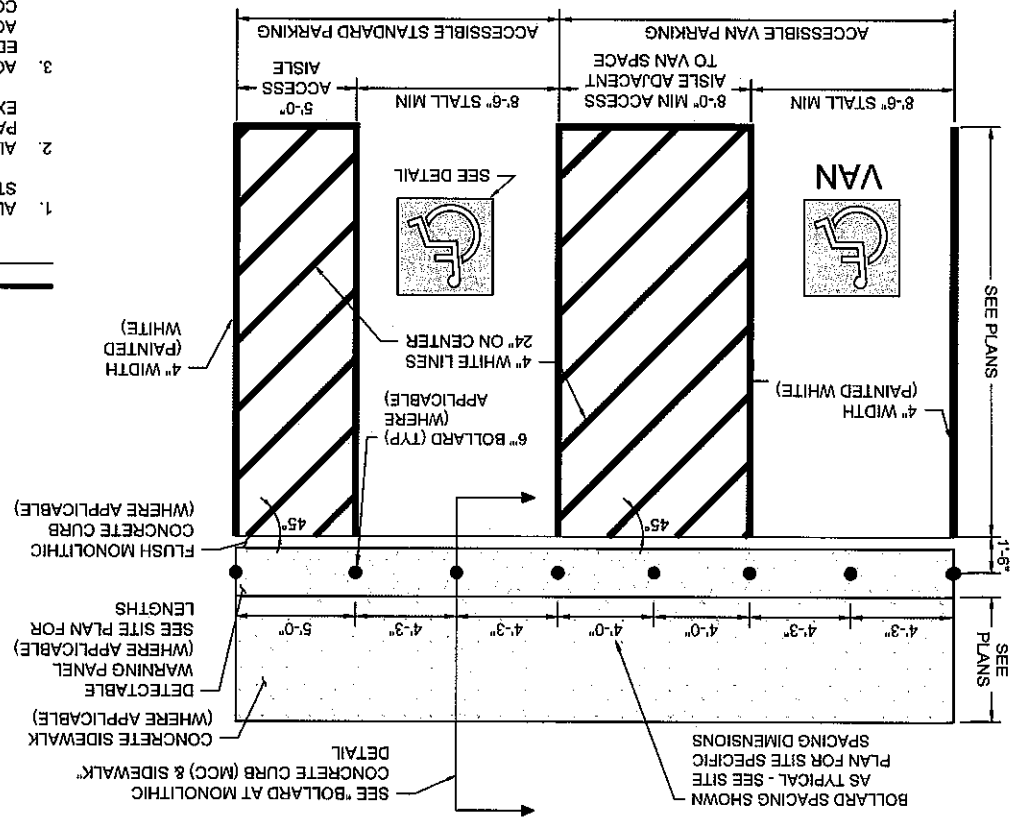
ACCESSIBLE ELECTRIC VEHICLE PARKING SPACE - PAD IN LANDSCAPE



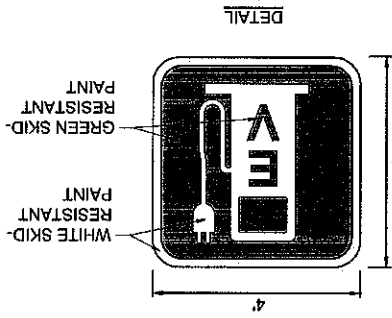
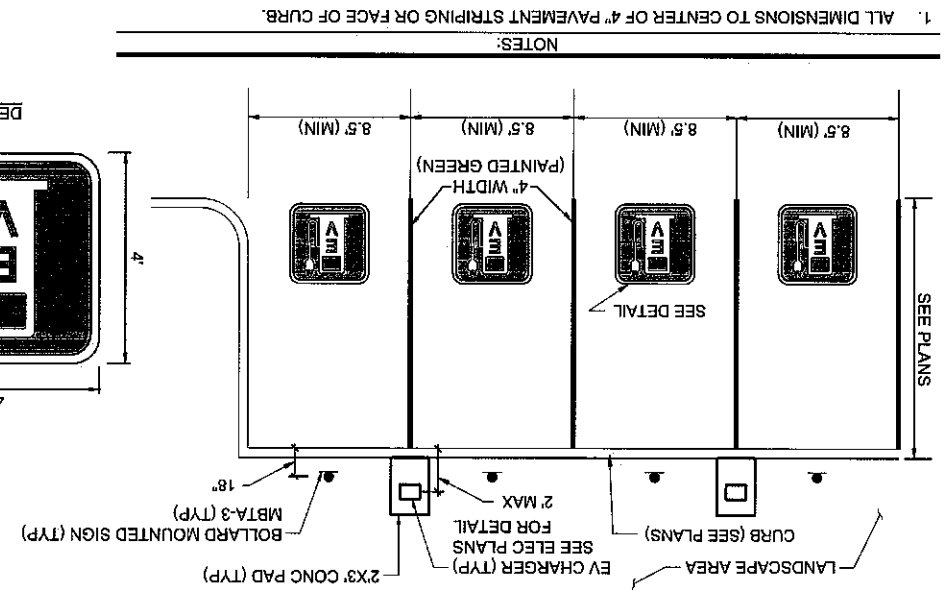
CURB BREAK



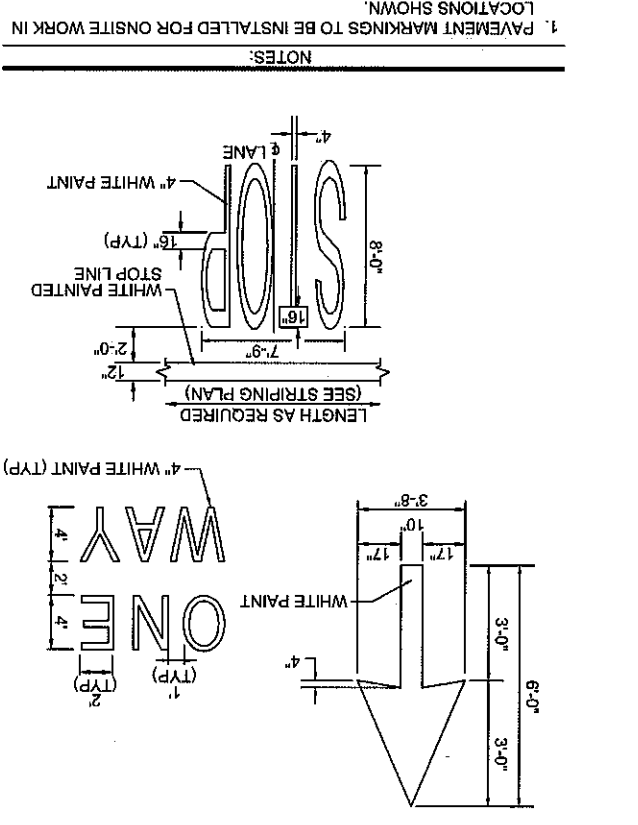
ACCESSIBLE PARKING SPACE



ELECTRIC VEHICLE PARKING SPACE



PAINTED PAVEMENT MARKINGS - ON SITE

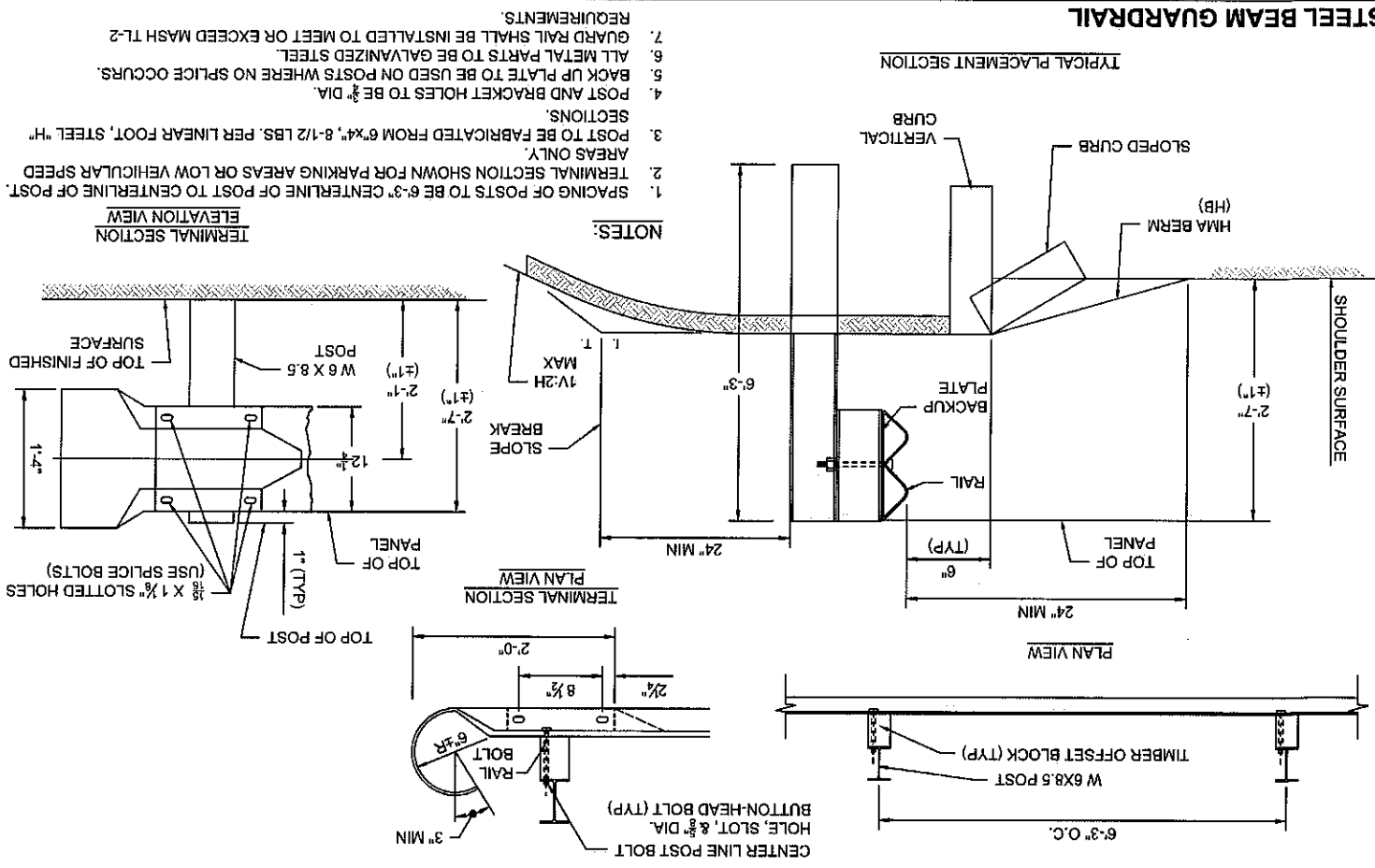


DATE: 09/18/2020	DATE: 09/18/2020
VERT: NONE	HORIZ: NONE
PLAN NO. 311914	ISSUE: 0
PROJECT MANAGER: [Signature]	PROJECT MANAGER: [Signature]
APPROVED BY: [Signature]	APPROVED BY: [Signature]

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
CONFORMED
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 SCR MS/MBL COMUTER RAIL EXPANSION PROJECT
 CONTRACT NO. K78CNO4
NEW BEDFORD MAIN LINE
CHURCH STREET STATION
SITE DETAILS 3

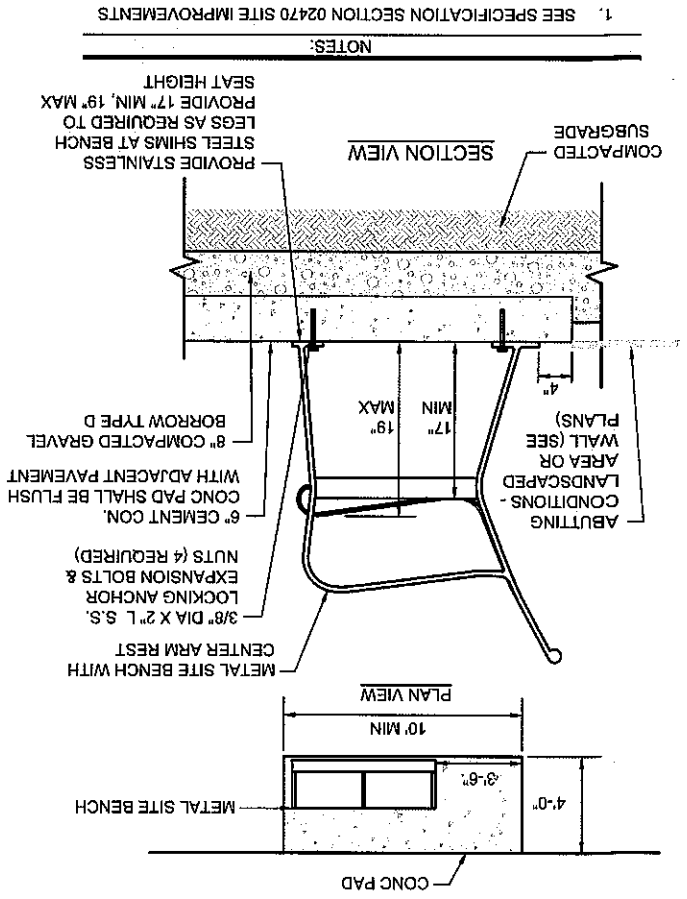
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STEEL BEAM GUARDRAIL



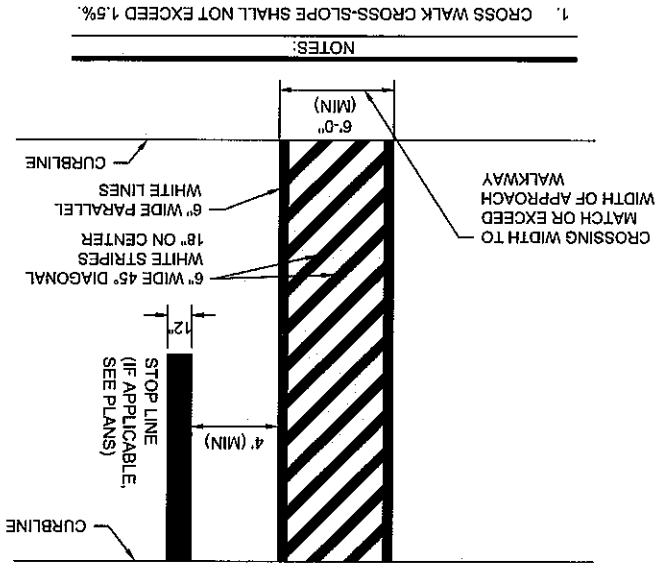
SITE BENCH

SCALE: N.T.S.



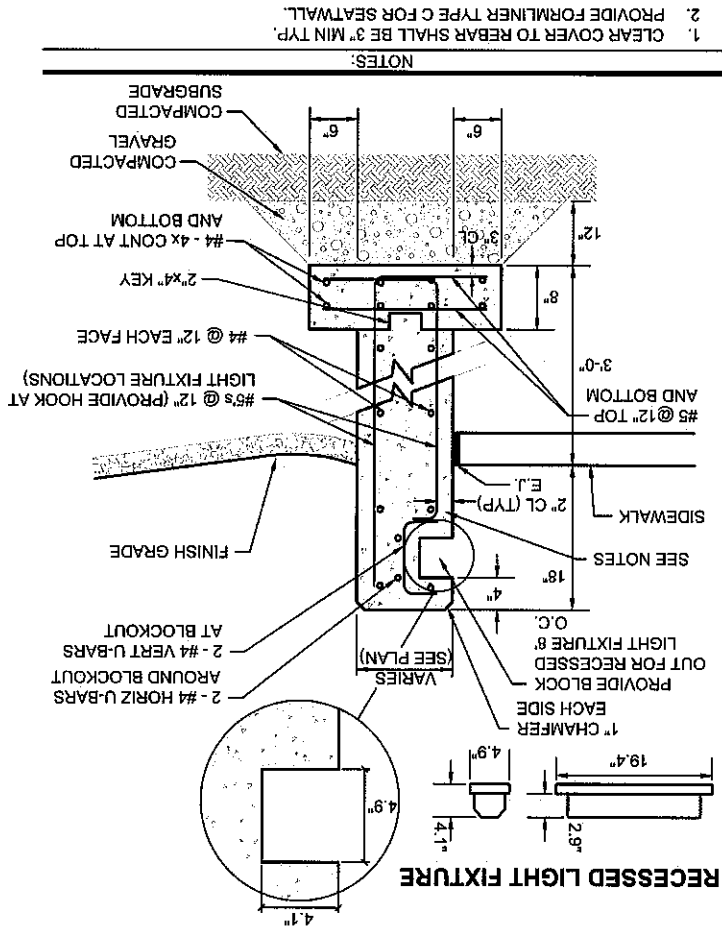
CROSSWALK

SCALE: N.T.S.



SEAT WALL

SCALE: N.T.S.



DATE: 09/18/2020	DATE: 09/18/2020
VERT: NONE	VERT: NONE
HORIZ: NONE	HORIZ: NONE
DES BY: DR BY: CHK BY:	DES BY: DR BY: CHK BY:
PROJECT MANAGER: <i>[Signature]</i>	PROJECT MANAGER: <i>[Signature]</i>
APPROVED BY: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

CONFORMED

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

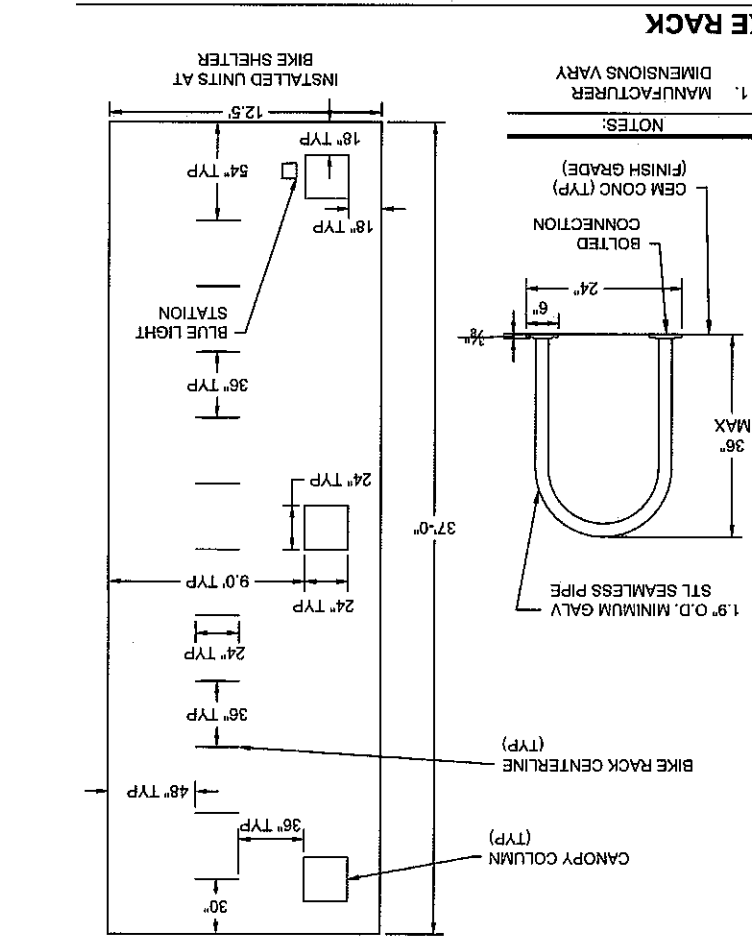
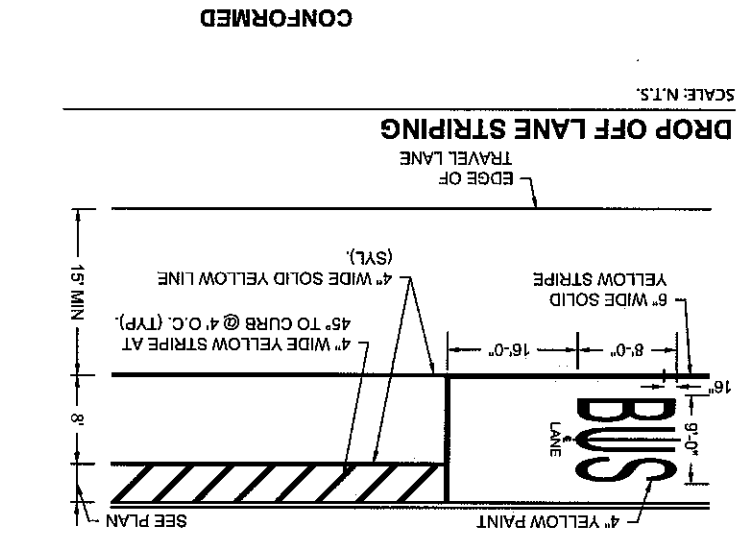
SCR MS/MBL COMMUTER RAIL EXPANSION PROJECT
MIDDLEBOROUGH TO NEW BEDFORD, MA
CONTRACT NO. K78CN04

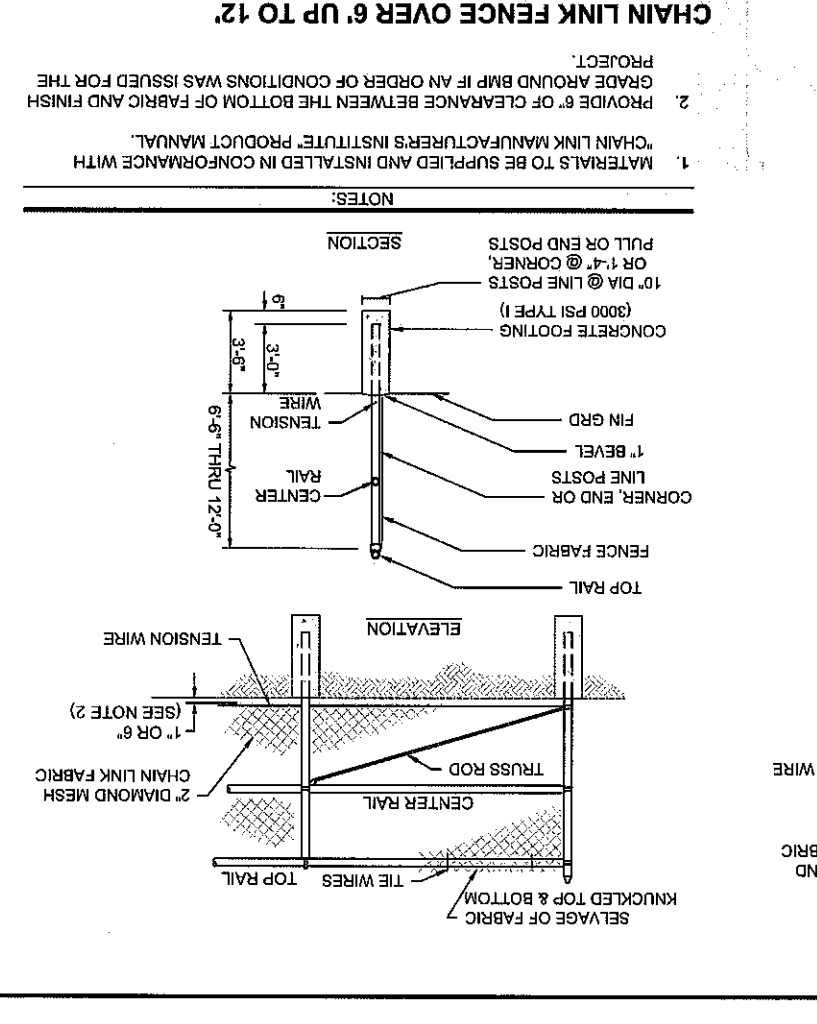
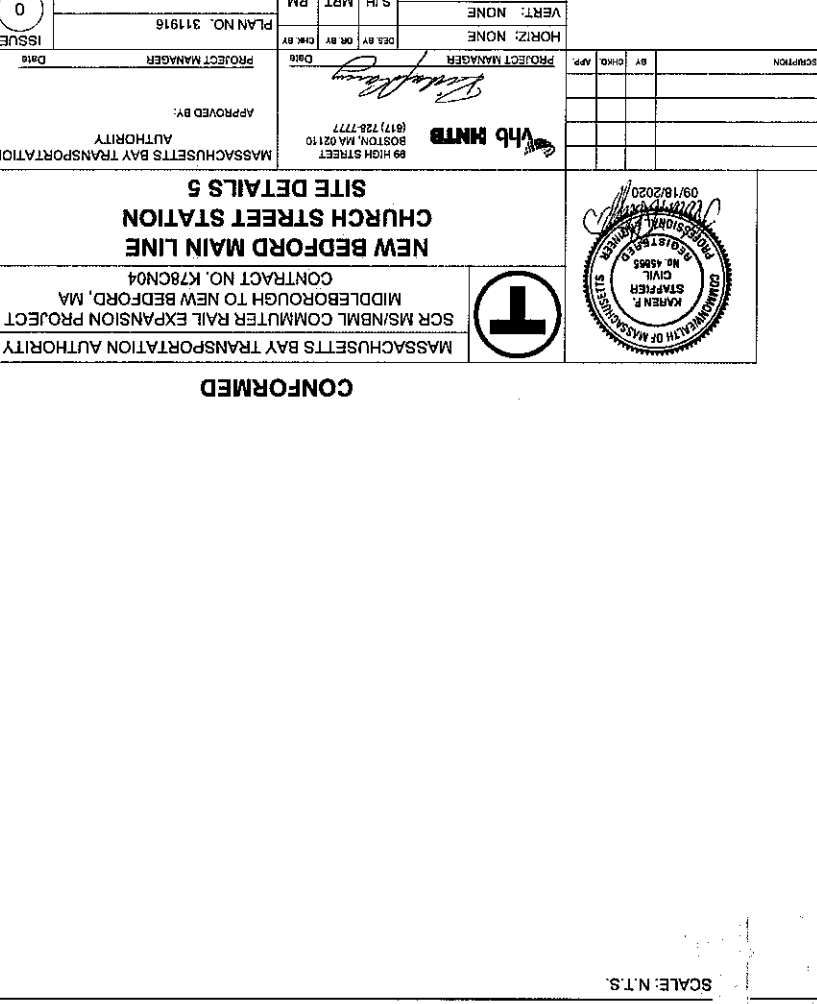
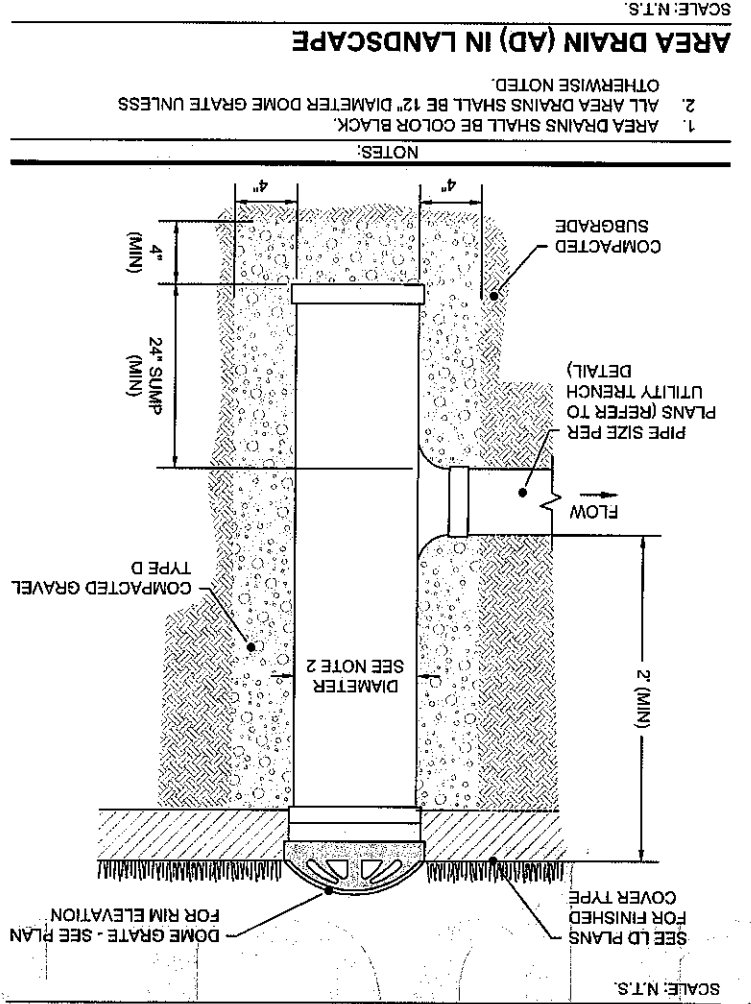
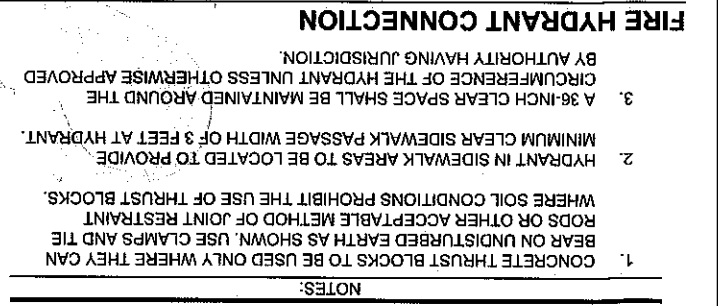
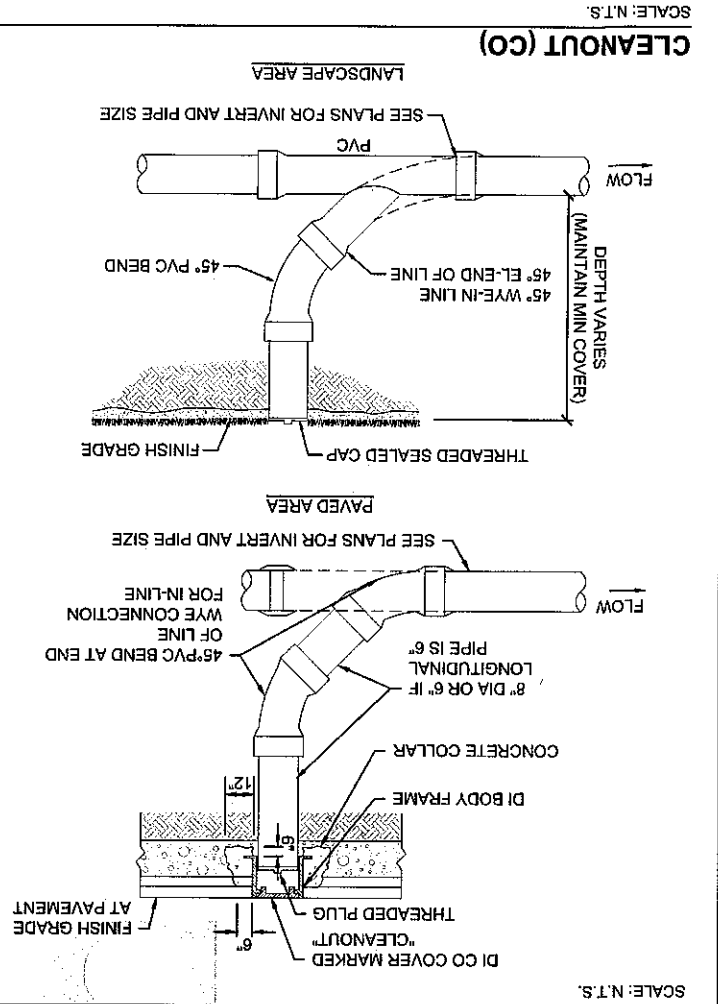
**NEW BEDFORD MAIN LINE
CHURCH STREET STATION**

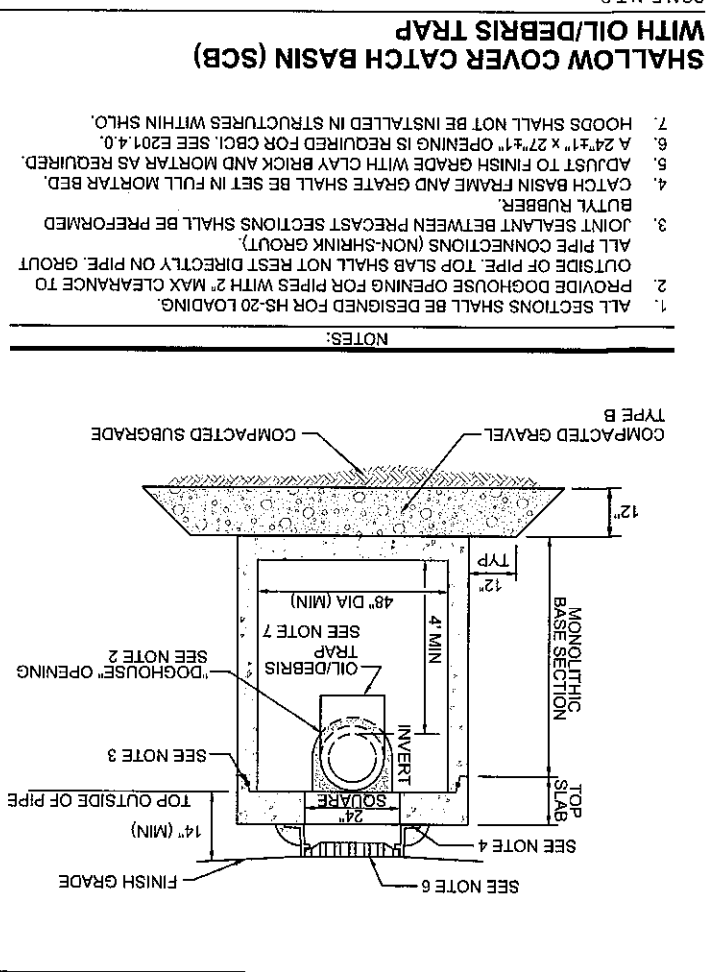
SITE DETAILS 4

09/18/2020

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

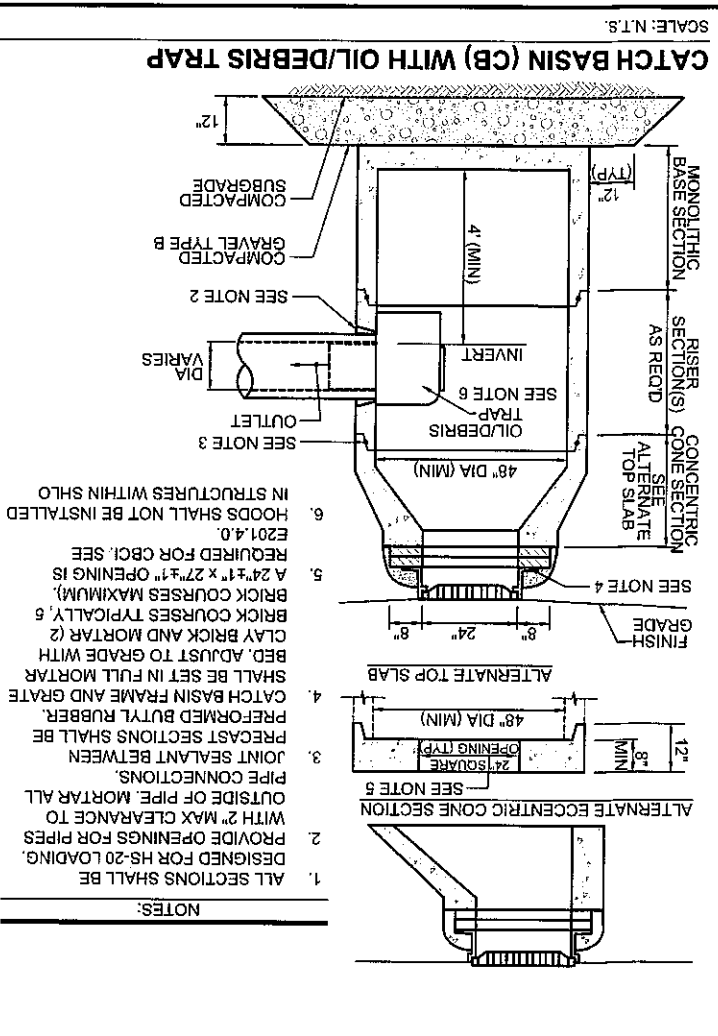






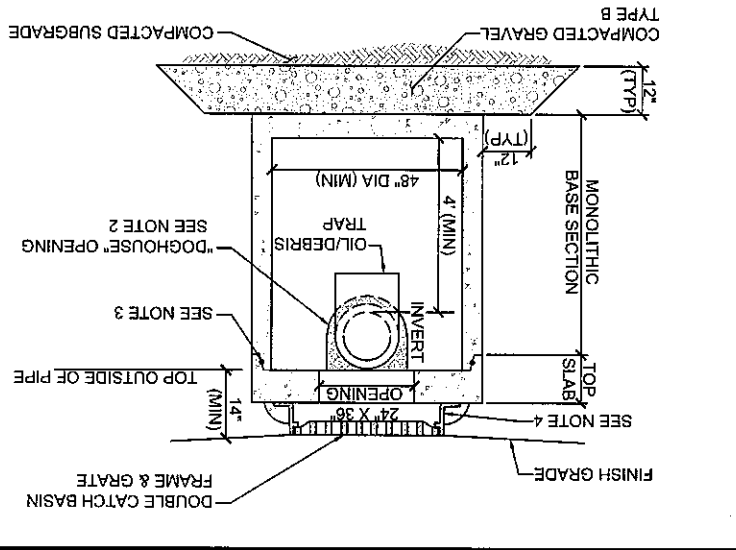
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- NOTES:**
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHINK GROUT).
 3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.
 5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED. A 24"x11" x 27"x11" OPENING IS REQUIRED FOR CBCI. SEE E201.4.0.
 7. HOODS SHALL NOT BE INSTALLED IN STRUCTURES WITHIN SHO.



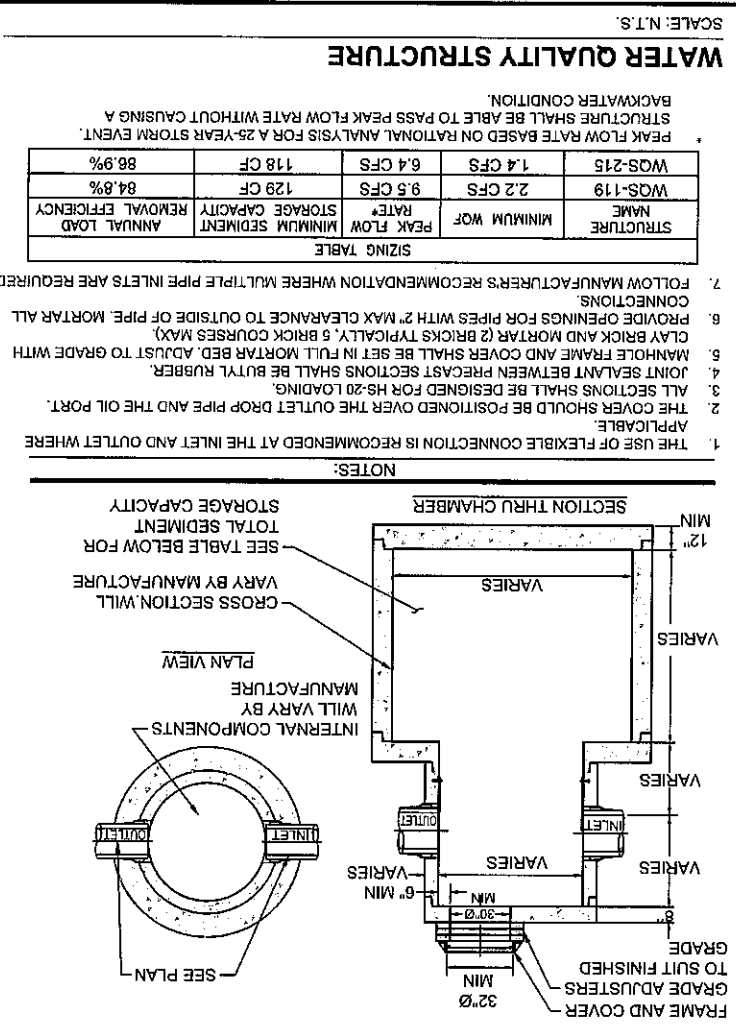
SCALE: N.T.S.

- NOTES:**
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM). A 24"x11" x 27"x11" OPENING IS REQUIRED FOR CBCI. SEE E201.4.0.
 6. HOODS SHALL NOT BE INSTALLED IN STRUCTURES WITHIN SHO.



SCALE: N.T.S.

- NOTES:**
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHINK GROUT).
 3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.
 5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.



SCALE: N.T.S.

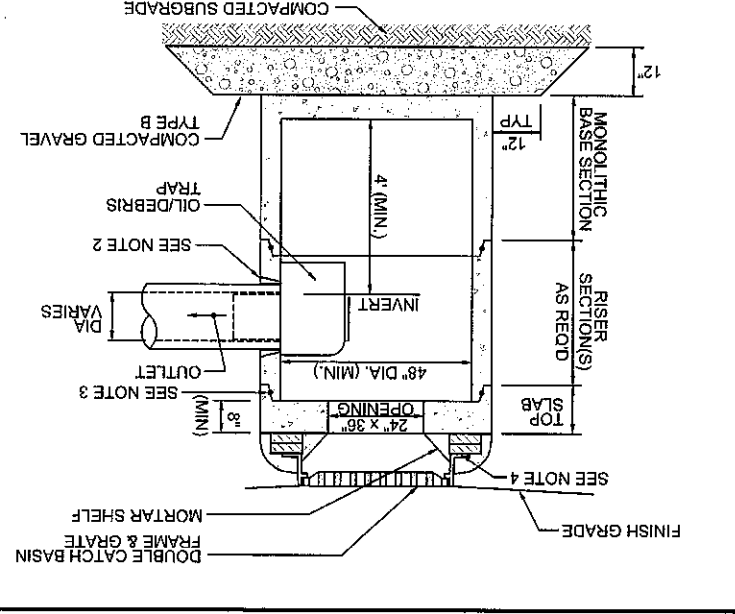
- NOTES:**
1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
 2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL PORT.
 3. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
 6. MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAX).
 8. PROVIDE OPENINGS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL CONNECTIONS.
 7. FOLLOW MANUFACTURER'S RECOMMENDATION WHERE MULTIPLE PIPE INLETS ARE REQUIRED.

WATER QUALITY STRUCTURE

PEAK FLOW RATE BASED ON RATIONAL ANALYSIS FOR A 25-YEAR STORM EVENT. STRUCTURE SHALL BE ABLE TO PASS PEAK FLOW RATE WITHOUT CAUSING A BACKWATER CONDITION.

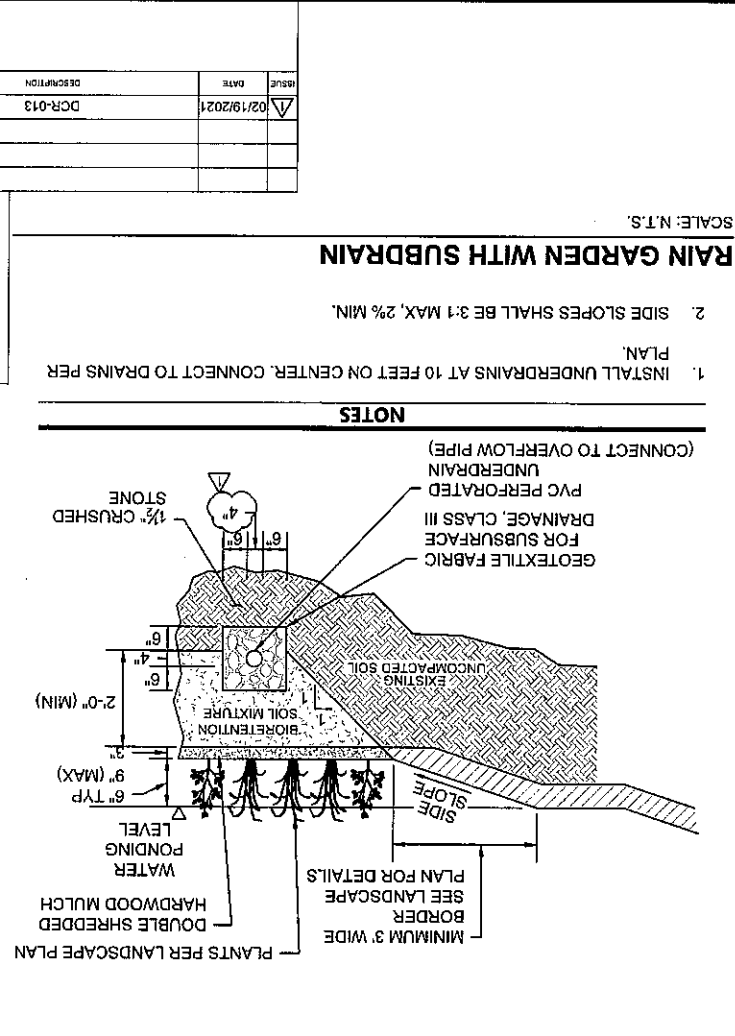
STRUCTURE NAME	MINIMUM WQF RATE	PEAK FLOW STORAGE CAPACITY	ANNUAL LOAD REMOVAL EFFICIENCY
WQS-215	1.4 CFS	6.4 CFS	84.9%
WQS-119	2.2 CFS	9.5 CFS	84.9%
	118 CF	118 CF	84.9%

SIZING TABLE



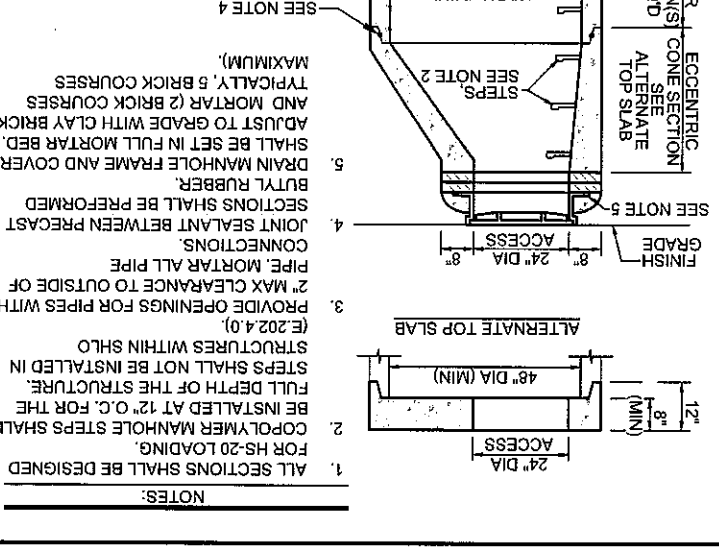
SCALE: N.T.S.

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



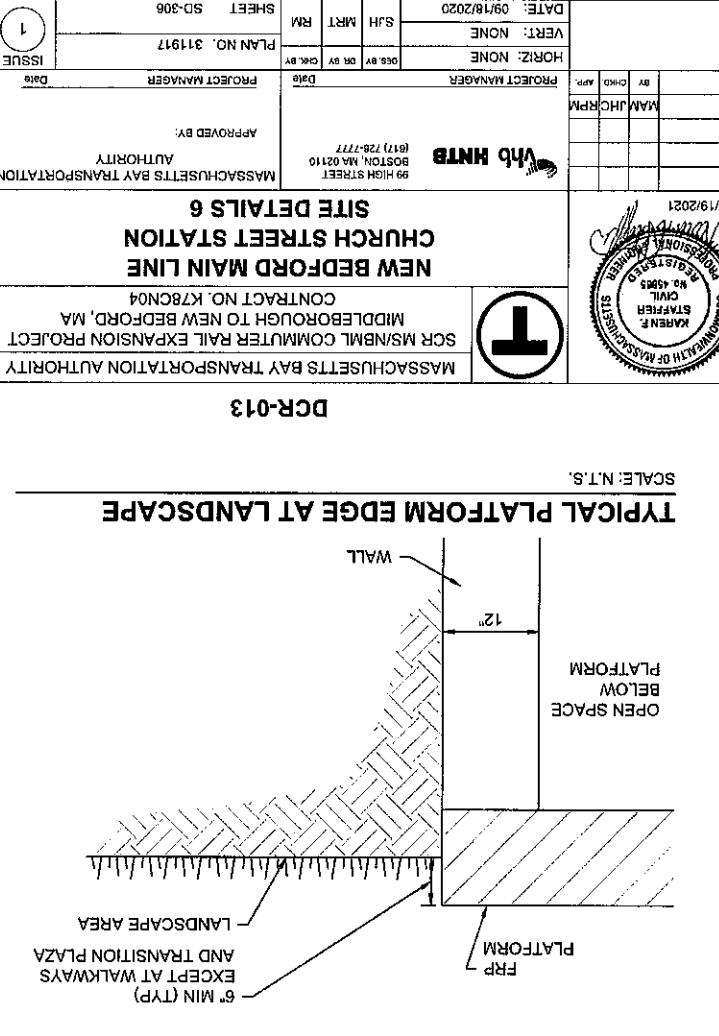
SCALE: N.T.S.

- NOTES:**
1. INSTALL UNDERDRAINS AT 10 FEET ON CENTER. CONNECT TO DRAINS PER PLAN.
 2. SIDE SLOPES SHALL BE 3:1 MAX, 2% MIN.



SCALE: N.T.S.

- NOTES:**
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE. STEPS SHALL NOT BE INSTALLED IN STRUCTURES WITHIN SHO.
 3. PROVIDE OPENINGS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).



SCALE: N.T.S.

- NOTES:**
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE. STEPS SHALL NOT BE INSTALLED IN STRUCTURES WITHIN SHO.
 3. PROVIDE OPENINGS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
 4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

DCR-013

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

APPROVED BY: [Signature]

PROJECT MANAGER: [Name]

DATE: 02/19/2021

DESCRIPTION: DCR-013

ISSUE DATE: 02/19/2021

NEW BEDFORD MAIN LINE CHURCH STREET STATION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

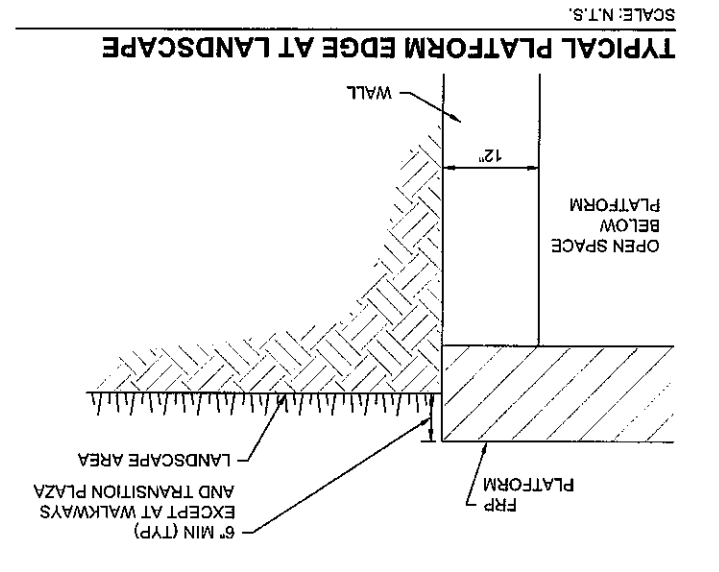
CONTRACT NO. K78CND4

MIDDLEBOROUGH TO NEW BEDFORD, MA

SCR MS/BNML COMPUTER RAIL EXPANSION PROJECT

SITE DETAILS 6

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

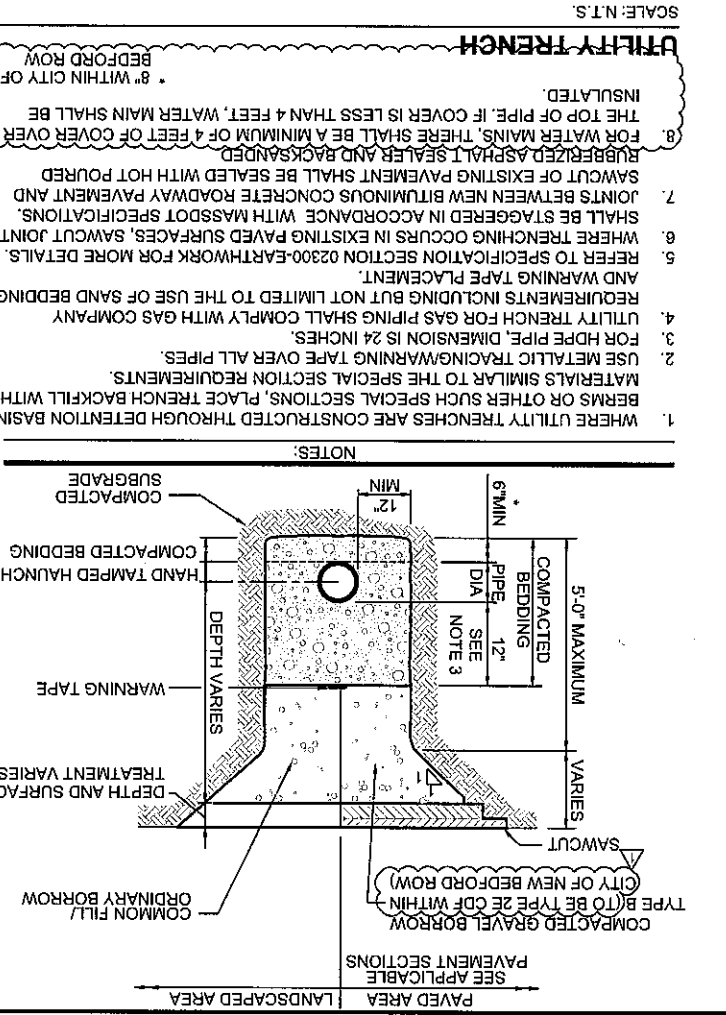
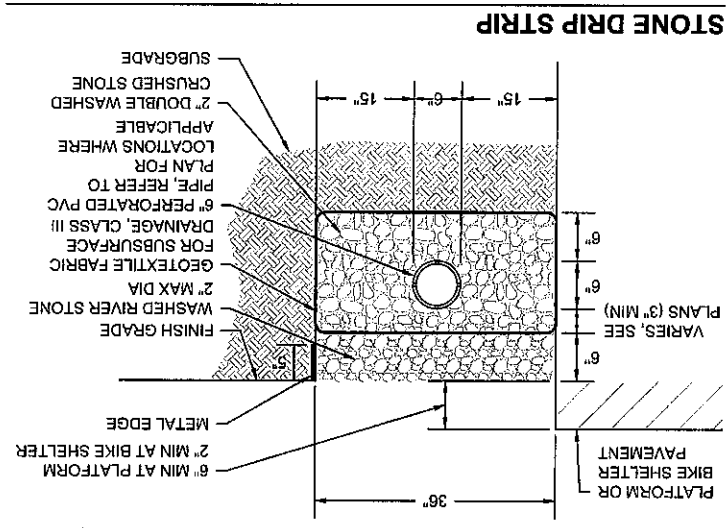
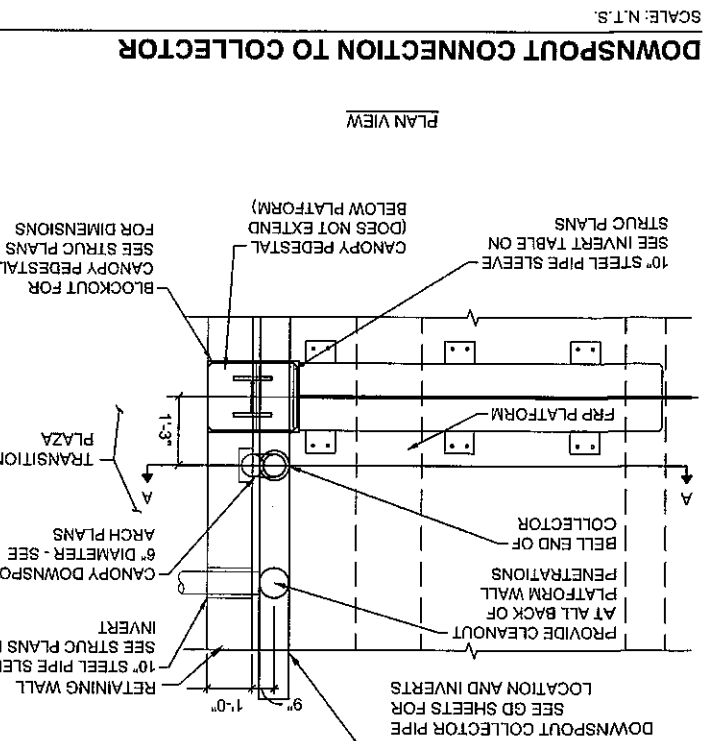
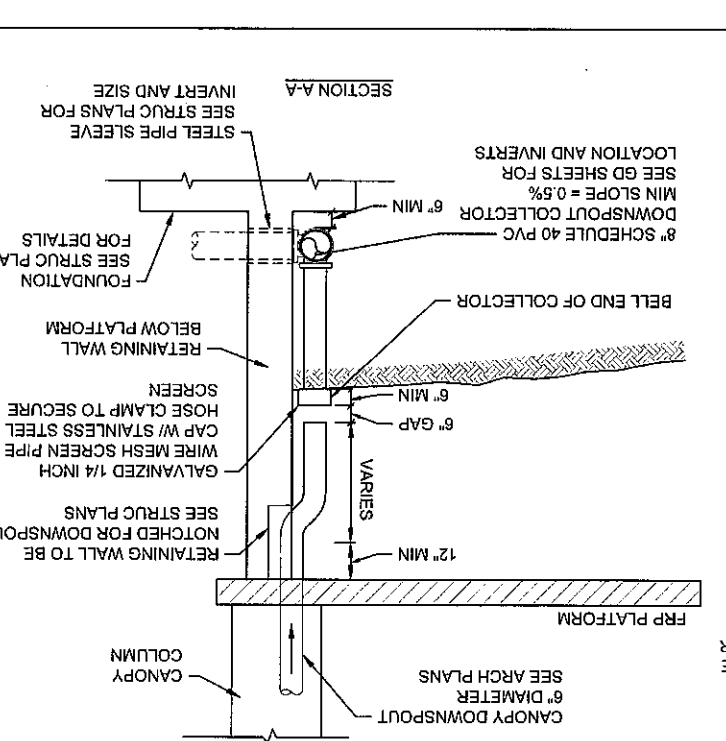
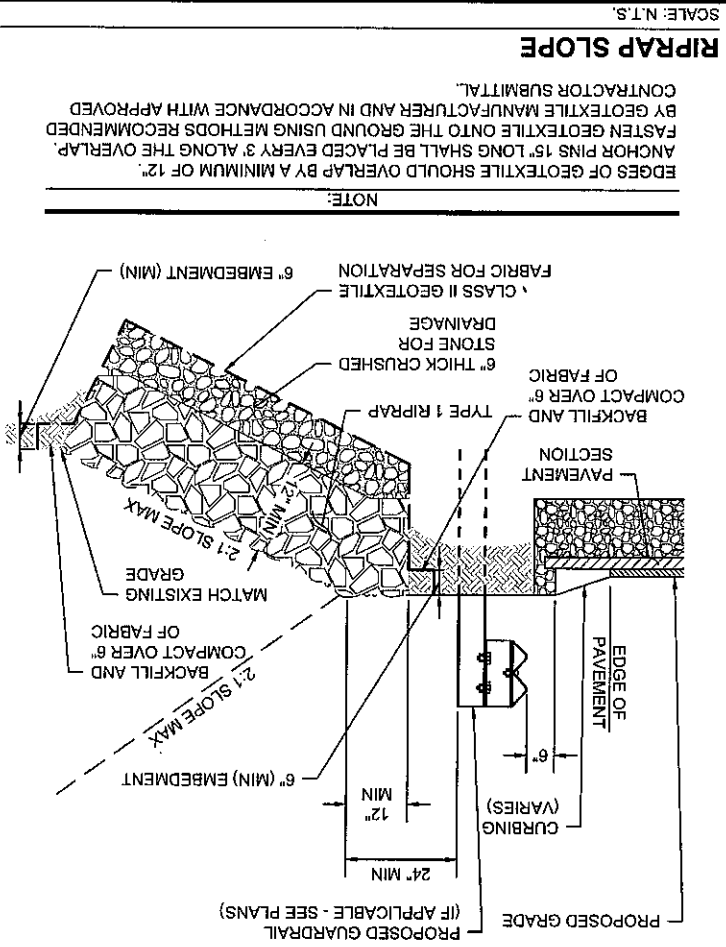
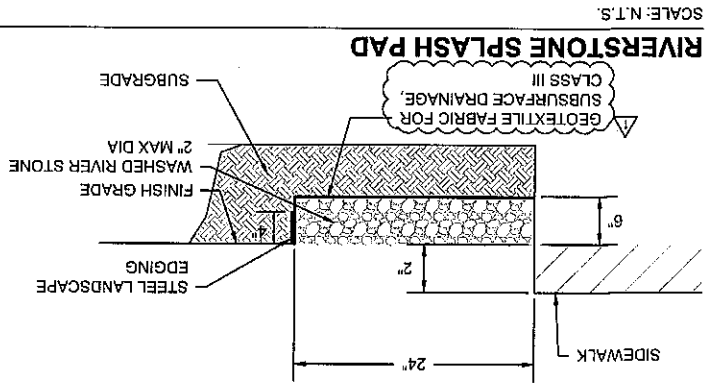
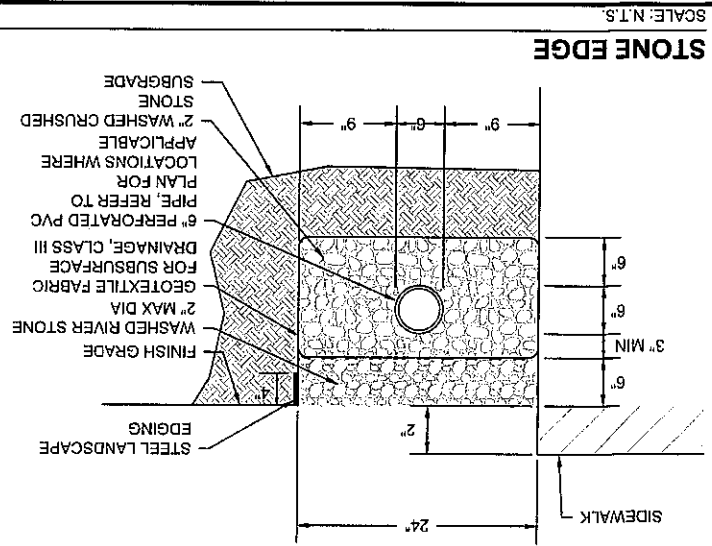


DCR-013

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

DCR-013

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY



DATE: 09/19/2020	DATE: 02/19/2021
VERT: NONE	ISSUE: 1
HORIZ: NONE	PROJECT MANAGER: CM JHCRPM
DES BY: CR BR	DATE: 02/19/2021
DWG BY: CR BR	DATE: 02/19/2021
CHECKED BY: CR BR	DATE: 02/19/2021
PROJECT MANAGER: JHB HNTB	DATE: 02/19/2021
PROJECT MANAGER: JHB HNTB	DATE: 02/19/2021
PROJECT MANAGER: JHB HNTB	DATE: 02/19/2021
PROJECT MANAGER: JHB HNTB	DATE: 02/19/2021
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PROJECT MANAGER: JHB HNTB	DATE: 02/19/2021

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 99 HIGH STREET
 BOSTON, MA 02110
 (617) 728-7777

APPROVED BY:

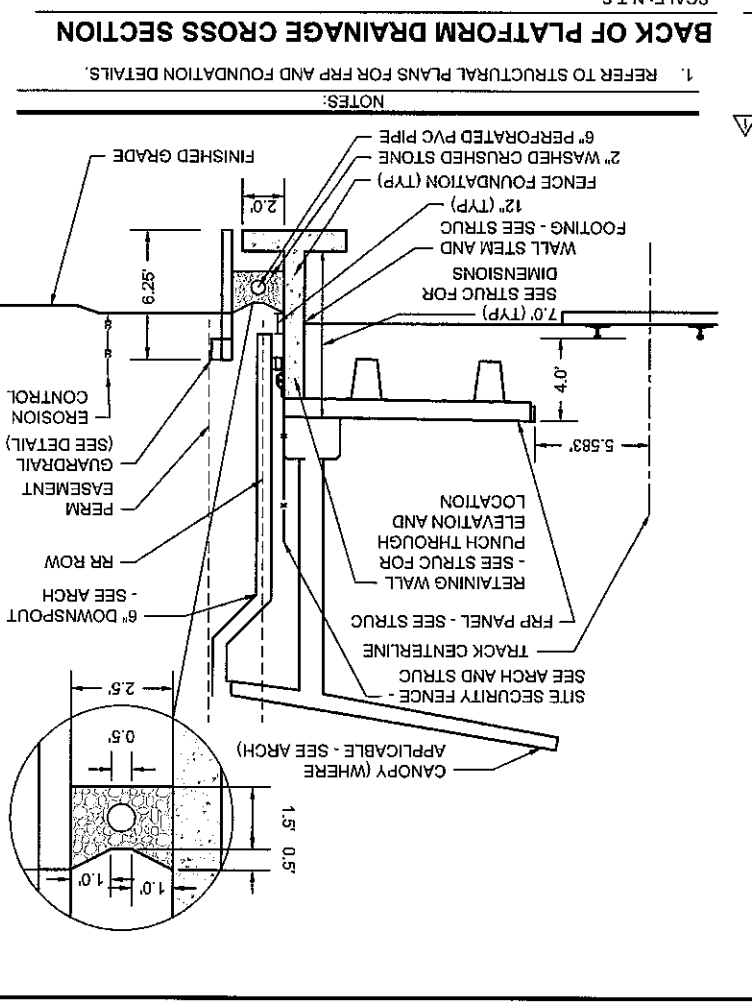
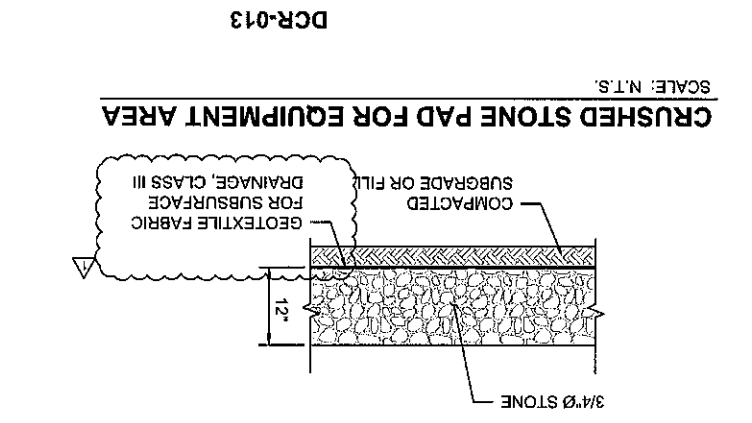
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

CONTRACT NO. K78CND4

SCR M/NBL COMMUTER RAIL EXPANSION PROJECT
 MIDDLEBOROUGH TO NEW BEDFORD, MA

**NEW BEDFORD MAIN LINE
 CHURCH STREET STATION**

SITE DETAILS 7



ISSUE	1
DATE	02/19/2021
DESCRIPTION	DCR-013
BY	CM JHC/PPM
CHECKED	
DATE	
PROJECT MANAGER	
DATE	
APPROVED BY:	
PROJECT MANAGER	
DATE	
DATE: 09/18/2020	
VERT: NONE	
HORIZ: NONE	
DES BY	
CHK BY	
DATE	
SHEET	SD-308
PLAN NO.	311919
ISSUE	1

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
SCR MS/BML COMPUTER RAIL EXPANSION PROJECT
MIDDLEBOROUGH TO NEW BEDFORD, MA
CONTRACT NO. K78CND4
NEW BEDFORD MAIN LINE
CHURCH STREET STATION
SITE DETAILS 8

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 89 HIGH STREET
 BOSTON, MA 02110
 (617) 728-7777

VHb HNTB

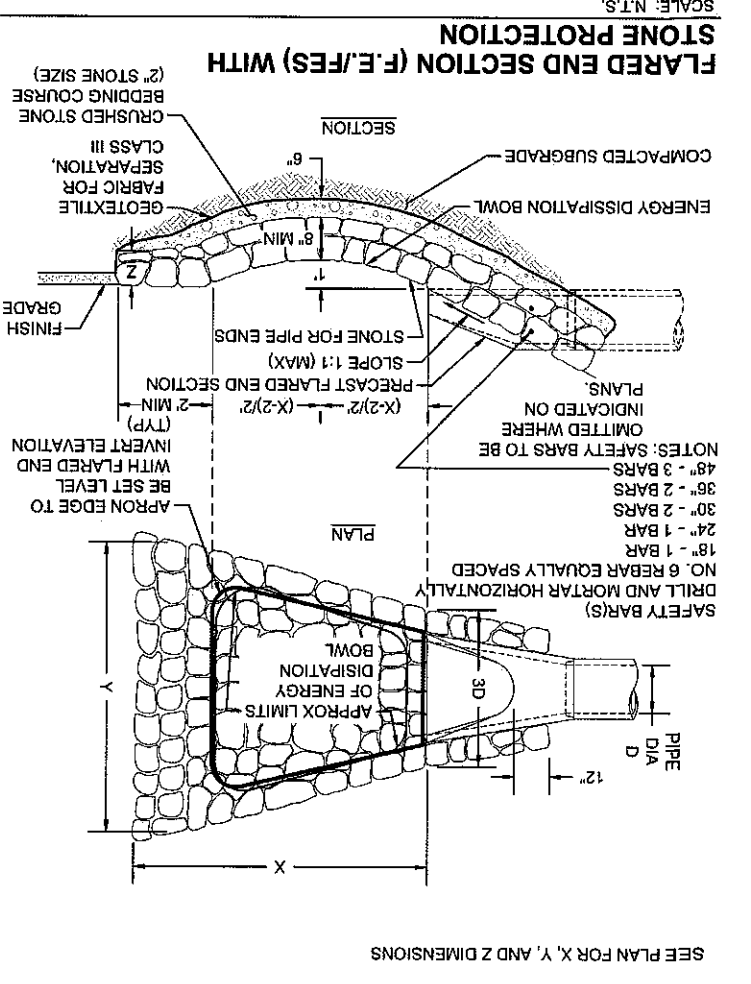
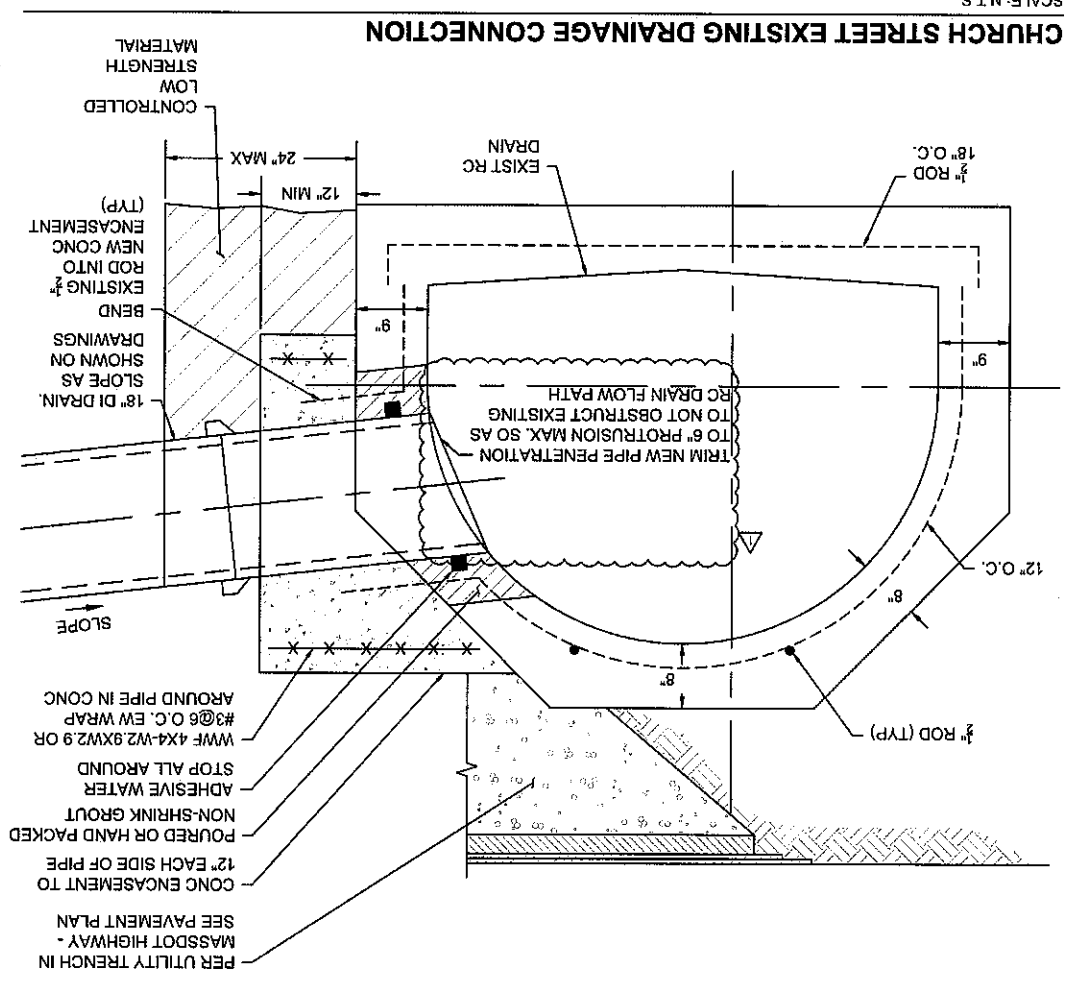
APPROVED BY: [Signature]
 DATE: 02/19/2021

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 NO. 45885
 KAREN P. STAFFIER
 COMMONWEALTH OF MASSACHUSETTS

SCALE: N.T.S.
INLINE CHECK VALVE

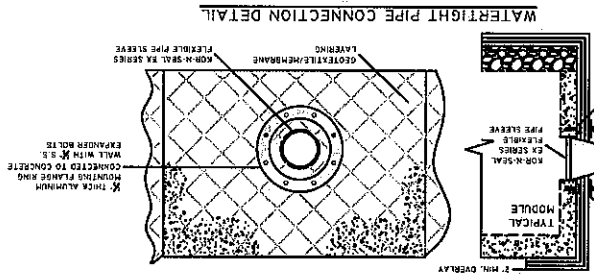
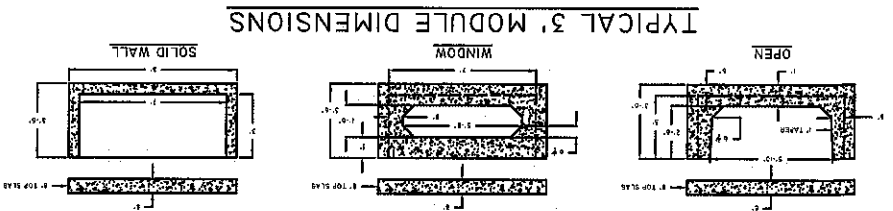
NO.	DESCRIPTION	QTY	UNIT	WEIGHT (KG)	WEIGHT (LBS)
1	PIPE 12" O.C.	1	LINEAR	120	264.6
2	FLANGE	2	FLANGE	15	33.1
3	WELDED END	2	WELDED END	15	33.1
4	ROD 1/2" DIA	2	ROD	10	22.0
5	ROD 1/2" DIA	2	ROD	10	22.0
6	ROD 1/2" DIA	2	ROD	10	22.0
7	ROD 1/2" DIA	2	ROD	10	22.0
8	ROD 1/2" DIA	2	ROD	10	22.0
9	ROD 1/2" DIA	2	ROD	10	22.0
10	ROD 1/2" DIA	2	ROD	10	22.0
11	ROD 1/2" DIA	2	ROD	10	22.0
12	ROD 1/2" DIA	2	ROD	10	22.0
13	ROD 1/2" DIA	2	ROD	10	22.0
14	ROD 1/2" DIA	2	ROD	10	22.0
15	ROD 1/2" DIA	2	ROD	10	22.0
16	ROD 1/2" DIA	2	ROD	10	22.0
17	ROD 1/2" DIA	2	ROD	10	22.0
18	ROD 1/2" DIA	2	ROD	10	22.0
19	ROD 1/2" DIA	2	ROD	10	22.0
20	ROD 1/2" DIA	2	ROD	10	22.0
21	ROD 1/2" DIA	2	ROD	10	22.0
22	ROD 1/2" DIA	2	ROD	10	22.0
23	ROD 1/2" DIA	2	ROD	10	22.0
24	ROD 1/2" DIA	2	ROD	10	22.0
25	ROD 1/2" DIA	2	ROD	10	22.0
26	ROD 1/2" DIA	2	ROD	10	22.0
27	ROD 1/2" DIA	2	ROD	10	22.0
28	ROD 1/2" DIA	2	ROD	10	22.0
29	ROD 1/2" DIA	2	ROD	10	22.0
30	ROD 1/2" DIA	2	ROD	10	22.0
31	ROD 1/2" DIA	2	ROD	10	22.0
32	ROD 1/2" DIA	2	ROD	10	22.0
33	ROD 1/2" DIA	2	ROD	10	22.0
34	ROD 1/2" DIA	2	ROD	10	22.0
35	ROD 1/2" DIA	2	ROD	10	22.0
36	ROD 1/2" DIA	2	ROD	10	22.0
37	ROD 1/2" DIA	2	ROD	10	22.0
38	ROD 1/2" DIA	2	ROD	10	22.0
39	ROD 1/2" DIA	2	ROD	10	22.0
40	ROD 1/2" DIA	2	ROD	10	22.0
41	ROD 1/2" DIA	2	ROD	10	22.0
42	ROD 1/2" DIA	2	ROD	10	22.0
43	ROD 1/2" DIA	2	ROD	10	22.0
44	ROD 1/2" DIA	2	ROD	10	22.0
45	ROD 1/2" DIA	2	ROD	10	22.0
46	ROD 1/2" DIA	2	ROD	10	22.0
47	ROD 1/2" DIA	2	ROD	10	22.0
48	ROD 1/2" DIA	2	ROD	10	22.0
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72	ROD 1/2" DIA	2	ROD	10	22.0
73	ROD 1/2" DIA	2	ROD	10	22.0
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75	ROD 1/2" DIA	2	ROD	10	22.0
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87	ROD 1/2" DIA	2	ROD	10	22.0
88	ROD 1/2" DIA	2	ROD	10	22.0
89	ROD 1/2" DIA	2	ROD	10	22.0
90	ROD 1/2" DIA	2	ROD	10	22.0
91	ROD 1/2" DIA	2	ROD	10	22.0
92	ROD 1/2" DIA	2	ROD	10	22.0
93	ROD 1/2" DIA	2	ROD	10	22.0
94	ROD 1/2" DIA	2	ROD	10	22.0
95	ROD 1/2" DIA	2	ROD	10	22.0
96	ROD 1/2" DIA	2	ROD	10	22.0
97	ROD 1/2" DIA	2	ROD	10	22.0
98	ROD 1/2" DIA	2	ROD	10	22.0
99	ROD 1/2" DIA	2	ROD	10	22.0
100	ROD 1/2" DIA	2	ROD	10	22.0

- NOTES**
- CHECK VALVES ARE TO BE ALL RUBBER, AND THE FLOW OPERATED CHECK TYPE WITH SLIP-IN GUFF CONNECTION.
 - THE ENTIRE VALVE SHALL FIT WITHIN THE PIPE INSIDE DIAMETER.
 - A SEPARATE VALVE BODY OR PIPE USED AS THE HOUSING IS NOT ACCEPTABLE.
 - STAINLESS STEEL EXPANSION CLAMPS SHALL SECURE THE VALVE IN PLACE. THE MANUFACTURER MUST HAVE FLOW TEST DATA FROM AN ACCREDITED HYDRAULICS LABORATORY TO CONFIRM PRESSURE DROP AND HYDRAULIC DATA.
 - THE VALVE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTALLATION AND OPERATION MANUAL AND APPROVED SUBMITTALS.



STORMWATER MANAGEMENT DETENTION SYSTEM

SCALE: N.T.S.



TOTAL SYSTEM STORAGE = 8,512.31 CUFT

TOTAL MODULES = 51
TOTAL SYSTEM STORAGE = 8,512.31 CUFT

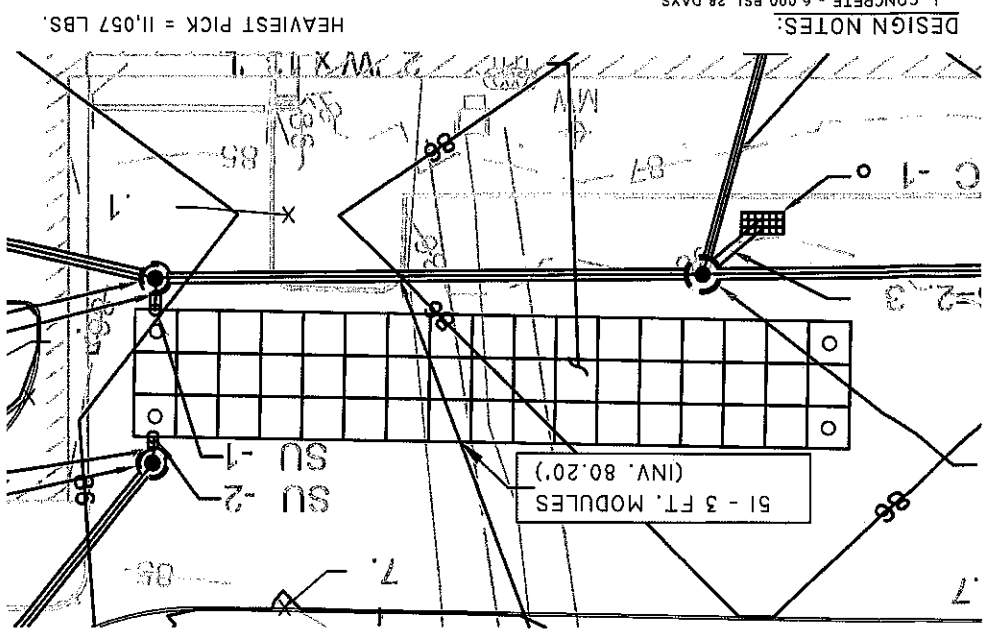
STORAGE VOLUME CALCULATIONS

DESIGN NOTES:

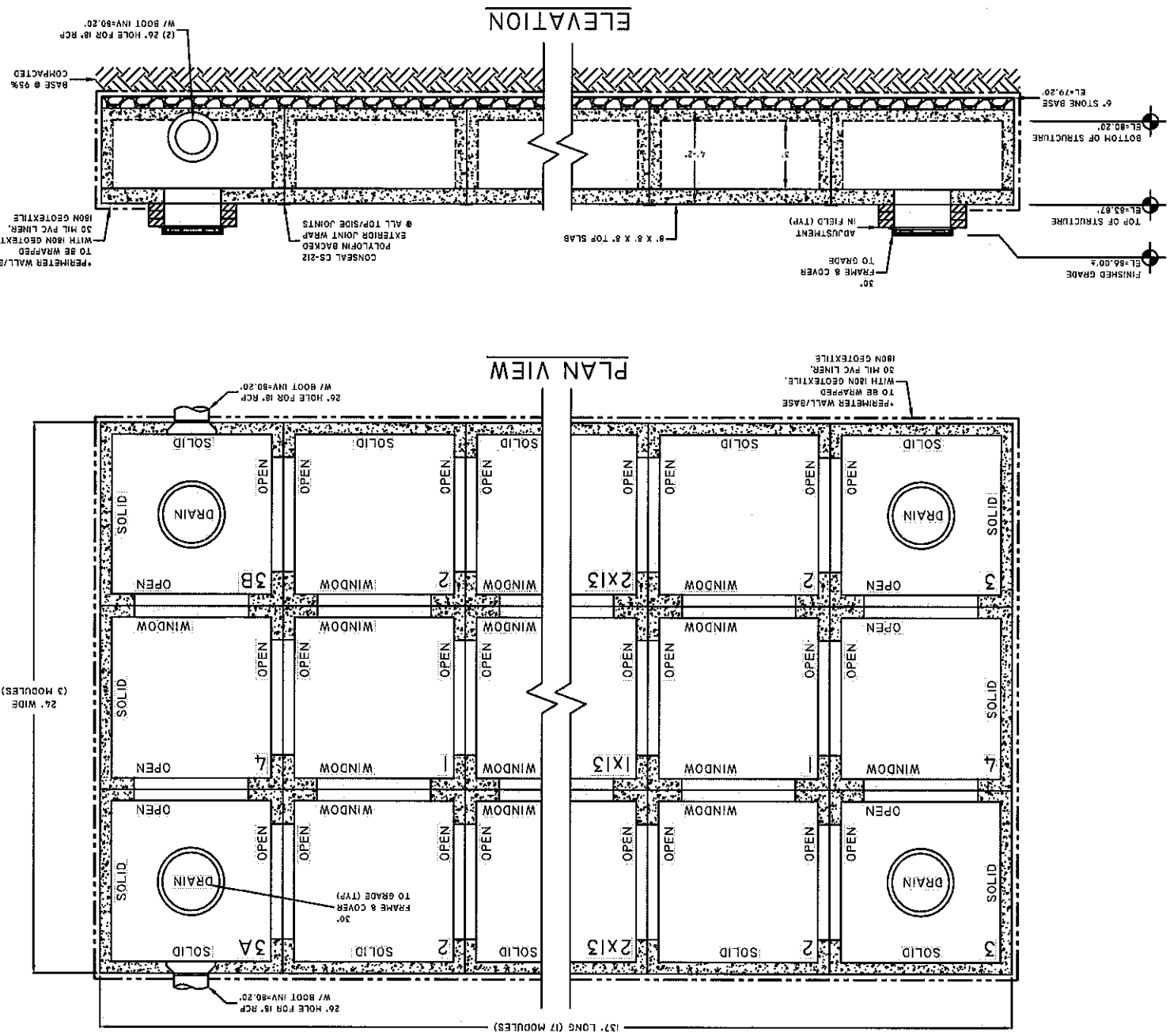
- CONCRETE - 6,000 PSI, 28 DAYS
- REINFORCING STEEL CONFORMS TO LATEST ASTM A615
- H-20 DESIGN LOADING PER AASHTO HS-20-44

DETENTION SYSTEM (3' ID HEIGHT STORAGE VOLUME)

USE: 1' - (15) X 170.61 CUFT PER UNIT = 2,559.15 CUFT
2' - 7' - (32) X 165.89 CUFT PER UNIT = 5,308.48 CUFT
3' - 5A' - 3B' - (4) X 161.17 CUFT PER UNIT = 644.68 CUFT



SCHEMATIC LAYOUT



- GEOTEXILE/MEMBRANE LAYERS
 - 180N MIRAFI GEOTEXILE
 - 30 MIL PVC LINER
 - 180N MIRAFI GEOTEXILE
- MIRAFI MANUFACTURED BY TENCATE GEOSYNTHETICS OR APPROVED EQUAL
365 SOUTH HOLLAND DRIVE - PENDERGRASS, GA 30567
MEMBRANE MANUFACTURED BY ENVIRONMENTAL PROTECTION INC. (EPI)
9939 US-131 SOUTH - MANCERLONA, MI 49659

DATE: 09/18/2020	DATE: 09/18/2020
HORIZ: NONE	HORIZ: NONE
VERT: NONE	VERT: NONE
DES BY: ORL BY: [Signature]	CHK BY: [Signature]
PROJECT MANAGER: [Signature]	PROJECT MANAGER: [Signature]
APPROVED BY: [Signature]	APPROVED BY: [Signature]
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
SCR MS/NBML COMMUTER RAIL EXPANSION PROJECT
MIDDLEBOROUGH TO NEW BEDFORD, MA
CONTRACT NO. K78CN04
NEW BEDFORD MAIN LINE
CHURCH STREET STATION
SITE DETAILS 9

CONFORMED

STAGED STORAGE TABLE

ELEVATION (FEET)	STORAGE (CUBIC FEET)
80.2	0
80.4	567
80.6	1135
80.8	1702
81.0	2270
81.2	2837
81.4	3405
81.6	3972
81.8	4540
82.0	5107
82.2	5675
82.4	6242
82.6	6810
82.8	7377
83.0	7945
83.2	8512

DATE: 08/18/2020	SHEET: LD-300
VERT: NONE	PLAN NO. 311924
HORIZ: 1" = 40'	ISSUE
DES: BY: CM JHC/RPM	PROJECT MANAGER
CHK: BY: CM JHC/RPM	PROJECT MANAGER
DATE: 02/19/2021	DATE
ISSUE	DATE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

APPROVED BY:

PROJECT MANAGER:

DATE: 02/19/2021

SCALE: 1" = 40'

160 40 100

LANDSCAPE PLAN 1

NEW BEDFORD MAIN LINE

CHURCH STREET STATION

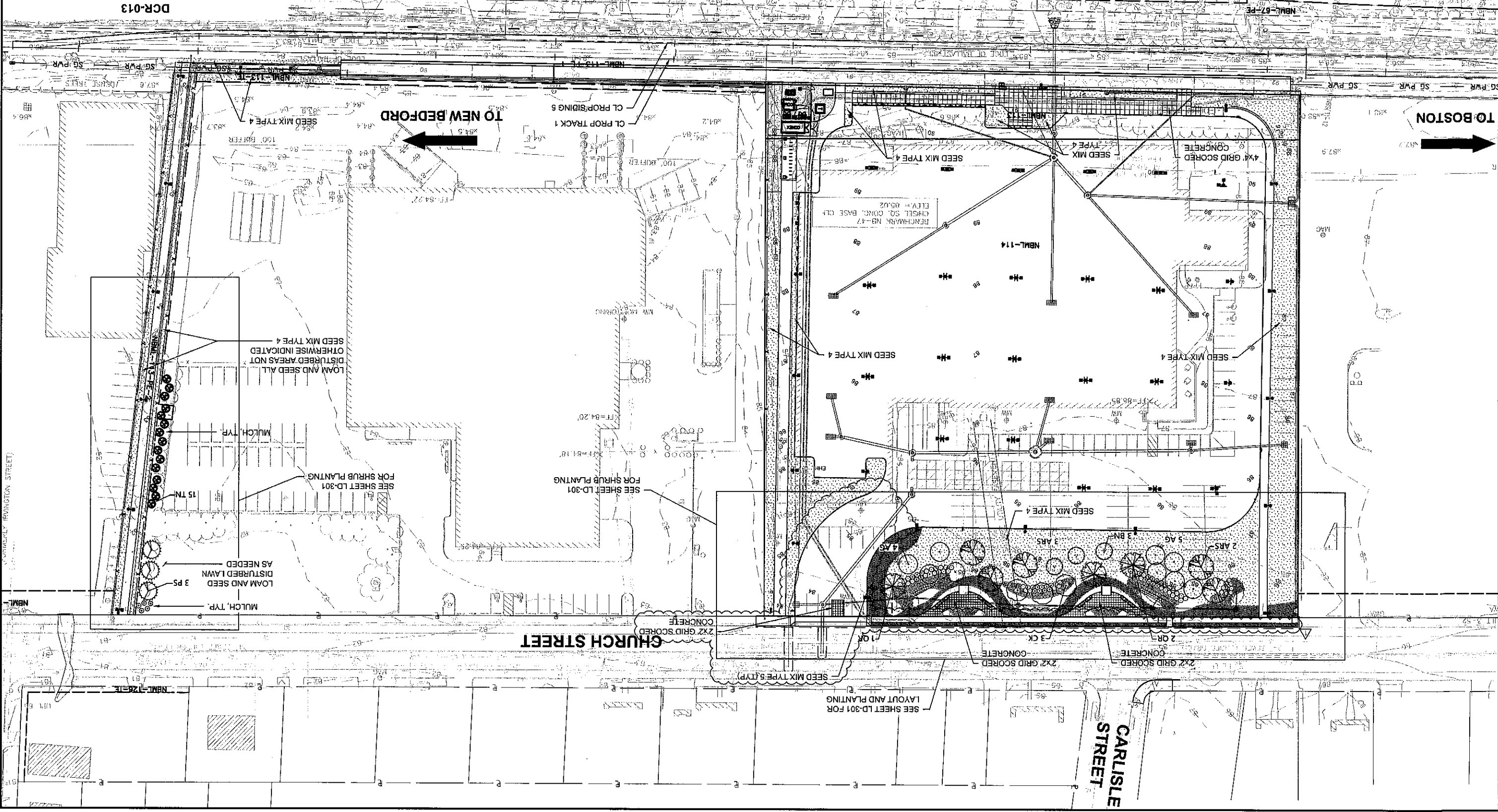
CONTRACT NO. K78CN04

MIDDLEBOROUGH TO NEW BEDFORD, MA

SCR MS/MBL COMPUTER RAIL EXPANSION PROJECT

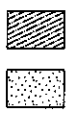
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

DCR-013



- NOTES:**
- WHERE PLANTING SOILS ARE NOT OTHERWISE INDICATED ON BASIN OR SWALE DETAILS PROVIDE 6" LOAM FOR SEED BED.
 - ALL PLANTING AND SEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS SECTIONS 02920 - LOAM AND SEED, AND 02932 - PLANTING.

SEED MIXTURES:



- TYPE 5 BLUEGRASS-FESCUE SEED MIX
- TYPE 4 NO-MOW SEED MIX

COMMON NAME	BOTANICAL NAME	SIZE
Red Sunset Maple	Acer rubrum 'Red Sunset'	2 1/2 - 3" CAL
Heritage River Birch	Betula nigra 'Heritage'	2 1/2 - 3" CAL
Dark American Arborvitae	Thuja nigra	6 - 7' HT.
White Pine	Pinus strobus	7 - 8' HT.
Heart Throb Kousa Dogwood	Cornus kousa 'Heart Throb'	2 1/2 - 3" CAL
Autumn Brilliance Serviceberry	Amelanchier x grandiflora 'Autumn Brilliance'	2 1/2 - 3" CAL

SEE SHEET LD-301 FOR SHRUB AND PERENNIAL PLANTING SCHEDULE

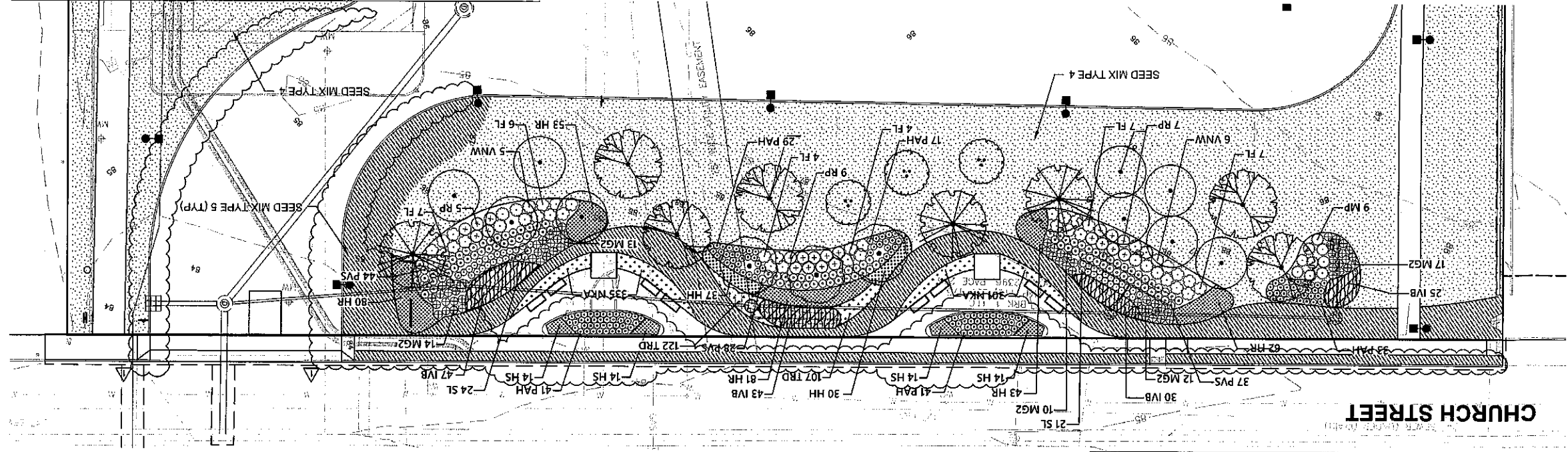
DECIDUOUS TREES	QTY	BOTANICAL NAME
ARS	5	Acer rubrum 'Red Sunset'
BN	3	Betula nigra 'Heritage'
QR	3	Quercus rubra
PS	3	Pinus strobus
TN	15	Thuja nigra
EVERGREEN TREES	QTY	BOTANICAL NAME
AG	9	Amelanchier x grandiflora 'Autumn Brilliance'
CK	3	Cornus kousa 'Heart Throb'

PLANTING SCHEDULE

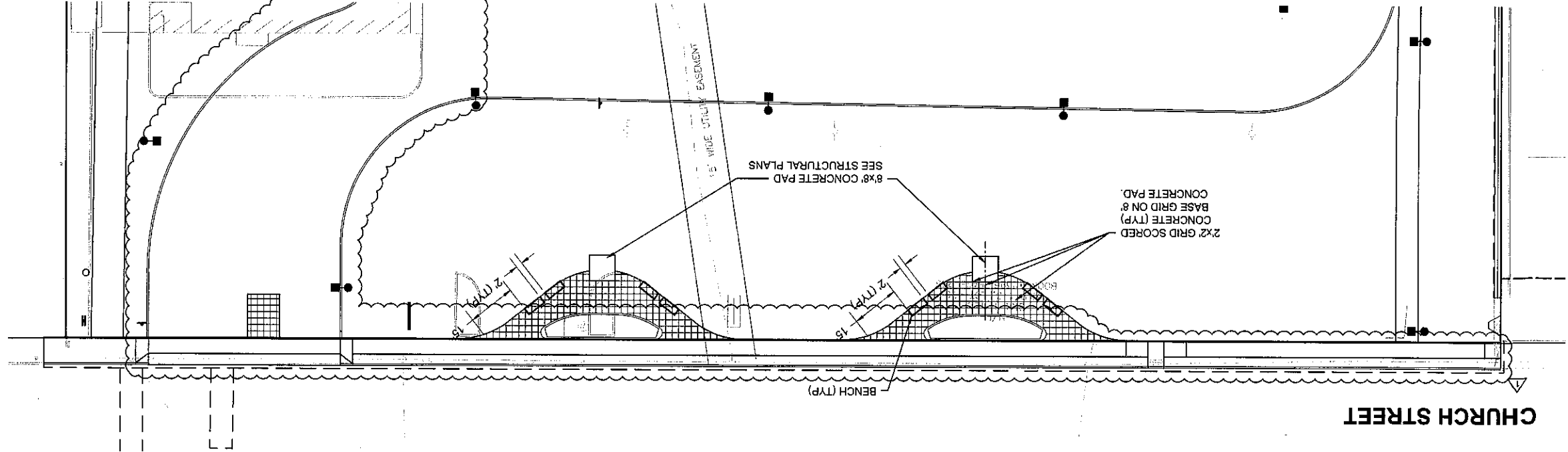
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
FL	35	Forsythia x intermedia 'Lynwood Gold'	Lynwood Gold Forsythia	3 - 1/2 HT.	24" o.c.
JBD	5	Juniperus communis depressa 'Blueberry Delight'	Blueberry Delight Juniper	#3 POT / 24" SPD.	48" o.c.
MG2	69	Myrica gale	Sweetgale	18 - 24" HT.	30" o.c.
MP	9	Myrica pensylvanica	Northern Bayberry	3 - 1/2 HT.	48" o.c.
RP	21	Rhododendron x PJM	PJM Rhododendron	3 - 1/2 HT.	48" o.c.
SL	45	Spiraea latifolia	Meadow-Sweet	2 1/2 - 3 HT.	48" o.c.
VNW	11	Viburnum nudum 'Winterthur'	Winterthur Smooth Viburnum	3 - 3 1/2 HT.	48" o.c.
GRASSES					
PVS	109	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	#3 POT	30" o.c.
PAH	161	Pennisetum alopecuroides 'Hameln'	Hameln Dwarf Fountain Grass	#1 POT	24" o.c.
PERENNIALS					
HH	70	Hemerocallis x 'Happy Returns'	Happy Returns Daylily	#1 POT	18" o.c.
HR	319	Hemerocallis x 'Rosy Returns'	Rosy Returns Daylily	#1 POT	18" o.c.
HS	56	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily	#1 POT	18" o.c.
IVB	144	Iris versicolor	Blue Flag Iris	#1 POT	24" o.c.

SEE SHEET L-300 FOR TREE PLANTING SCHEDULE

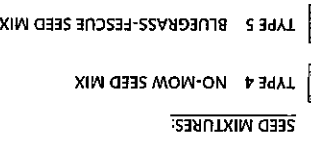
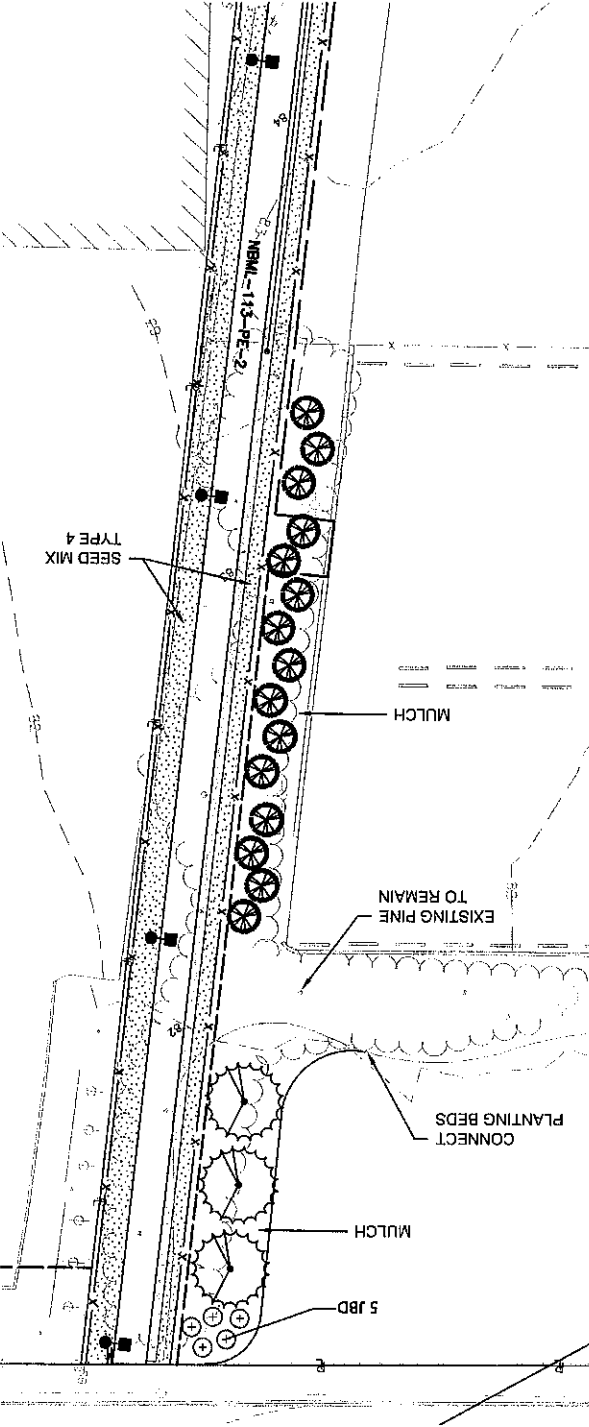
PLANTING PLAN



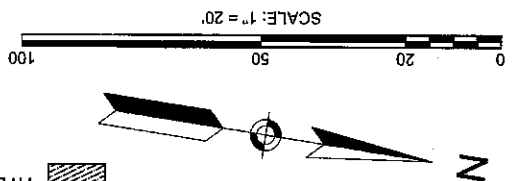
LAYOUT PLAN



PLANTING PLAN



- NOTES:
- WHERE PLANTING SOILS ARE NOT OTHERWISE INDICATED ON BASIN OR SWALE DETAILS PROVIDE 6" LOAM FOR SEED BED.
 - ALL PLANTING AND SEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS SECTIONS 02920 - LOAM AND SEED, AND 02932 - PLANTING.
 - SEE SHEET LD-300 FOR TREE PLANTING.



DCR-013

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

SCR MS/NBML COMPUTER RAIL EXPANSION PROJECT
MIDDLEBOROUGH TO NEW BEDFORD, MA
CONTRACT NO. K78CND4

**NEW BEDFORD MAIN LINE
CHURCH STREET MAIN LINE
LANDSCAPE PLAN 2**

APPROVED BY: [Signature]

PROJECT MANAGER: [Signature]

DATE: 02/19/2021

DESCRIPTION: DCR-013

DATE: 02/19/2021

ISSUE: 1

SHEET: LD-301

PLAN NO. 311926

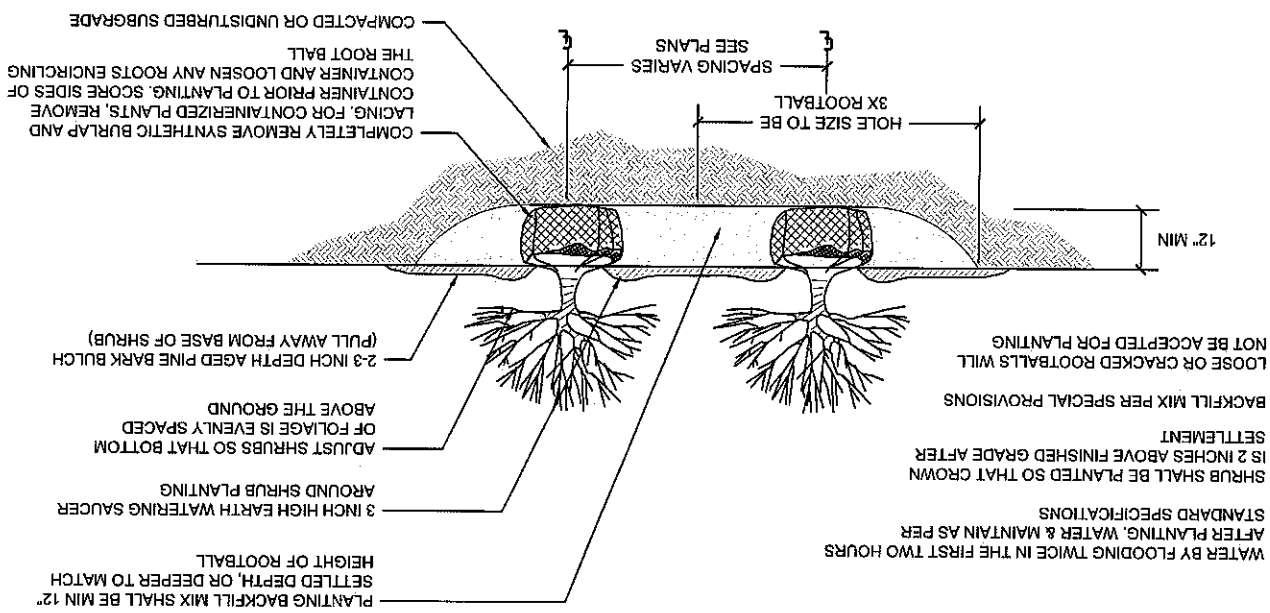
DATE: 08/18/2020

VERT: NONE

HORIZ: 1" = 20'

SCALE: N.T.S.

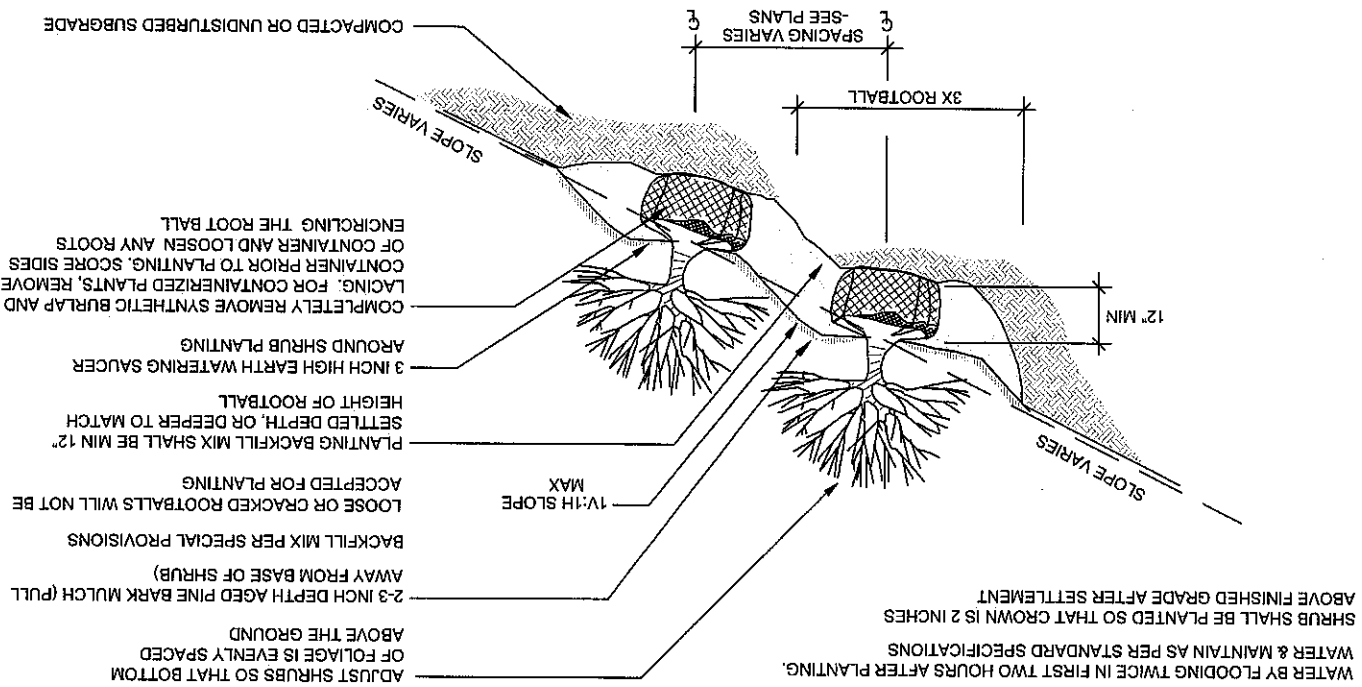
SHRUB PLANTING



WATER BY FLOODING TWICE IN THE FIRST TWO HOURS AFTER PLANTING, WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS
 SHRUB SHALL BE PLANTED SO THAT CROWN IS 2 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT
 BACKFILL MIX PER SPECIAL PROVISIONS
 LOOSE OR CRACKED ROOTBALLS WILL NOT BE ACCEPTED FOR PLANTING

SCALE: N.T.S.

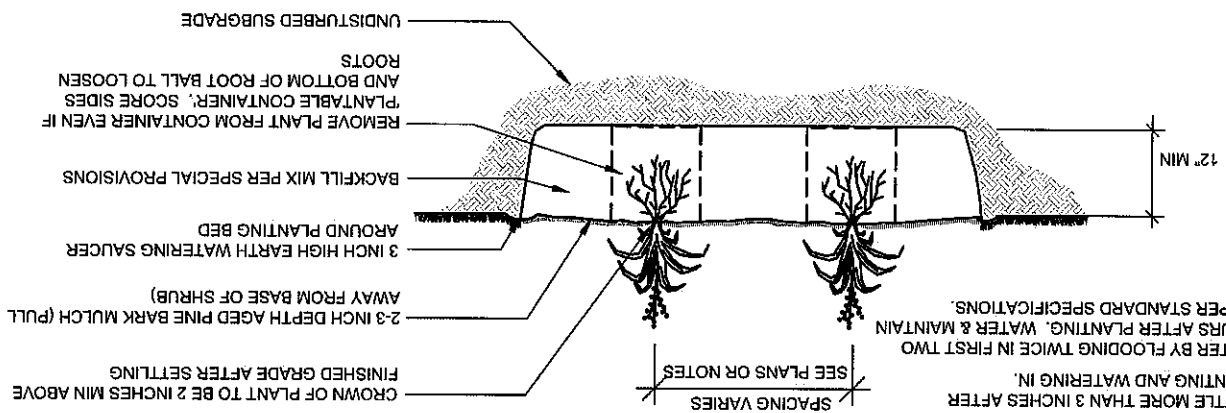
SHRUB PLANTING ON SLOPE



WATER BY FLOODING TWICE IN THE FIRST TWO HOURS AFTER PLANTING, WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS
 SHRUB SHALL BE PLANTED SO THAT CROWN IS 2 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT

SCALE: N.T.S.

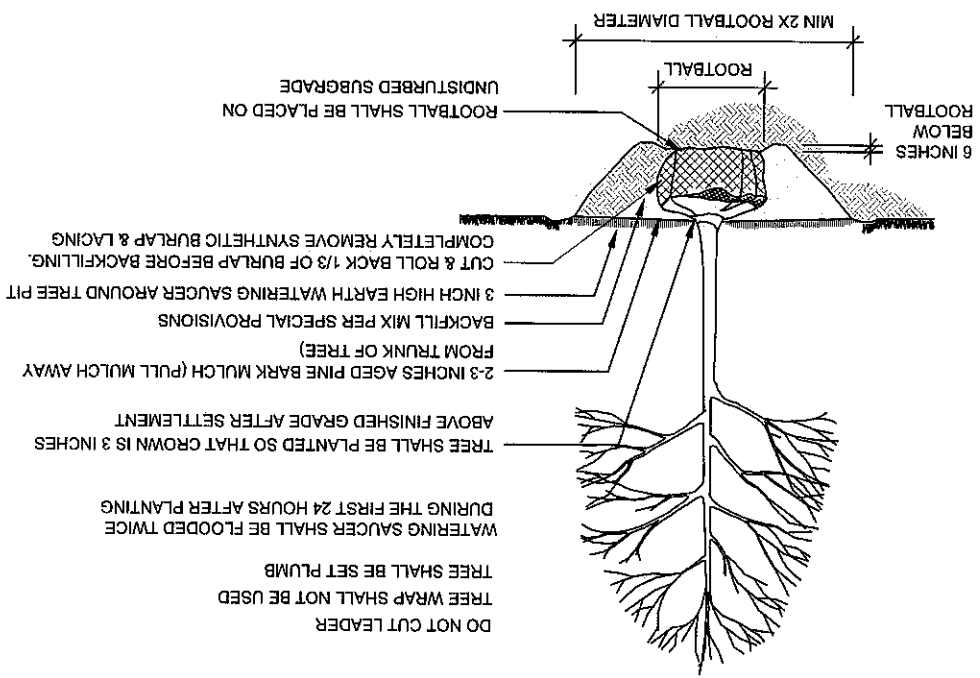
PERENNIAL PLANTING



EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX
 RAISE AND REPLANT ANY PLANTS THAT SETTLE MORE THAN 3 INCHES AFTER PLANTING AND WATERING IN.
 WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING, WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS
 (PULL AWAY FROM BASE OF SHRUB) 2-3 INCH DEPTH AGED PINE BARK MULCH (PULL AWAY FROM BASE OF SHRUB)
 3 INCH HIGH EARTH WATERING SAUCER
 AROUND PLANTING BED
 BACKFILL MIX PER SPECIAL PROVISIONS
 REMOVE PLANT FROM CONTAINER EVEN IF PLANTABLE CONTAINER, SCORE SIDES AND BOTTOM OF ROOT BALL TO LOOSEN ROOTS
 UNDISTURBED SUBGRADE

SCALE: N.T.S.

DECIDUOUS TREE PLANTING



DO NOT CUT LEADER
 TREE WRAP SHALL NOT BE USED
 WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING
 TREE SHALL BE PLANTED SO THAT CROWN IS 3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT
 2-3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)
 3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT
 BACKFILL MIX PER SPECIAL PROVISIONS
 CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING, COMPLETELY REMOVE SYNTHETIC BURLAP & LACING
 6 INCHES
 ROOTBALL
 MIN 2X ROOTBALL DIAMETER
 ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE

DATE: 08/18/2020	SFD	WHH	KML	SHEET LD-302
VERT: NONE	OR BR	OR BR	OR BR	ISSUE
HORIZ: NONE	OR BR	OR BR	OR BR	PLAN NO. 311926
PROJECT MANAGER	DATE	DATE	DATE	PROJECT MANAGER
APPROVED BY:	DATE	DATE	DATE	DATE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 69 HIGH STREET
 BOSTON, MA 02110
 (617) 728-7777

vhb hntb

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 SCR MS/MBL COMMUTER RAIL EXPANSION PROJECT
 MIDDLEBOROUGH TO NEW BEDFORD, MA
 CONTRACT NO. K78CND4

NEW BEDFORD MAIN LINE
CHURCH STREET STATION
LANDSCAPE DETAILS

CONFORMED